

საქართველოს რეგიონული განვითარებისა და ინფრასტრუქტურის
სამინისტრო
საავტომობილო გზების დეპარტამენტი



დეტალური საპროექტო დოკუმენტაციის მომზადება
ქუთაისის შემოვლითი გზა-სამტრედიის მონაკვეთების
4-ზოლიან ავტომობილურად მოდერნიზებისათვის

საბოლოო ანგარიში

ლოტი 2.

მონაკვეთი: კმ 6+000 - კმ 13+400

დანართი 2. გეოტექნიკური კვლევები.

ტექნიკური ანგარიში

ტომი II. წიგნი 2.

დანართი 1.2 ÷ 1.8

ხელშეკრულება: ე.ტ. No 51-17

შპს ჯეოინჟინერინგი



თბილისი, 2018 წელი

პროექტის შიდადოკუმენტაცია

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ტომი II.	ნახაზები
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ტომი II.III	მიწები და გასასვლელები
ტომი II.IV	განივი პროფილები
ტომი II.V. წიგნი 1	გზის გარე ელექტროგანათება. გზის გარე ელექტროგანათების 10კვ ძაბვის მკვეთრი ქსელი. გზის გარე ელექტროგანათების 0.4კვ ძაბვის გამანაწილებელი ქსელი.
ტომი II.V. წიგნი 2	სადემონტაჟო სამუშაოთა მოცულობების ნაკრები უწყისი. სამონტაჟო სამუშაოთა მოცულობების ნაკრები უწყისი. შესაძენი მასალების ნაკრები სპეციფიკაცია. ადრე დემონტირებული მასალების სპეციფიკაცია.
დანართი 1.	გეგმიური სიმაღლური წერტილები, საპროექტო ბანივი პროფილების პარამეტრები და კოორდინატები
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ANNEX 1

Soils laboratory testing results

ANNEX 1 .2

Natural moisture content

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-1	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Depth, m		1.0-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	62			
Mass of wet soil + container (m ₂)	g	6773,0			
Mass of dry soil + container (m ₃)	g	6450,0			
Mass of container (m ₁)	g	856,0			
Mass of moisture (m ₂ - m ₃)	g	323,0			
Mass of dry soil (m ₃ - m ₁)	g	5594,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,77			
Average value W	%	5,8			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-1	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	9218,50			
Mass of dry soil + container (m_3)	g	8709,00			
Mass of container (m_1)	g	1288,5			
Mass of moisture ($m_2 - m_3$)	g	509,5			
Mass of dry soil ($m_3 - m_1$)	g	7420,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	6,87			
Average value W	%	6,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-2	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Depth, m		1.0-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	35			
Mass of wet soil + container (m_2)	g	4435,0			
Mass of dry soil + container (m_3)	g	4085,0			
Mass of container (m_1)	g	648,0			
Mass of moisture ($m_2 - m_3$)	g	350,0			
Mass of dry soil ($m_3 - m_1$)	g	3437,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,18			
Average value W	%	10,2			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-3	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles and boulders inclusions		Depth, m		0.5-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	69			
Mass of wet soil + container (m_2)	g	3933,0			
Mass of dry soil + container (m_3)	g	3591,5			
Mass of container (m_1)	g	722,0			
Mass of moisture ($m_2 - m_3$)	g	341,5			
Mass of dry soil ($m_3 - m_1$)	g	2869,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	11,90			
Average value W	%	11,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-2	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a rounded gravel inclusions		Depth, m		2.4-2.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	238			
Mass of wet soil + container (m ₂)	g	53,55			
Mass of dry soil + container (m ₃)	g	48,69			
Mass of container (m ₁)	g	20,9			
Mass of moisture (m ₂ - m ₃)	g	4,9			
Mass of dry soil (m ₃ - m ₁)	g	27,8			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	17,49			
Average value W	%	17,5			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-4	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Depth, m		2.5-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	69			
Mass of wet soil + container (m_2)	g	5950,0			
Mass of dry soil + container (m_3)	g	5256,0			
Mass of container (m_1)	g	722,0			
Mass of moisture ($m_2 - m_3$)	g	694,0			
Mass of dry soil ($m_3 - m_1$)	g	4534,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	15,31			
Average value W	%	15,3			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-5	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth, m		1.5-1.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	253			
Mass of wet soil + container (m_2)	g	57,30			
Mass of dry soil + container (m_3)	g	51,05			
Mass of container (m_1)	g	22,02			
Mass of moisture ($m_2 - m_3$)	g	6,25			
Mass of dry soil ($m_3 - m_1$)	g	29,03			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,53			
Average value W	%	21,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-5	
Soil Description:		Sample no.			
Rounded GRAVEL with intermediately plastic silty clay matrix, with rounded cobbles inclusions		Depth, m		1.7-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	67			
Mass of wet soil + container (m_2)	g	5950,0			
Mass of dry soil + container (m_3)	g	5356,5			
Mass of container (m_1)	g	686,5			
Mass of moisture ($m_2 - m_3$)	g	593,5			
Mass of dry soil ($m_3 - m_1$)	g	4670,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,71			
Average value W	%	12,7			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-3	
Soil Description:		Sample no.			
Rounded GRAVEL with intermediately plastic sandy silty clay matrix		Depth, m		1.7-1.85	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	30			
Mass of wet soil + container (m_2)	g	3083,00			
Mass of dry soil + container (m_3)	g	2867,00			
Mass of container (m_1)	g	353,5			
Mass of moisture ($m_2 - m_3$)	g	216,0			
Mass of dry soil ($m_3 - m_1$)	g	2513,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	8,59			
Average value W	%	8,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-3	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with little rounded cobbles inclusions		Depth, m		4.4-4.7	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	79			
Mass of wet soil + container (m_2)	g	3091,00			
Mass of dry soil + container (m_3)	g	2901,00			
Mass of container (m_1)	g	1137,0			
Mass of moisture ($m_2 - m_3$)	g	190,0			
Mass of dry soil ($m_3 - m_1$)	g	1764,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,77			
Average value W	%	10,8			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-6	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Depth, m		0.5-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	370			
Mass of wet soil + container (m_2)	g	65,38			
Mass of dry soil + container (m_3)	g	57,43			
Mass of container (m_1)	g	21,00			
Mass of moisture ($m_2 - m_3$)	g	7,95			
Mass of dry soil ($m_3 - m_1$)	g	36,43			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,82			
Average value $\bar{w}$	%	21,8			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-6	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Depth, m		1.5-1.7	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	015			
Mass of wet soil + container (m_2)	g	45,76			
Mass of dry soil + container (m_3)	g	41,52			
Mass of container (m_1)	g	20,98			
Mass of moisture ($m_2 - m_3$)	g	4,24			
Mass of dry soil ($m_3 - m_1$)	g	20,54			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,64			
Average value W	%	20,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-6	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles inclusions		Depth, m		2.5-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	62			
Mass of wet soil + container (m_2)	g	3550,00			
Mass of dry soil + container (m_3)	g	3284,00			
Mass of container (m_1)	g	761,50			
Mass of moisture ($m_2 - m_3$)	g	266,00			
Mass of dry soil ($m_3 - m_1$)	g	2522,50			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,55			
Average value W	%	10,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-4	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY with a little rounded gravel inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	253			
Mass of wet soil + container (m_2)	g	72,60			
Mass of dry soil + container (m_3)	g	63,60			
Mass of container (m_1)	g	22,0			
Mass of moisture ($m_2 - m_3$)	g	9,0			
Mass of dry soil ($m_3 - m_1$)	g	41,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,65			
Average value W	%	21,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-5	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel inclusions		Depth, m		2.3-2.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	69			
Mass of wet soil + container (m_2)	g	4045,0			
Mass of dry soil + container (m_3)	g	3625,0			
Mass of container (m_1)	g	722,0			
Mass of moisture ($m_2 - m_3$)	g	420,0			
Mass of dry soil ($m_3 - m_1$)	g	2903,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,47			
Average value W	%	14,5			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-7	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Depth, m		1.3-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		14.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	61			
Mass of wet soil + container (m_2)	g	5060,50			
Mass of dry soil + container (m_3)	g	4588,00			
Mass of container (m_1)	g	749,50			
Mass of moisture ($m_2 - m_3$)	g	472,50			
Mass of dry soil ($m_3 - m_1$)	g	3838,50			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,31			
Average value W	%	12,3			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 1-2	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		16.0-17.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		12.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	7957,00			
Mass of dry soil + container (m_3)	g	7544,00			
Mass of container (m_1)	g	1288,5			
Mass of moisture ($m_2 - m_3$)	g	413,0			
Mass of dry soil ($m_3 - m_1$)	g	6255,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	6,60			
Average value W	%	6,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 1-2	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix		Depth, m		3.8-4.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		12.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	67			
Mass of wet soil + container (m_2)	g	4890,50			
Mass of dry soil + container (m_3)	g	4669,00			
Mass of container (m_1)	g	686,5			
Mass of moisture ($m_2 - m_3$)	g	221,5			
Mass of dry soil ($m_3 - m_1$)	g	3982,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,56			
Average value W	%	5,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI1-2	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		21.0-21.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		15.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	025			
Mass of wet soil + container (m_2)	g	60,01			
Mass of dry soil + container (m_3)	g	51,03			
Mass of container (m_1)	g	21,85			
Mass of moisture ($m_2 - m_3$)	g	9,0			
Mass of dry soil ($m_3 - m_1$)	g	29,2			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	30,77			
Average value W	%	30,8			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI1-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY		Depth, m		21.2-21.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	257			
Mass of wet soil + container (m_2)	g	65,61			
Mass of dry soil + container (m_3)	g	57,00			
Mass of container (m_1)	g	21,0			
Mass of moisture ($m_2 - m_3$)	g	8,6			
Mass of dry soil ($m_3 - m_1$)	g	36,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	23,92			
Average value W	%	23,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI1-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		23.7-24.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		15.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	003			
Mass of wet soil + container (m_2)	g	67,11			
Mass of dry soil + container (m_3)	g	57,30			
Mass of container (m_1)	g	21,1			
Mass of moisture ($m_2 - m_3$)	g	9,8			
Mass of dry soil ($m_3 - m_1$)	g	36,2			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	27,11			
Average value W	%	27,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 1-1	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix		Depth, m		26.5-27.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		10.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	3519,00			
Mass of dry soil + container (m_3)	g	3380,00			
Mass of container (m_1)	g	1022,0			
Mass of moisture ($m_2 - m_3$)	g	139,0			
Mass of dry soil ($m_3 - m_1$)	g	2358,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,89			
Average value W	%	5,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-7	
Soil Description:		Sample no.			
Highly plastic silty CLAY		Depth, m		0.5-1.7	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	003			
Mass of wet soil + container (m_2)	g	65,80			
Mass of dry soil + container (m_3)	g	55,70			
Mass of container (m_1)	g	21,2			
Mass of moisture ($m_2 - m_3$)	g	10,1			
Mass of dry soil ($m_3 - m_1$)	g	34,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	29,26			
Average value W	%	29,3			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-8	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Depth, m		0.5-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		14.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	003			
Mass of wet soil + container (m ₂)	g	59,30			
Mass of dry soil + container (m ₃)	g	52,88			
Mass of container (m ₁)	g	21,12			
Mass of moisture (m ₂ - m ₃)	g	6,42			
Mass of dry soil (m ₃ - m ₁)	g	31,76			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,21			
Average value $\bar{W}$	%	20,2			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/<u>Pit no.</u>		TP-SE-8	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Depth, m		2.5-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		14.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	T			
Mass of wet soil + container (m_2)	g	3905,0			
Mass of dry soil + container (m_3)	g	3495,0			
Mass of container (m_1)	g	638,5			
Mass of moisture ($m_2 - m_3$)	g	410,0			
Mass of dry soil ($m_3 - m_1$)	g	2856,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,35			
Average value W	%	14,4			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-9	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions		Depth, m		2.6-2.8	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	62'			
Mass of wet soil + container (m_2)	g	3838,0			
Mass of dry soil + container (m_3)	g	3740,0			
Mass of container (m_1)	g	761,5			
Mass of moisture ($m_2 - m_3$)	g	98,0			
Mass of dry soil ($m_3 - m_1$)	g	2978,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	3,29			
Average value W	%	3,3			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-9	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silty CLAY matrix, with rounded cobbles inclusions		Depth, m		9.8-10.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		05.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	39			
Mass of wet soil + container (m ₂)	g	2301,00			
Mass of dry soil + container (m ₃)	g	2189,00			
Mass of container (m ₁)	g	424,0			
Mass of moisture (m ₂ - m ₃)	g	112,0			
Mass of dry soil (m ₃ - m ₁)	g	1765,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	6,35			
Average value W	%	6,3			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with intermediately plastic sandy silty CLAY matrix		Depth, m		13.1-13.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	T			
Mass of wet soil + container (m_2)	g	5678,0			
Mass of dry soil + container (m_3)	g	4987,0			
Mass of container (m_1)	g	638,5			
Mass of moisture ($m_2 - m_3$)	g	691,0			
Mass of dry soil ($m_3 - m_1$)	g	4348,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	15,89			
Average value W	%	15,9			
		Operator	Checked		Approved
		Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-11	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions		Depth, m		0.5-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	39			
Mass of wet soil + container (m ₂)	g	2405,00			
Mass of dry soil + container (m ₃)	g	2205,00			
Mass of container (m ₁)	g	424,0			
Mass of moisture (m ₂ - m ₃)	g	200,0			
Mass of dry soil (m ₃ - m ₁)	g	1781,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	11,23			
Average value W	%	11,2			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-11	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with little rounded cobbles inclusions		Depth, m		4.4-4.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	67			
Mass of wet soil + container (m_2)	g	2385,00			
Mass of dry soil + container (m_3)	g	2265,00			
Mass of container (m_1)	g	1042,0			
Mass of moisture ($m_2 - m_3$)	g	120,0			
Mass of dry soil ($m_3 - m_1$)	g	1223,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	9,81			
Average value W	%	9,8			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-1	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy CLAY matrix, with a little rounded cobbles inclusions		Depth, m		3.0-3.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	63			
Mass of wet soil + container (m_2)	g	4085,0			
Mass of dry soil + container (m_3)	g	3732,5			
Mass of container (m_1)	g	766,0			
Mass of moisture ($m_2 - m_3$)	g	352,5			
Mass of dry soil ($m_3 - m_1$)	g	2966,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	11,88			
Average value W	%	11,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-2	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		20.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	46				
Mass of wet soil + container (m ₂) g	6032,0				
Mass of dry soil + container (m ₃) g	5644,0				
Mass of container (m ₁) g	1229,5				
Mass of moisture (m ₂ - m ₃) g	388,0				
Mass of dry soil (m ₃ - m ₁) g	4414,5				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	8,79				
Average value W %	8,8				
	Operator	Checked	Approved		
	Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili		

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-2	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		10.0-11.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		20.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	63				
Mass of wet soil + container (m ₂) g	5172,5				
Mass of dry soil + container (m ₃) g	4896,5				
Mass of container (m ₁) g	766,0				
Mass of moisture (m ₂ - m ₃) g	276,0				
Mass of dry soil (m ₃ - m ₁) g	4130,5				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	6,68				
Average value W %	6,7				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-2	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		24.2-24.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	003			
Mass of wet soil + container (m_2)	g	49,11			
Mass of dry soil + container (m_3)	g	44,24			
Mass of container (m_1)	g	21,2			
Mass of moisture ($m_2 - m_3$)	g	4,9			
Mass of dry soil ($m_3 - m_1$)	g	23,1			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,12			
Average value W	%	21,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-2	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		25.2-25.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no. g	211				
Mass of wet soil + container (m ₂) g	48,31				
Mass of dry soil + container (m ₃) g	43,28				
Mass of container (m ₁) g	21,1				
Mass of moisture (m ₂ - m ₃) g	5,0				
Mass of dry soil (m ₃ - m ₁) g	22,2				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	22,66				
Average value W %	22,7				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-2	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		33.0-34.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		20.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	67				
Mass of wet soil + container (m ₂) g	5541,0				
Mass of dry soil + container (m ₃) g	5028,5				
Mass of container (m ₁) g	722,0				
Mass of moisture (m ₂ - m ₃) g	512,5				
Mass of dry soil (m ₃ - m ₁) g	4306,5				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	11,90				
Average value W %	11,9				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	8				
Mass of wet soil + container (m ₂) g	7717,5				
Mass of dry soil + container (m ₃) g	7604,0				
Mass of container (m ₁) g	1202,5				
Mass of moisture (m ₂ - m ₃) g	113,5				
Mass of dry soil (m ₃ - m ₁) g	6401,5				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	1,77				
Average value W %	1,8				
	Operator	Checked	Approved		
	Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili		

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		2.0-2.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	67			
Mass of wet soil + container (m_2)	g	5523,0			
Mass of dry soil + container (m_3)	g	5277,0			
Mass of container (m_1)	g	722,0			
Mass of moisture ($m_2 - m_3$)	g	246,0			
Mass of dry soil ($m_3 - m_1$)	g	4555,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,40			
Average value W	%	5,4			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		5.0-5.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		19.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	67				
Mass of wet soil + container (m ₂) g	6007,0				
Mass of dry soil + container (m ₃) g	5716,0				
Mass of container (m ₁) g	722,0				
Mass of moisture (m ₂ - m ₃) g	291,0				
Mass of dry soil (m ₃ - m ₁) g	4994,0				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	5,83				
Average value W %	5,8				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		6.7-7.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	62				
Mass of wet soil + container (m ₂) g	8224,0				
Mass of dry soil + container (m ₃) g	7798,0				
Mass of container (m ₁) g	856,0				
Mass of moisture (m ₂ - m ₃) g	426,0				
Mass of dry soil (m ₃ - m ₁) g	6942,0				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	6,14				
Average value W %	6,1				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		23.4-23.7	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		19.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	370			
Mass of wet soil + container (m_2)	g	61,40			
Mass of dry soil + container (m_3)	g	54,51			
Mass of container (m_1)	g	21,0			
Mass of moisture ($m_2 - m_3$)	g	6,9			
Mass of dry soil ($m_3 - m_1$)	g	33,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,57			
Average value W	%	20,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		24.15-24.45	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	370			
Mass of wet soil + container (m_2)	g	60,2			
Mass of dry soil + container (m_3)	g	53,67			
Mass of container (m_1)	g	21,0			
Mass of moisture ($m_2 - m_3$)	g	6,5			
Mass of dry soil ($m_3 - m_1$)	g	32,7			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,00			
Average value W	%	20,0			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		0.1-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		15.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	67			
Mass of wet soil + container (m ₂)	g	6833,0			
Mass of dry soil + container (m ₃)	g	6617,0			
Mass of container (m ₁)	g	1042,0			
Mass of moisture (m ₂ - m ₃)	g	216,0			
Mass of dry soil (m ₃ - m ₁)	g	5575,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	3,87			
Average value W	%	3,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		4.0-4.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	5259,0			
Mass of dry soil + container (m_3)	g	5123,0			
Mass of container (m_1)	g	1288,5			
Mass of moisture ($m_2 - m_3$)	g	136,0			
Mass of dry soil ($m_3 - m_1$)	g	3834,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	3,55			
Average value W	%	3,5			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		5.7-6.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	79			
Mass of wet soil + container (m ₂)	g	12285,0			
Mass of dry soil + container (m ₃)	g	12176,5			
Mass of container (m ₁)	g	1137,0			
Mass of moisture (m ₂ - m ₃)	g	108,5			
Mass of dry soil (m ₃ - m ₁)	g	11039,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	0,98			
Average value W	%	1,0			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		9.3-9.8	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		13.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	79				
Mass of wet soil + container (m ₂) g	6060,5				
Mass of dry soil + container (m ₃) g	5880,0				
Mass of container (m ₁) g	1137,0				
Mass of moisture (m ₂ - m ₃) g	180,5				
Mass of dry soil (m ₃ - m ₁) g	4743,0				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	3,81				
Average value W %	3,8				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic silty sandy clay matrix		Depth, m		13.1-13.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	T			
Mass of wet soil + container (m_2)	g	3148,0			
Mass of dry soil + container (m_3)	g	2861,5			
Mass of container (m_1)	g	638,5			
Mass of moisture ($m_2 - m_3$)	g	286,5			
Mass of dry soil ($m_3 - m_1$)	g	2223,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,89			
Average value W	%	12,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Silty SAND with a rounded gravel content		Depth, m		21.7-22.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	006			
Mass of wet soil + container (m_2)	g	63,17			
Mass of dry soil + container (m_3)	g	58,18			
Mass of container (m_1)	g	20,82			
Mass of moisture ($m_2 - m_3$)	g	4,99			
Mass of dry soil ($m_3 - m_1$)	g	37,36			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	13,36			
Average value W	%	13,4			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		25.3-25.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	003			
Mass of wet soil + container (m ₂)	g	58,00			
Mass of dry soil + container (m ₃)	g	50,23			
Mass of container (m ₁)	g	21,12			
Mass of moisture (m ₂ - m ₃)	g	7,77			
Mass of dry soil (m ₃ - m ₁)	g	29,11			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	26,69			
Average value W	%	26,7			
		Operator	Checked		Approved
		Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		29.0-29.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	63			
Mass of wet soil + container (m_2)	g	5326,0			
Mass of dry soil + container (m_3)	g	5063,5			
Mass of container (m_1)	g	766,0			
Mass of moisture ($m_2 - m_3$)	g	262,5			
Mass of dry soil ($m_3 - m_1$)	g	4297,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	6,11			
Average value W	%	6,1			
		Operator	Checked		Approved
		Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-5	
Soil Description:		Sample no.			
Intermediately plastic sandy silty CLAY		Depth, m		0.4-0.6	
Test Method BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	297			
Mass of wet soil + container (m_2)	g	58,0			
Mass of dry soil + container (m_3)	g	55,5			
Mass of container (m_1)	g	21,8			
Mass of moisture ($m_2 - m_3$)	g	2,5			
Mass of dry soil ($m_3 - m_1$)	g	33,7			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	7,27			
Average value W	%	7,3			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-5	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		4.0-5.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		12.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	63			
Mass of wet soil + container (m_2)	g	6020,0			
Mass of dry soil + container (m_3)	g	5664,0			
Mass of container (m_1)	g	766,0			
Mass of moisture ($m_2 - m_3$)	g	356,0			
Mass of dry soil ($m_3 - m_1$)	g	4898,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	7,27			
Average value W	%	7,3			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-6	
Soil Description:		Sample no.			
Intermediately plastic sandy silty CLAY with a little rounded gravel content		Depth, m		0.3-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	297			
Mass of wet soil + container (m_2)	g	59,84			
Mass of dry soil + container (m_3)	g	55,69			
Mass of container (m_1)	g	21,82			
Mass of moisture ($m_2 - m_3$)	g	4,15			
Mass of dry soil ($m_3 - m_1$)	g	33,87			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,25			
Average value W	%	12,3			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-6	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix		Depth, m		3.5-4.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	69			
Mass of wet soil + container (m_2)	g	5561,0			
Mass of dry soil + container (m_3)	g	5322,0			
Mass of container (m_1)	g	722,0			
Mass of moisture ($m_2 - m_3$)	g	239,0			
Mass of dry soil ($m_3 - m_1$)	g	4600,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,20			
Average value W	%	5,2			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-6	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix		Depth, m		6.0-6.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	79			
Mass of wet soil + container (m_2)	g	11120,0			
Mass of dry soil + container (m_3)	g	10772,5			
Mass of container (m_1)	g	1137,0			
Mass of moisture ($m_2 - m_3$)	g	347,5			
Mass of dry soil ($m_3 - m_1$)	g	9635,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	3,61			
Average value W	%	3,6			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-6	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		25.0-25.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no. g	370				
Mass of wet soil + container (m ₂) g	56,69				
Mass of dry soil + container (m ₃) g	51,50				
Mass of container (m ₁) g	21,02				
Mass of moisture (m ₂ - m ₃) g	5,19				
Mass of dry soil (m ₃ - m ₁) g	30,48				
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$ %	17,03				
Average value W %	17,0				
	Operator	Checked		Approved	
	Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-6	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		29.0-30.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		19.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	370			
Mass of wet soil + container (m_2)	g	55,79			
Mass of dry soil + container (m_3)	g	51,81			
Mass of container (m_1)	g	21,02			
Mass of moisture ($m_2 - m_3$)	g	3,98			
Mass of dry soil ($m_3 - m_1$)	g	30,79			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,93			
Average value W	%	12,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		09.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	079			
Mass of wet soil + container (m_2)	g	49,80			
Mass of dry soil + container (m_3)	g	47,30			
Mass of container (m_1)	g	21,6			
Mass of moisture ($m_2 - m_3$)	g	2,5			
Mass of dry soil ($m_3 - m_1$)	g	25,7			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	9,73			
Average value W	%	9,7			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-12	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		05.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	003			
Mass of wet soil + container (m_2)	g	56,25			
Mass of dry soil + container (m_3)	g	50,62			
Mass of container (m_1)	g	21,18			
Mass of moisture ($m_2 - m_3$)	g	5,63			
Mass of dry soil ($m_3 - m_1$)	g	29,44			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	19,12			
Average value W	%	19,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-12	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with little rounded cobbles inclusions		Depth, m		4.0-4.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		05.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	6720,00			
Mass of dry soil + container (m_3)	g	6308,00			
Mass of container (m_1)	g	1022,00			
Mass of moisture ($m_2 - m_3$)	g	412,00			
Mass of dry soil ($m_3 - m_1$)	g	5286,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	7,79			
Average value W	%	7,8			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE12-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY		Depth, m		0.0-1.8	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		04.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	388			
Mass of wet soil + container (m ₂)	g	61,50			
Mass of dry soil + container (m ₃)	g	55,34			
Mass of container (m ₁)	g	22,1			
Mass of moisture (m ₂ - m ₃)	g	6,2			
Mass of dry soil (m ₃ - m ₁)	g	33,2			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	18,54			
Average value $\bar{W}$	%	18,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE12-1	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		4.0-5.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		04.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	8			
Mass of wet soil + container (m_2)	g	6354,00			
Mass of dry soil + container (m_3)	g	6202,00			
Mass of container (m_1)	g	1202,5			
Mass of moisture ($m_2 - m_3$)	g	152,0			
Mass of dry soil ($m_3 - m_1$)	g	4999,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	3,04			
Average value W	%	3,0			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB3-1	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		12.0-14.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		16.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	9125,00			
Mass of dry soil + container (m_3)	g	8612,00			
Mass of container (m_1)	g	1288,5			
Mass of moisture ($m_2 - m_3$)	g	513,0			
Mass of dry soil ($m_3 - m_1$)	g	7323,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	7,00			
Average value W	%	7,0			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth, m		27.0-27.7	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	211			
Mass of wet soil + container (m_2)	g	53,80			
Mass of dry soil + container (m_3)	g	47,71			
Mass of container (m_1)	g	21,1			
Mass of moisture ($m_2 - m_3$)	g	6,1			
Mass of dry soil ($m_3 - m_1$)	g	26,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	22,87			
Average value W	%	22,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth, m		28.3-28.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		09.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	238			
Mass of wet soil + container (m_2)	g	53,73			
Mass of dry soil + container (m_3)	g	47,27			
Mass of container (m_1)	g	20,9			
Mass of moisture ($m_2 - m_3$)	g	6,5			
Mass of dry soil ($m_3 - m_1$)	g	26,4			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	24,50			
Average value W	%	24,5			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-14	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		1.2-2.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	253			
Mass of wet soil + container (m_2)	g	63,47			
Mass of dry soil + container (m_3)	g	58,90			
Mass of container (m_1)	g	22,02			
Mass of moisture ($m_2 - m_3$)	g	4,6			
Mass of dry soil ($m_3 - m_1$)	g	36,9			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,39			
Average value W	%	12,4			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-14	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		Depth, m		2.7-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		05.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	11265,0			
Mass of dry soil + container (m_3)	g	10591,0			
Mass of container (m_1)	g	1288,50			
Mass of moisture ($m_2 - m_3$)	g	674,0			
Mass of dry soil ($m_3 - m_1$)	g	9302,50			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	7,2			
Average value W	%	7,2			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-14	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		3.2-3.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	015			
Mass of wet soil + container (m_2)	g	64,08			
Mass of dry soil + container (m_3)	g	58,76			
Mass of container (m_1)	g	20,93			
Mass of moisture ($m_2 - m_3$)	g	5,3			
Mass of dry soil ($m_3 - m_1$)	g	37,8			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,06			
Average value W	%	14,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-14	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		5.8-6.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		08.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	46			
Mass of wet soil + container (m_2)	g	9307,5			
Mass of dry soil + container (m_3)	g	8600,5			
Mass of container (m_1)	g	1229,50			
Mass of moisture ($m_2 - m_3$)	g	707,0			
Mass of dry soil ($m_3 - m_1$)	g	7371,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	9,6			
Average value W	%	9,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-15	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content		Depth, m		0.0-2.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		08.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	200			
Mass of wet soil + container (m_2)	g	62,27			
Mass of dry soil + container (m_3)	g	56,89			
Mass of container (m_1)	g	23,10			
Mass of moisture ($m_2 - m_3$)	g	5,38			
Mass of dry soil ($m_3 - m_1$)	g	33,79			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	15,9			
Average value W	%	15,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 2-1	
Soil Description:		Sample no.			
Highly plastic silty CLAY		Depth, m		1.0-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		10.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	322			
Mass of wet soil + container (m_2)	g	61,20			
Mass of dry soil + container (m_3)	g	53,25			
Mass of container (m_1)	g	22,6			
Mass of moisture ($m_2 - m_3$)	g	8,0			
Mass of dry soil ($m_3 - m_1$)	g	30,7			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	25,94			
Average value W	%	25,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 2-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth, m		3.6-3.85	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		10.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	388			
Mass of wet soil + container (m_2)	g	61,50			
Mass of dry soil + container (m_3)	g	54,45			
Mass of container (m_1)	g	22,1			
Mass of moisture ($m_2 - m_3$)	g	7,1			
Mass of dry soil ($m_3 - m_1$)	g	32,3			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,80			
Average value W	%	21,8			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI2-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY		Depth, m		4.65-4.90	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		12.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	248			
Mass of wet soil + container (m_2)	g	72,45			
Mass of dry soil + container (m_3)	g	61,80			
Mass of container (m_1)	g	23,2			
Mass of moisture ($m_2 - m_3$)	g	10,7			
Mass of dry soil ($m_3 - m_1$)	g	38,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	27,59			
Average value W	%	27,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 2-1	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		Depth, m		10.2-10.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	68			
Mass of wet soil + container (m_2)	g	3839,40			
Mass of dry soil + container (m_3)	g	3711,00			
Mass of container (m_1)	g	622,0			
Mass of moisture ($m_2 - m_3$)	g	128,4			
Mass of dry soil ($m_3 - m_1$)	g	3089,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	4,16			
Average value W	%	4,2			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 2-1	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		16.5-16.9	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		11.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	76			
Mass of wet soil + container (m_2)	g	71,60			
Mass of dry soil + container (m_3)	g	63,10			
Mass of container (m_1)	g	21,8			
Mass of moisture ($m_2 - m_3$)	g	8,5			
Mass of dry soil ($m_3 - m_1$)	g	41,3			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,58			
Average value W	%	20,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-16	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		0.5-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	003			
Mass of wet soil + container (m_2)	g	59,91			
Mass of dry soil + container (m_3)	g	55,60			
Mass of container (m_1)	g	21,18			
Mass of moisture ($m_2 - m_3$)	g	4,3			
Mass of dry soil ($m_3 - m_1$)	g	34,4			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,52			
Average value W	%	12,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-16	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		4.5-4.8	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		08.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	79			
Mass of wet soil + container (m_2)	g	11150,5			
Mass of dry soil + container (m_3)	g	10245,0			
Mass of container (m_1)	g	1137,00			
Mass of moisture ($m_2 - m_3$)	g	905,50			
Mass of dry soil ($m_3 - m_1$)	g	9108,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	9,9			
Average value W	%	9,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-17	
Soil Description:		Sample no.			
Silty SAND with a little rounded gravel content		Depth, m		0.8-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		08.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	36			
Mass of wet soil + container (m_2)	g	2470,5			
Mass of dry soil + container (m_3)	g	2207,5			
Mass of container (m_1)	g	391,50			
Mass of moisture ($m_2 - m_3$)	g	263,00			
Mass of dry soil ($m_3 - m_1$)	g	1816,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,5			
Average value W	%	14,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-17	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		3.3-3.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		29.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	9850,50			
Mass of dry soil + container (m_3)	g	8858,00			
Mass of container (m_1)	g	1022,00			
Mass of moisture ($m_2 - m_3$)	g	992,50			
Mass of dry soil ($m_3 - m_1$)	g	7836,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	12,67			
Average value W	%	12,7			
		Operator		Checked	
		Tamar Gorgidze		Tatia Jajanidze	
				Approved	
				Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-18	
Soil Description:		Sample no.			
Low plastic sandy clayey SILT with a little rounded gravel inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		25.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	003			
Mass of wet soil + container (m_2)	g	56,80			
Mass of dry soil + container (m_3)	g	50,10			
Mass of container (m_1)	g	21,18			
Mass of moisture ($m_2 - m_3$)	g	6,70			
Mass of dry soil ($m_3 - m_1$)	g	28,92			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	23,17			
Average value W	%	23,2			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-18	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content		Depth, m		2.3-2.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		29.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	015			
Mass of wet soil + container (m_2)	g	64,31			
Mass of dry soil + container (m_3)	g	58,68			
Mass of container (m_1)	g	20,93			
Mass of moisture ($m_2 - m_3$)	g	5,6			
Mass of dry soil ($m_3 - m_1$)	g	37,8			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,91			
Average value W	%	14,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-18	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		2.8-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		27.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	9765,00			
Mass of dry soil + container (m_3)	g	8889,00			
Mass of container (m_1)	g	1022,00			
Mass of moisture ($m_2 - m_3$)	g	876,00			
Mass of dry soil ($m_3 - m_1$)	g	7867,00			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	11,14			
Average value W	%	11,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-18	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		8.7-9.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		27.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m_2)	g	8743,00			
Mass of dry soil + container (m_3)	g	8101,00			
Mass of container (m_1)	g	1288,50			
Mass of moisture ($m_2 - m_3$)	g	642,00			
Mass of dry soil ($m_3 - m_1$)	g	6812,50			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	9,42			
Average value W	%	9,4			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-19	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		0.5-1.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	253			
Mass of wet soil + container (m ₂)	g	55,42			
Mass of dry soil + container (m ₃)	g	49,85			
Mass of container (m ₁)	g	22,0			
Mass of moisture (m ₂ - m ₃)	g	5,6			
Mass of dry soil (m ₃ - m ₁)	g	27,8			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	20,01			
Average value $\bar{W}$	%	20,0			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-19	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content		Depth, m		3.2-3.4	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		29.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	313			
Mass of wet soil + container (m_2)	g	63,94			
Mass of dry soil + container (m_3)	g	59,01			
Mass of container (m_1)	g	22,68			
Mass of moisture ($m_2 - m_3$)	g	4,9			
Mass of dry soil ($m_3 - m_1$)	g	36,3			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	13,57			
Average value W	%	13,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-19	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions		Depth, m		7.2-7.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	5187,00			
Mass of dry soil + container (m_3)	g	4966,00			
Mass of container (m_1)	g	1022,0			
Mass of moisture ($m_2 - m_3$)	g	221,0			
Mass of dry soil ($m_3 - m_1$)	g	3944,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,60			
Average value W	%	5,6			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-19	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a rounded gravel content		Depth, m		9.9-10.2	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	61			
Mass of wet soil + container (m_2)	g	3869,00			
Mass of dry soil + container (m_3)	g	3473,00			
Mass of container (m_1)	g	749,5			
Mass of moisture ($m_2 - m_3$)	g	396,0			
Mass of dry soil ($m_3 - m_1$)	g	2723,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	14,54			
Average value W	%	14,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Intermediately plastic sandy silty CLAY with a little rounded gravel content		Depth, m		0.5-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		25.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	301			
Mass of wet soil + container (m_2)	g	55,10			
Mass of dry soil + container (m_3)	g	47,82			
Mass of container (m_1)	g	22,7			
Mass of moisture ($m_2 - m_3$)	g	7,3			
Mass of dry soil ($m_3 - m_1$)	g	25,1			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	28,98			
Average value W	%	29,0			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Low plastic sandy clayey SILT with a little rounded gravel content		Depth, m		5.0-9.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		26.07.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	277			
Mass of wet soil + container (m ₂)	g	55,40			
Mass of dry soil + container (m ₃)	g	49,10			
Mass of container (m ₁)	g	21,1			
Mass of moisture (m ₂ - m ₃)	g	6,3			
Mass of dry soil (m ₃ - m ₁)	g	28,1			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	22,46			
Average value W	%	22,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Low plastic sandy clayey SILT with a little rounded gravel content		Depth, m		10.3-10.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		25.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	277			
Mass of wet soil + container (m ₂)	g	54,98			
Mass of dry soil + container (m ₃)	g	48,87			
Mass of container (m ₁)	g	21,1			
Mass of moisture (m ₂ - m ₃)	g	6,1			
Mass of dry soil (m ₃ - m ₁)	g	27,8			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	21,96			
Average value W	%	22,0			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions		Depth, m		16.0-19.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		25.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	17			
Mass of wet soil + container (m ₂)	g	9975,00			
Mass of dry soil + container (m ₃)	g	9278,00			
Mass of container (m ₁)	g	1288,5			
Mass of moisture (m ₂ - m ₃)	g	697,0			
Mass of dry soil (m ₃ - m ₁)	g	7989,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	8,72			
Average value W	%	8,7			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth, m		21.1-22.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.07.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	301			
Mass of wet soil + container (m ₂)	g	55,16			
Mass of dry soil + container (m ₃)	g	48,89			
Mass of container (m ₁)	g	22,7			
Mass of moisture (m ₂ - m ₃)	g	6,3			
Mass of dry soil (m ₃ - m ₁)	g	26,2			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	23,94			
Average value W	%	23,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Highly plastic silty CLAY		Depth, m		0.0-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		01.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	306			
Mass of wet soil + container (m_2)	g	62,03			
Mass of dry soil + container (m_3)	g	52,60			
Mass of container (m_1)	g	22,1			
Mass of moisture ($m_2 - m_3$)	g	9,4			
Mass of dry soil ($m_3 - m_1$)	g	30,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	30,92			
Average value W	%	30,9			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		2.0-2.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	006			
Mass of wet soil + container (m ₂)	g	62,67			
Mass of dry soil + container (m ₃)	g	53,13			
Mass of container (m ₁)	g	20,8			
Mass of moisture (m ₂ - m ₃)	g	9,5			
Mass of dry soil (m ₃ - m ₁)	g	32,3			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	29,53			
Average value W	%	29,5			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Intermediately plastic silty CLAY		Depth, m		4.1-4.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	045			
Mass of wet soil + container (m_2)	g	49,20			
Mass of dry soil + container (m_3)	g	42,98			
Mass of container (m_1)	g	20,4			
Mass of moisture ($m_2 - m_3$)	g	6,2			
Mass of dry soil ($m_3 - m_1$)	g	22,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	27,56			
Average value W	%	27,6			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content		Depth, m		6.0-6.8	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		02.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	253			
Mass of wet soil + container (m_2)	g	55,43			
Mass of dry soil + container (m_3)	g	49,30			
Mass of container (m_1)	g	22,0			
Mass of moisture ($m_2 - m_3$)	g	6,1			
Mass of dry soil ($m_3 - m_1$)	g	27,3			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	22,47			
Average value W	%	22,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content		Depth, m		13.4-13.6	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	003			
Mass of wet soil + container (m_2)	g	67,42			
Mass of dry soil + container (m_3)	g	58,53			
Mass of container (m_1)	g	21,2			
Mass of moisture ($m_2 - m_3$)	g	8,9			
Mass of dry soil ($m_3 - m_1$)	g	37,4			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	23,80			
Average value W	%	23,8			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description:		Sample no.			
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions		Depth, m		14.0-15.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		03.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	79			
Mass of wet soil + container (m_2)	g	8238,00			
Mass of dry soil + container (m_3)	g	7946,00			
Mass of container (m_1)	g	1137,0			
Mass of moisture ($m_2 - m_3$)	g	292,0			
Mass of dry soil ($m_3 - m_1$)	g	6809,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	4,29			
Average value W	%	4,3			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB4-1	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silt matrix, with little rounded cobbles inclusions		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		22.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	46			
Mass of wet soil + container (m_2)	g	7289,00			
Mass of dry soil + container (m_3)	g	6945,00			
Mass of container (m_1)	g	1229,5			
Mass of moisture ($m_2 - m_3$)	g	344,0			
Mass of dry soil ($m_3 - m_1$)	g	5715,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	6,02			
Average value W	%	6,0			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB4-1	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silt matrix, with little rounded cobbles inclusions		Depth, m		15.0-16.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		22.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	8			
Mass of wet soil + container (m_2)	g	7978,00			
Mass of dry soil + container (m_3)	g	7319,00			
Mass of container (m_1)	g	1202,5			
Mass of moisture ($m_2 - m_3$)	g	659,0			
Mass of dry soil ($m_3 - m_1$)	g	6116,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,77			
Average value W	%	10,8			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB4-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		25.3-25.5	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		19.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	238			
Mass of wet soil + container (m_2)	g	60,80			
Mass of dry soil + container (m_3)	g	52,45			
Mass of container (m_1)	g	20,9			
Mass of moisture ($m_2 - m_3$)	g	8,3			
Mass of dry soil ($m_3 - m_1$)	g	31,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	26,47			
Average value W	%	26,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB5-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		22.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	238			
Mass of wet soil + container (m_2)	g	60,55			
Mass of dry soil + container (m_3)	g	52,54			
Mass of container (m_1)	g	20,9			
Mass of moisture ($m_2 - m_3$)	g	8,0			
Mass of dry soil ($m_3 - m_1$)	g	31,6			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	25,32			
Average value W	%	25,3			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB5-1	
Soil Description:		Sample no.			
Rounded GRAVEL with sandy silt matrix, with a little rounded cobbles inclusions		Depth, m		8.0-9.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		19.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	8			
Mass of wet soil + container (m_2)	g	6810,00			
Mass of dry soil + container (m_3)	g	6253,00			
Mass of container (m_1)	g	1202,5			
Mass of moisture ($m_2 - m_3$)	g	557,0			
Mass of dry soil ($m_3 - m_1$)	g	5050,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	11,03			
Average value W	%	11,0			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB5-1	
Soil Description:		Sample no.			
Rounded GRAVEL with sandy silt matrix, with a little rounded cobbles inclusions		Depth, m		19.0-20.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		21.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	29			
Mass of wet soil + container (m_2)	g	7995,00			
Mass of dry soil + container (m_3)	g	7319,00			
Mass of container (m_1)	g	1022,0			
Mass of moisture ($m_2 - m_3$)	g	676,0			
Mass of dry soil ($m_3 - m_1$)	g	6297,0			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,74			
Average value W	%	10,7			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB6-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		0.3-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		22.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	019			
Mass of wet soil + container (m_2)	g	60,52			
Mass of dry soil + container (m_3)	g	52,43			
Mass of container (m_1)	g	21,0			
Mass of moisture ($m_2 - m_3$)	g	8,1			
Mass of dry soil ($m_3 - m_1$)	g	31,4			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	25,74			
Average value W	%	25,7			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB6-1	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic sandy silt matrix, with little rounded cobbles inclusions		Depth, m		7.0-8.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		22.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	46			
Mass of wet soil + container (m_2)	g	7278,00			
Mass of dry soil + container (m_3)	g	6968,00			
Mass of container (m_1)	g	1229,5			
Mass of moisture ($m_2 - m_3$)	g	310,0			
Mass of dry soil ($m_3 - m_1$)	g	5738,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	5,40			
Average value W	%	5,4			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB6-1	
Soil Description:		Sample no.			
Rounded GRAVEL with sandy silt matrix, with a little rounded cobbles inclusions		Depth, m		25.0-26.0	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		24.08.2011	
Related Test					
Specimen reference		1/1			
Container no.	g	29			
Mass of wet soil + container (m_2)	g	8001,00			
Mass of dry soil + container (m_3)	g	7363,50			
Mass of container (m_1)	g	1022,0			
Mass of moisture ($m_2 - m_3$)	g	637,5			
Mass of dry soil ($m_3 - m_1$)	g	6341,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	10,05			
Average value W	%	10,1			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB6-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		27.1-27.3	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		23.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	019			
Mass of wet soil + container (m_2)	g	60,67			
Mass of dry soil + container (m_3)	g	52,11			
Mass of container (m_1)	g	21,0			
Mass of moisture ($m_2 - m_3$)	g	8,6			
Mass of dry soil ($m_3 - m_1$)	g	31,1			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	27,52			
Average value W	%	27,5			
		Operator	Checked	Approved	
		Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili	

Moisture Content

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB6-1	
Soil Description:		Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		29.7-29.9	
Test Method: BS 1377 : Part 2 : 1990 : 3.2		Date		18.08.2011	
Related Test					
Specimen reference	1/1				
Container no.	g	301			
Mass of wet soil + container (m_2)	g	58,84			
Mass of dry soil + container (m_3)	g	51,17			
Mass of container (m_1)	g	22,7			
Mass of moisture ($m_2 - m_3$)	g	7,7			
Mass of dry soil ($m_3 - m_1$)	g	28,5			
Moisture content $w = \left(\frac{m_2 - m_3}{m_3 - m_1} \right) \cdot 100$	%	26,94			
Average value W	%	26,9			
	Operator		Checked		Approved
	Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

ANNEX 1 .3

Atterberg limits

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-1	
Soil Description: Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Sample no.			
		Depth		1.0-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/12/2011	

Plastic Limit		1	2	3	4	Average
Container no.		11	4			
Mass of wet soil + container	g	14.44	14.77			
Mass of dry soil + container	g	13.20	13.32			
Mass of container	g	6.20	5.50			
Mass of moisture	g	1.24	1.45			
Mass of dry soil	g	7.00	7.82			
Moisture content	%	17.7	18.5			18.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.5	15.3	15.5	18.2	18.5	18.7	21.3	21.5	21.5	25.8	25.7	
Average penetration	mm	15.4			18.5			21.4			25.7		
Container no.		93			96			IX			48		
Mass of wet soil + container	g	34.05			36.81			39.89			35.21		
Mass of dry soil + container	g	28.42			30.38			33.20			29.83		
Mass of container	g	9.71			9.69			12.32			13.40		
Mass of moisture	g	5.63			6.43			6.69			5.38		
Mass of dry soil	g	18.71			20.69			20.88			16.43		
Moisture content	%	30.1			31.1			32.0			32.7		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	31.4 %
Plastic limit	18.1 %
Plasticity index	13.3

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-1	
Soil Description: Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		Sample no.			
		Depth		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/9/2011	

Plastic Limit	1	2	3	4	Average
Container no.	16	2			
Mass of wet soil + container g	15.58	16.82			
Mass of dry soil + container g	14.25	15.35			
Mass of container g	6.10	6.26			
Mass of moisture g	1.33	1.47			
Mass of dry soil g	8.15	9.09			
Moisture content %	16.3	16.2			16.2

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.2	16.4	16.5	18.4	18.6	18.7	21.6	21.7	21.9	24.8	24.9	###
Average penetration mm	16.4			18.6			21.7			24.9		
Container no.	0			17			94			23		
Mass of wet soil + container g	30.39			30.70			30.98			34.40		
Mass of dry soil + container g	26.40			25.40			26.00			29.00		
Mass of container g	12.89			8.20			10.47			12.88		
Mass of moisture g	3.99			5.30			4.98			5.40		
Mass of dry soil g	13.51			17.20			15.53			16.12		
Moisture content %	29.5			30.8			32.1			33.5		

Moisture content, %

Sample preparation
as received

washed on 425 μ m sieve

air dried at °C

oven dried at 105 °C

not known

Proportion retained
on 425 μ m sieve %

Liquid limit	31.3 %
Plastic limit	16.2 %
Plasticity index	15.1

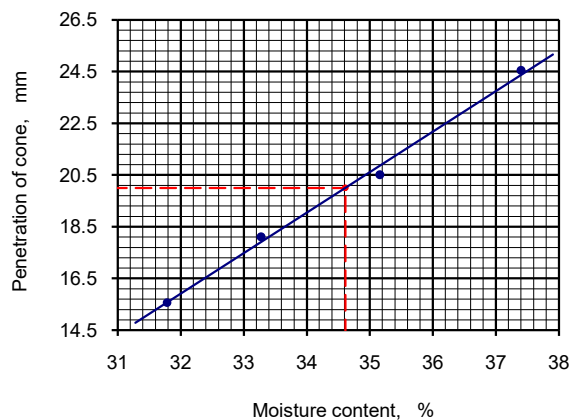
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/ <u>Pit no.</u>	TP-SE-2
Soil Description: Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions	Sample no.	
	Depth	1.0-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/13/2011

Plastic Limit		1	2	3	4	Average
Container no.		12	16			
Mass of wet soil + container	g	15.93	15.79			
Mass of dry soil + container	g	14.58	14.26			
Mass of container	g	7.20	6.10			
Mass of moisture	g	1.35	1.53			
Mass of dry soil	g	7.38	8.16			
Moisture content	%	18.3	18.8			18.5

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.4	15.6	15.7	18.2	18.1	18.0	20.4	20.5	20.6	24.6	24.5	24.5
Average penetration	mm	15.6			18.1			20.5			24.5		
Container no.		A			48			50			43		
Mass of wet soil + container	g	34.05			38.19			33.59			31.91		
Mass of dry soil + container	g	28.38			32.00			28.91			26.55		
Mass of container	g	10.54			13.40			15.60			12.22		
Mass of moisture	g	5.67			6.19			4.68			5.36		
Mass of dry soil	g	17.84			18.60			13.31			14.33		
Moisture content	%	31.8			33.3			35.2			37.4		



Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μm sieve		
Liquid limit		34.6 %
Plastic limit		18.5 %
Plasticity index		16.1
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-3	
Soil Description: Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles and boulders inclusions		Sample no.			
		Depth		0.5-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/12/2011	

Plastic Limit		1	2	3	4	Average
Container no.		12	19			
Mass of wet soil + container	g	17.11	15.17			
Mass of dry soil + container	g	15.60	13.80			
Mass of container	g	7.20	6.30			
Mass of moisture	g	1.51	1.37			
Mass of dry soil	g	8.40	7.50			
Moisture content	%	18.0	18.3			18.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.4	15.6	15.7	18.5	18.4	18.6	20.3	20.4	20.5	24.7	24.5	24.6
Average penetration	mm	15.6			18.5			20.4			24.6		
Container no.		23			B			40			82		
Mass of wet soil + container	g	32.81			33.92			34.98			33.98		
Mass of dry soil + container	g	28.15			28.05			28.73			27.90		
Mass of container	g	12.88			9.71			9.82			10.20		
Mass of moisture	g	4.66			5.87			6.25			6.08		
Mass of dry soil	g	15.27			18.34			18.91			17.70		
Moisture content	%	30.5			32.0			33.1			34.4		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	32.6 %
Plastic limit	18.1 %
Plasticity index	14.5

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 4-1	
Soil Description: Rounded GRAVEL with low plastic sandy silt matrix, with little rounded cobbles inclusions		Sample no.			
		Depth		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/19/2011	

Plastic Limit		1	2	3	4	Average
Container no.		5	9			
Mass of wet soil + container	g	12.75	14.00			
Mass of dry soil + container	g	11.57	12.51			
Mass of container	g	6.38	6.00			
Mass of moisture	g	1.18	1.49			
Mass of dry soil	g	5.19	6.51			
Moisture content	%	22.7	22.9			22.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.6	15.5	18.4	18.6	18.5	20.7	20.8	20.9	24.3	24.4	24.1
Average penetration	mm	15.6			18.5			20.8			24.3		
Container no.		46			L			H			23		
Mass of wet soil + container	g	31.44			36.55			33.35			33.71		
Mass of dry soil + container	g	27.73			31.37			27.98			28.65		
Mass of container	g	13.34			12.60			9.95			12.88		
Mass of moisture	g	3.71			5.18			5.37			5.06		
Mass of dry soil	g	14.39			18.77			18.03			15.77		
Moisture content	%	25.8			27.6			29.8			32.1		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	29.0 %
Plastic limit	22.8 %
Plasticity index	6.2

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB4-1	
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel content		Sample no.			
		Depth		25.3-25.5	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/23/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	11			
Mass of wet soil + container	g	11.91	12.37			
Mass of dry soil + container	g	10.81	11.30			
Mass of container	g	5.50	6.20			
Mass of moisture	g	1.10	1.07			
Mass of dry soil	g	5.31	5.10			
Moisture content	%	20.7	21.0			20.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.7	15.6	15.5	18.7	18.8	18.5	20.7	20.8	20.9	24.3	24.2	24.1
Average penetration	mm	15.6			18.7			20.8			24.2		
Container no.		Φ			0			XI			II		
Mass of wet soil + container	g	32.43			38.08			41.08			40.49		
Mass of dry soil + container	g	26.37			30.10			32.05			32.11		
Mass of container	g	10.00			9.82			9.95			12.33		
Mass of moisture	g	6.06			7.98			9.03			8.38		
Mass of dry soil	g	16.37			20.28			22.10			19.78		
Moisture content	%	37.0			39.3			40.9			42.4		

Moisture content, %

Sample preparation
as received
washed on 425 μm sieve
air dried at °C
oven dried at 105 °C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	40.0 %
Plastic limit	20.8 %
Plasticity index	19.2

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-2	
Soil Description: Intermediately plastic silty sandy CLAY with a rounded gravel inclusions		Sample no.			
		Depth		2.4-2.6	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/10/2011	

Plastic Limit	1	2	3	4	Average
Container no.	1	18			
Mass of wet soil + container g	16.28	16.75			
Mass of dry soil + container g	14.36	15.13			
Mass of container g	5.61	7.42			
Mass of moisture g	1.92	1.62			
Mass of dry soil g	8.75	7.71			
Moisture content %	21.9	21.0			21.5

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.2	16.4	16.5	18.4	18.5	18.6	21.3	21.4	21.4	24.5	24.6	24.6
Average penetration mm	16.4			18.5			21.4			24.6		
Container no.	H			B			80			37		
Mass of wet soil + container g	31.46			34.10			31.70			34.46		
Mass of dry soil + container g	25.42			26.96			25.24			27.31		
Mass of container g	9.95			9.71			10.38			11.60		
Mass of moisture g	6.04			7.14			6.46			7.15		
Mass of dry soil g	15.47			17.25			14.86			15.71		
Moisture content %	39.0			41.4			43.5			45.5		

Moisture content, %

Sample preparation
as received

washed on 425 μ m sieve

air dried at _____ °C

oven dried at 105 °C

not known

Proportion retained
on 425 μ m sieve _____ %

Liquid limit	42.2 %
Plastic limit	21.5 %
Plasticity index	20.7

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-4	
Soil Description: Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Sample no.			
		Depth		2.5-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/13/2011	

Plastic Limit		1	2	3	4	Average
Container no.		11	12			
Mass of wet soil + container	g	15.68	15.26			
Mass of dry soil + container	g	14.16	13.98			
Mass of container	g	6.20	7.20			
Mass of moisture	g	1.52	1.28			
Mass of dry soil	g	7.96	6.78			
Moisture content	%	19.1	18.9			19.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.3	15.4	15.2	18.2	18.4	18.3	20.4	20.6	20.7	23.8	23.9	23.9
Average penetration	mm	15.3			18.3			20.6			23.9		
Container no.		22			52			H			100		
Mass of wet soil + container	g	30.62			35.02			33.30			38.96		
Mass of dry soil + container	g	26.87			30.58			27.81			31.78		
Mass of container	g	12.82			15.01			9.95			9.89		
Mass of moisture	g	3.75			4.44			5.49			7.18		
Mass of dry soil	g	14.05			15.57			17.86			21.89		
Moisture content	%	26.7			28.5			30.7			32.8		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	30.0 %
Plastic limit	19.0 %
Plasticity index	11.1

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-5	
Soil Description: Low plastic silty sandy CLAY		Sample no.			
		Depth		1.5-1.6	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/11/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	4			
Mass of wet soil + container	g	14.90	14.48			
Mass of dry soil + container	g	13.60	13.02			
Mass of container	g	7.28	5.50			
Mass of moisture	g	1.30	1.46			
Mass of dry soil	g	6.32	7.52			
Moisture content	%	20.6	19.4			20.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.7	16.5	16.4	18.5	18.6	18.5	20.3	20.4	20.5	25.7	25.8	25.9
Average penetration	mm	16.5			18.5			20.4			25.8		
Container no.		F			P			48			82		
Mass of wet soil + container	g	32.70			35.00			33.56			36.55		
Mass of dry soil + container	g	27.20			29.30			28.42			29.70		
Mass of container	g	10.00			12.33			13.40			10.20		
Mass of moisture	g	5.50			5.70			5.14			6.85		
Mass of dry soil	g	17.20			16.97			15.02			19.50		
Moisture content	%	32.0			33.6			34.2			35.1		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	33.6 %	
Plastic limit	20.0 %	
Plasticity index	13.6	
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-5	
Soil Description: Rounded GRAVEL with intermediately plastic silty clay matrix, with rounded cobbles inclusions		Sample no.			
		Depth		1.7-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/11/2011	

Plastic Limit	1	2	3	4	Average
Container no.	15	2			
Mass of wet soil + container g	15.84	15.76			
Mass of dry soil + container g	14.12	14.26			
Mass of container g	5.01	6.26			
Mass of moisture g	1.72	1.50			
Mass of dry soil g	9.11	8.00			
Moisture content %	18.9	18.8			18.8

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.6	15.7	18.2	18.3	18.4	20.5	20.5	20.2	24.5	24.3	24.3
Average penetration mm	15.6			18.3			20.4			24.4		
Container no.	XX			J			30			94		
Mass of wet soil + container g	35.45			34.37			36.78			32.97		
Mass of dry soil + container g	29.61			28.45			30.27			26.34		
Mass of container g	12.28			11.60			12.91			10.47		
Mass of moisture g	5.84			5.92			6.51			6.63		
Mass of dry soil g	17.33			16.85			17.36			15.87		
Moisture content %	33.7			35.1			37.5			41.8		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	37.3 %
Plastic limit	18.8 %
Plasticity index	18.5

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-3	
Soil Description: Rounded GRAVEL with intermediately plastic sandy silty clay matrix		Sample no.			
		Depth		1.7-1.85	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/11/2011	

Plastic Limit		1	2	3	4	Average
Container no.		9	12			
Mass of wet soil + container	g	15.28	17.26			
Mass of dry soil + container	g	13.65	15.49			
Mass of container	g	6.00	7.20			
Mass of moisture	g	1.63	1.77			
Mass of dry soil	g	7.65	8.29			
Moisture content	%	21.3	21.4			21.3

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.9	15.8	18.2	18.3	18.4	21.3	21.4	21.4	24.5	24.6	24.7
Average penetration	mm	15.8			18.3			21.4			24.6		
Container no.		H			XI			50			80		
Mass of wet soil + container	g	31.96			26.67			33.29			33.20		
Mass of dry soil + container	g	27.05			23.02			28.49			26.72		
Mass of container	g	11.60			12.32			15.60			10.38		
Mass of moisture	g	4.91			3.65			4.80			6.48		
Mass of dry soil	g	15.45			10.70			12.89			16.34		
Moisture content	%	31.8			34.1			37.2			39.7		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	35.7 %
Plastic limit	21.3 %
Plasticity index	14.3

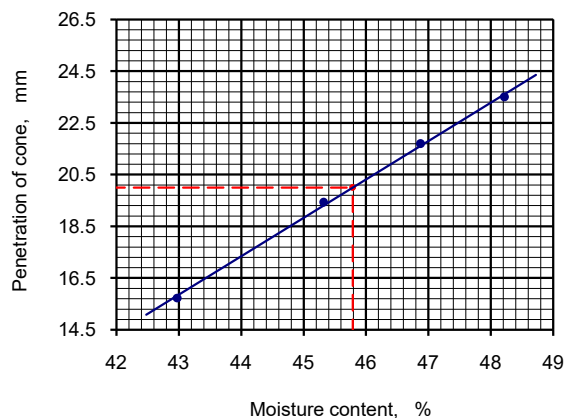
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	TP-SE-6
Soil Description: Intermediately plastic silty sandy CLAY with little rounded gravel inclusions	Sample no.	
	Depth	0.5-1.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/11/2011

Plastic Limit		1	2	3	4	Average
Container no.		1	18			
Mass of wet soil + container	g	16.28	16.80			
Mass of dry soil + container	g	14.23	15.00			
Mass of container	g	5.61	7.42			
Mass of moisture	g	2.05	1.80			
Mass of dry soil	g	8.62	7.58			
Moisture content	%	23.8	23.7			23.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.7	15.7	15.8	19.3	19.4	19.6	21.6	21.7	21.8	23.4	23.5	23.6
Average penetration	mm	15.7			19.4			21.7			23.5		
Container no.		H			B			80			37		
Mass of wet soil + container	g	31.84			34.40			32.25			34.53		
Mass of dry soil + container	g	25.26			26.70			25.27			27.07		
Mass of container	g	9.95			9.71			10.38			11.60		
Mass of moisture	g	6.58			7.70			6.98			7.46		
Mass of dry soil	g	15.31			16.99			14.89			15.47		
Moisture content	%	43.0			45.3			46.9			48.2		



Sample preparation

as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained

on 425 μm sieve %

Liquid limit 45.8 %

Plastic limit 23.8 %

Plasticity index 22.0

Operator	Checked	Approved
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T.Gorgidze	R.Kavelashvili	L.Gorgidze
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Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-6	
Soil Description: Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Sample no.			
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Depth		1.5-1.7	
		Date		7/11/2011	

Plastic Limit		1	2	3	4	Average
Container no.		1	5.56			
Mass of wet soil + container	g	15.65	14.22			
Mass of dry soil + container	g	13.89	13.04			
Mass of container	g	5.61	7.28			
Mass of moisture	g	1.76	1.18			
Mass of dry soil	g	8.28	5.76			
Moisture content	%	21.3	20.5			20.9

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.4	15.6	15.5	18.3	18.5	18.5	20.5	20.6	20.8	24.5	24.6	
Average penetration	mm	15.5			18.4			20.6			24.6		
Container no.		P			32			80			19		
Mass of wet soil + container	g	35.56			33.02			42.15			44.20		
Mass of dry soil + container	g	29.88			27.78			33.46			35.12		
Mass of container	g	12.33			12.68			10.38			12.71		
Mass of moisture	g	5.68			5.24			8.69			9.08		
Mass of dry soil	g	17.55			15.10			23.08			22.41		
Moisture content	%	32.4			34.7			37.7			40.5		

Penetration of cone, mm Moisture content, %		Sample preparation as received washed on 425 μm sieve air dried at _____ °C oven dried at 105 °C not known Proportion retained on 425 μm sieve _____ % Liquid limit 36.5 % Plastic limit 20.9 % Plasticity index 15.6	
Operator	Checked	Approved	
T.Gorgidze	R.Kavelashvili	L.Gorgidze	

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-8	
Soil Description: Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles inclusions		Sample no.			
		Depth		2.5-3.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/13/2011	

Plastic Limit		1	2	3	4	Average
Container no.		18	16			
Mass of wet soil + container	g	15.58	15.40			
Mass of dry soil + container	g	14.15	13.97			
Mass of container	g	6.51	6.10			
Mass of moisture	g	1.43	1.43			
Mass of dry soil	g	7.64	7.87			
Moisture content	%	18.7	18.2			18.4

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.7	15.6	15.6	18.5	18.6	18.6	20.5	20.4	20.7	25.3	25.2	
Average penetration	mm	15.6			18.6			20.5			25.2		
Container no.		92			22			19			10		
Mass of wet soil + container	g	28.69			34.06			35.84			34.53		
Mass of dry soil + container	g	24.59			29.23			30.33			28.82		
Mass of container	g	9.63			12.82			13.40			12.89		
Mass of moisture	g	4.10			4.83			5.51			5.71		
Mass of dry soil	g	14.96			16.41			16.93			15.93		
Moisture content	%	27.4			29.4			32.5			35.8		

	Sample preparation		
	as received		
	washed on 425 μ m sieve		
	air dried at _____ °C		
	oven dried at 105 °C		
not known			
Proportion retained			
on 425 μ m sieve _____ %			
Liquid limit			31.3 %
Plastic limit			18.4 %
Plasticity index			12.9
Operator	Checked	Approved	
T.Gorgidze	R.Kavelashvili	L.Gorgidze	

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-4	
Soil Description: Intermediately plastic silty CLAY with a little rounded gravel inclusions		Sample no.			
		Depth		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/5/2011	

Plastic Limit		1	2	3	4	Average
Container no.		9	12'			
Mass of wet soil + container	g	15.28	17.20			
Mass of dry soil + container	g	13.70	15.39			
Mass of container	g	6.00	7.20			
Mass of moisture	g	1.58	1.81			
Mass of dry soil	g	7.70	8.19			
Moisture content	%	20.5	22.1			21.3

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.2	16.2	16.3	18.7	18.6	18.7	20.5	20.4	20.6	24.2	24.1	24.3
Average penetration	mm	16.2			18.7			20.5			24.2		
Container no.		Ж			XI			50			80		
Mass of wet soil + container	g	32.10			26.62			33.20			33.12		
Mass of dry soil + container	g	27.15			22.98			28.49			26.75		
Mass of container	g	11.60			12.32			15.60			10.38		
Mass of moisture	g	4.95			3.64			4.71			6.37		
Mass of dry soil	g	15.55			10.66			12.89			16.37		
Moisture content	%	31.8			34.1			36.5			38.9		

Sample preparation
as received
washed on 425 μ m sieve
air dried at $^{\circ}$ C
oven dried at 105 $^{\circ}$ C
not known
Proportion retained
on 425 μ m sieve %

Liquid limit	35.4 %
Plastic limit	21.3 %
Plasticity index	14.1

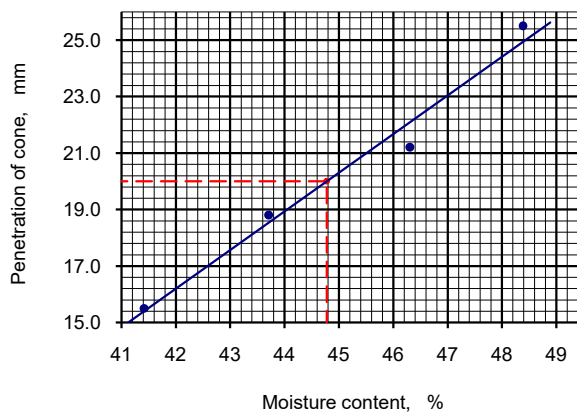
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-5
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel inclusions	Sample no.	
	Depth	2.3-2.6
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/3/2011

Plastic Limit		1	2	3	4	Average
Container no.		5	16			
Mass of wet soil + container	g	15.41	15.48			
Mass of dry soil + container	g	13.77	13.79			
Mass of container	g	6.38	6.10			
Mass of moisture	g	1.64	1.69			
Mass of dry soil	g	7.39	7.69			
Moisture content	%	22.2	22.0			22.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.4	15.6	15.5	18.7	18.8	18.9	21.1	21.2	21.3	25.5	25.4	25.6
Average penetration	mm	15.5			18.8			21.2			25.5		
Container no.		XX			XI			80			0		
Mass of wet soil + container	g	32.16			31.52			27.03			35.40		
Mass of dry soil + container	g	26.32			25.68			21.76			28.06		
Mass of container	g	12.22			12.32			10.38			12.89		
Mass of moisture	g	5.84			5.84			5.27			7.34		
Mass of dry soil	g	14.10			13.36			11.38			15.17		
Moisture content	%	41.4			43.7			46.3			48.4		



Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105 $^{\circ}\text{C}$

not known

Proportion retained

on 425 μm sieve %

Liquid limit 44.8 %

Plastic limit 22.1 %

Plasticity index 22.7

Operator Checked Approved

T.Gorgidze R.Kavelashvili L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-7	
Soil Description: Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		Sample no.			
		Depth		1.3-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/13/2011	

Plastic Limit	1	2	3	4	Average
Container no.	2	9			
Mass of wet soil + container g	16.38	15.65			
Mass of dry soil + container g	14.55	13.97			
Mass of container g	6.00	6.00			
Mass of moisture g	1.83	1.68			
Mass of dry soil g	8.55	7.97			
Moisture content %	21.4	21.1			21.2

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.4	15.3	15.6	18.4	18.6	18.7	20.5	20.7	20.6	24.6	24.7	24.8
Average penetration mm	15.4			18.6			20.6			24.7		
Container no.	5			P			46			K		
Mass of wet soil + container g	29.99			36.12			39.50			42.05		
Mass of dry soil + container g	25.88			30.25			32.86			33.45		
Mass of container g	12.71			12.33			13.34			9.88		
Mass of moisture g	4.11			5.87			6.64			8.60		
Mass of dry soil g	13.17			17.92			19.52			23.57		
Moisture content %	31.2			32.8			34.0			36.5		

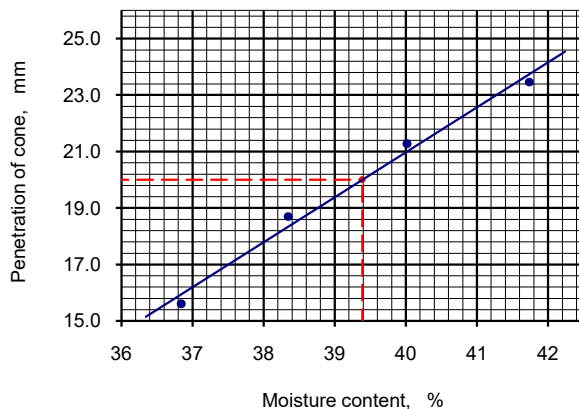
	Sample preparation		
	as received		
	washed on 425 μ m sieve		
	air dried at $^{\circ}$ C		
	oven dried at 105 $^{\circ}$ C		
not known			
Proportion retained			
on 425 μ m sieve %			
Liquid limit 33.7 %			
Plastic limit 21.2 %			
Plasticity index 12.5			
Operator	Checked	Approved	
T.Gorgidze	R.Kavelashvili	L.Gorgidze	

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB 5-1
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel content	Sample no.	
	Depth	0.4-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/23/2011

Plastic Limit		1	2	3	4	Average
Container no.		18	11			
Mass of wet soil + container	g	14.59	13.89			
Mass of dry soil + container	g	13.25	12.60			
Mass of container	g	6.51	6.20			
Mass of moisture	g	1.34	1.29			
Mass of dry soil	g	6.74	6.40			
Moisture content	%	19.9	20.2			20.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.5	15.7	15.6	18.7	18.8	18.6	21.1	21.3	21.4	23.3	23.5	23.6
Average penetration	mm	15.6			18.7			21.3			23.5		
Container no.		52			22			46			55		
Mass of wet soil + container	g	41.83			43.45			38.30			45.68		
Mass of dry soil + container	g	34.06			35.04			31.23			36.43		
Mass of container	g	12.68			12.82			13.34			14.00		
Mass of moisture	g	7.77			8.41			7.07			9.25		
Mass of dry soil	g	21.38			22.22			17.89			22.43		
Moisture content	%	36.3			37.8			39.5			41.2		



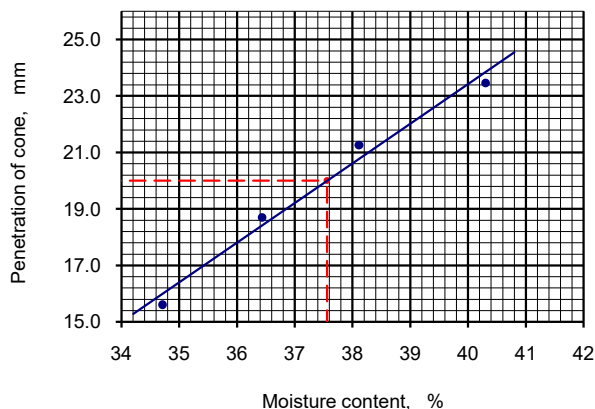
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at $^{\circ}\text{C}$		
oven dried at 105°C		
not known		
Proportion retained		
on 425 μm sieve %		
Liquid limit		38.9 %
Plastic limit		20.0 %
Plasticity index		18.9
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SI 1-1
Soil Description: Intermediately plastic silty sandy CLAY	Sample no.	
	Depth	21.2-21.5
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/24/2011

Plastic Limit	1	2	3	4	Average
Container no.	18	11			
Mass of wet soil + container g	14.68	13.92			
Mass of dry soil + container g	13.39	12.69			
Mass of container g	6.51	6.20			
Mass of moisture g	1.29	1.23			
Mass of dry soil g	6.88	6.49			
Moisture content %	18.8	19.0			18.9

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.7	15.6	18.7	18.8	18.6	21.1	21.3	21.4	23.3	23.5	23.6
Average penetration mm	15.6			18.7			21.3			23.5		
Container no.	52			22			46			55		
Mass of wet soil + container g	41.75			43.49			38.27			45.68		
Mass of dry soil + container g	34.26			35.30			31.39			36.58		
Mass of container g	12.68			12.82			13.34			14.00		
Mass of moisture g	7.49			8.19			6.88			9.10		
Mass of dry soil g	21.58			22.48			18.05			22.58		
Moisture content %	34.7			36.4			38.1			40.3		



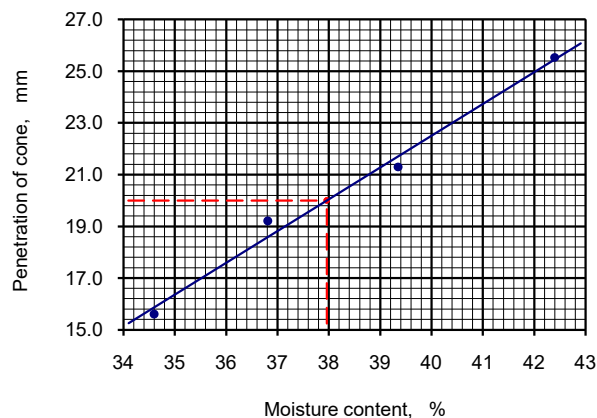
Sample preparation as received		
washed on 425 μ m sieve		
air dried at $^{\circ}\text{C}$		
oven dried at 105 $^{\circ}\text{C}$		
not known		
Proportion retained on 425 μ m sieve %		
Liquid limit		37.6 %
Plastic limit		18.9 %
Plasticity index		18.7
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SI 1-1
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel content	Sample no.	
	Depth	23.7-24.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/18/2011

Plastic Limit		1	2	3	4	Average
Container no.		15	14			
Mass of wet soil + container	g	14.33	15.61			
Mass of dry soil + container	g	13.29	14.17			
Mass of container	g	7.62	6.50			
Mass of moisture	g	1.04	1.44			
Mass of dry soil	g	5.67	7.67			
Moisture content	%	18.3	18.8			18.6

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.6	15.5	15.7	19.1	19.2	19.3	21.2	21.3	21.4	25.5	25.6	25.5
Average penetration	mm	15.6			19.2			21.3			25.5		
Container no.		22			40			50			A		
Mass of wet soil + container	g	35.52			46.20			39.03			43.62		
Mass of dry soil + container	g	29.70			36.89			30.75			34.27		
Mass of container	g	12.88			11.60			9.71			12.22		
Mass of moisture	g	5.82			9.31			8.28			9.35		
Mass of dry soil	g	16.82			25.29			21.04			22.05		
Moisture content	%	34.6			36.8			39.4			42.4		



Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105 $^{\circ}\text{C}$
not known
Proportion retained
on 425 μm sieve %

Liquid limit 38.0 %
Plastic limit 18.6 %
Plasticity index 19.4

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SI 1-2	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		21.0-21.3	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/18/2011	

Plastic Limit	1	2	3	4	Average
Container no.	18	11			
Mass of wet soil + container g	14.60	13.90			
Mass of dry soil + container g	13.23	12.61			
Mass of container g	6.51	6.20			
Mass of moisture g	1.37	1.29			
Mass of dry soil g	6.72	6.41			
Moisture content %	20.4	20.1			20.3

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.2	15.3	15.2	18.7	18.5	18.6	21.1	21.3	21.5	23.5	23.6	23.7
Average penetration mm	15.0			18.6			21.3			23.6		
Container no.	52			22			46			55		
Mass of wet soil + container g	41.65			43.40			38.33			45.68		
Mass of dry soil + container g	33.45			34.39			30.75			35.97		
Mass of container g	12.68			12.82			13.34			14.00		
Mass of moisture g	8.20			9.01			7.58			9.71		
Mass of dry soil g	20.77			21.57			17.41			21.97		
Moisture content %	39.5			41.8			43.5			44.2		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained
on 425 μm sieve %

Liquid limit 42.5 %

Plastic limit 20.3 %

Plasticity index 22.2

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-7	
Soil Description: Highly plastic silty CLAY		Sample no.			
		Depth		0.5-1.7	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/9/2011	

Plastic Limit	1	2	3	4	Average
Container no.	18'	12			
Mass of wet soil + container g	16.51	16.48			
Mass of dry soil + container g	14.58	14.33			
Mass of container g	7.42	6.18			
Mass of moisture g	1.93	2.15			
Mass of dry soil g	7.16	8.15			
Moisture content %	27.0	26.4			26.7

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading mm	15.2	15.3	15.4	18.6	18.7	18.8	21.5	21.6	21.7	25.1	25.2	25.3
Average penetration mm	15.3			18.7			21.6			25.2		
Container no.	55			VII			H			II		
Mass of wet soil + container g	28.70			28.81			32.50			28.29		
Mass of dry soil + container g	24.00			23.18			24.63			22.57		
Mass of container g	14.00			11.90			9.95			12.33		
Mass of moisture g	4.70			5.63			7.87			5.72		
Mass of dry soil g	10.00			11.28			14.68			10.24		
Moisture content %	47.0			49.9			53.6			55.9		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained
on 425 μm sieve %

Liquid limit	51.4 %
Plastic limit	26.7 %
Plasticity index	24.7

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		TP-SE-8	
Soil Description: Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Sample no.			
		Depth		0.5-1.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/12/2011	

Plastic Limit		1	2	3	4	Average
Container no.		15	18			
Mass of wet soil + container	g	15.38	16.60			
Mass of dry soil + container	g	13.80	15.10			
Mass of container	g	5.91	7.42			
Mass of moisture	g	1.58	1.50			
Mass of dry soil	g	7.89	7.68			
Moisture content	%	20.0	19.5			19.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.0	15.3	15.4	18.9	18.7	18.8	21.2	21.3	21.4	25.4	25.6	25.4
Average penetration	mm	15.2			18.8			21.3			25.5		
Container no.		55			94			H			P		
Mass of wet soil + container	g	33.27			29.80			33.65			33.00		
Mass of dry soil + container	g	27.90			23.80			26.58			26.71		
Mass of container	g	14.00			9.22			9.95			12.33		
Mass of moisture	g	5.37			6.00			7.07			6.29		
Mass of dry soil	g	13.90			14.58			16.63			14.38		
Moisture content	%	38.6			41.2			42.5			43.7		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at $^{\circ}$ C
oven dried at 105 $^{\circ}$ C
not known
Proportion retained
on 425 μ m sieve %

Liquid limit	41.4 %
Plastic limit	19.8 %
Plasticity index	21.6

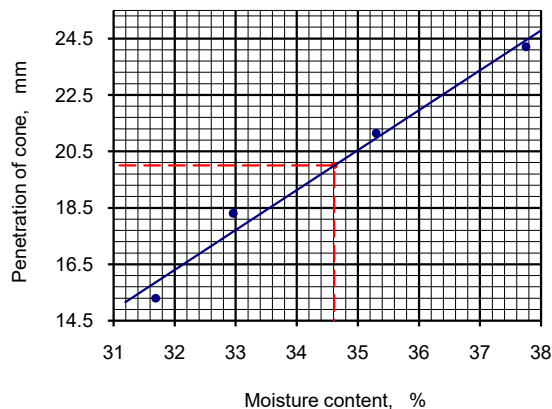
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	TP-SE-8
Soil Description: Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions	Sample no.	
	Depth	2.5-3.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/13/2011

Plastic Limit		1	2	3	4	Average
Container no.		4	15			
Mass of wet soil + container	g	15.68	15.68			
Mass of dry soil + container	g	13.98	14.12			
Mass of container	g	5.50	5.91			
Mass of moisture	g	1.70	1.56			
Mass of dry soil	g	8.48	8.21			
Moisture content	%	20.0	19.0			19.5

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.2	15.4	15.3	18.2	18.4	18.3	21.1	21.0	21.3	24.2	24.3	24.1
Average penetration	mm	15.3			18.3			21.1			24.2		
Container no.		IX			F			82			50		
Mass of wet soil + container	g	29.48			32.67			38.45			40.23		
Mass of dry soil + container	g	25.23			27.05			31.08			33.48		
Mass of container	g	11.82			10.00			10.20			15.60		
Mass of moisture	g	4.25			5.62			7.37			6.75		
Mass of dry soil	g	13.41			17.05			20.88			17.88		
Moisture content	%	31.7			33.0			35.3			37.8		



Sample preparation

as received

washed on 425 μ m sieve

air dried at $^{\circ}$ C

oven dried at 105 $^{\circ}$ C

not known

Proportion retained

on 425 μ m sieve %

Liquid limit 34.6 %

Plastic limit 19.5 %

Plasticity index 15.1

Operator Checked Approved

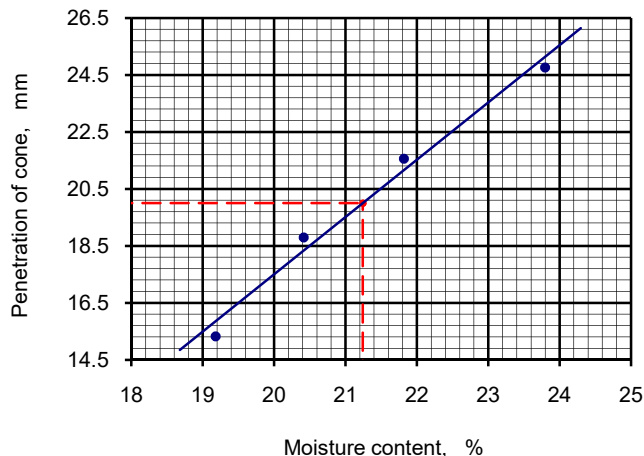
T.Gorgidze R.Kavelashvili L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-9
Soil Description: Rounded GRAVEL with low plastic sandy silty CLAY matrix, with rounded cobbles inclusions	Sample no.	
	Depth	9.8-10.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/9/2011

Plastic Limit		1	2	3	4	Average
Container no.		12	19			
Mass of wet soil + container	g	17.62	17.30			
Mass of dry soil + container	g	16.30	16.05			
Mass of container	g	6.18	6.30			
Mass of moisture	g	1.32	1.25			
Mass of dry soil	g	10.12	9.75			
Moisture content	%	13.0	12.8			12.9

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.2	15.3	15.5	18.9	18.8	18.7	21.4	21.6	21.7	24.6	24.8	24.9
Average penetration	mm	15.3			18.8			21.6			24.8		
Container no.		Ж			80			82			32		
Mass of wet soil + container	g	30.80			26.78			25.22			28.60		
Mass of dry soil + container	g	27.71			24.00			22.53			25.54		
Mass of container	g	11.60			10.38			10.20			12.68		
Mass of moisture	g	3.09			2.78			2.69			3.06		
Mass of dry soil	g	16.11			13.62			12.33			12.86		
Moisture content	%	19.2			20.4			21.8			23.8		



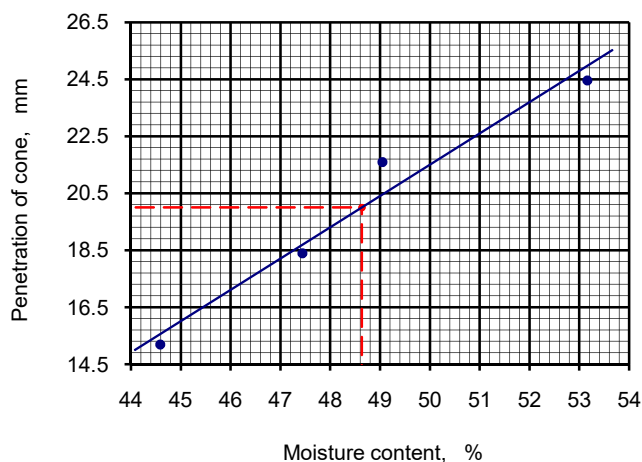
Sample preparation		
as received		
washed on 425 μ m sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μ m sieve		
Liquid limit		21.2 %
Plastic limit		12.9 %
Plasticity index		8.3
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-10
Soil Description: Rounded GRAVEL with intermediately plastic sandy silty CLAY matrix	Sample no.	
	Depth	0.5-1.5
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/9/2011

Plastic Limit	1	2	3	4	Average
Container no.	4'	9			
Mass of wet soil + container g	15.35	15.00			
Mass of dry soil + container g	13.49	13.30			
Mass of container g	5.50	6.00			
Mass of moisture g	1.86	1.70			
Mass of dry soil g	7.99	7.30			
Moisture content %	23.3	23.3			23.3

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.1	15.2	15.3	18.2	18.4	18.6	21.5	21.6	21.7	24.3	24.5	24.6
Average penetration mm	15.2			18.4			21.6			24.5		
Container no.	52			50			48			95		
Mass of wet soil + container g	30.90			39.50			35.28			29.87		
Mass of dry soil + container g	26.00			31.81			28.08			22.80		
Mass of container g	15.01			15.60			13.40			9.50		
Mass of moisture g	4.90			7.69			7.20			7.07		
Mass of dry soil g	10.99			16.21			14.68			13.30		
Moisture content %	44.6			47.4			49.0			53.2		



Sample preparation as received washed on 425 μm sieve air dried at $^{\circ}\text{C}$ oven dried at 105 $^{\circ}\text{C}$ not known Proportion retained on 425 μm sieve %		
Liquid limit	48.6 %	
Plastic limit	23.3 %	
Plasticity index	25.4	
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 1-1	
Soil Description: Rounded GRAVEL with low plastic sandy CLAY matrix, with a little rounded cobbles inclusions		Sample no.			
		Depth		3.0-3.3	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/9/2011	

Plastic Limit	1	2	3	4	Average
Container no.	16	2			
Mass of wet soil + container g	15.71	16.99			
Mass of dry soil + container g	14.13	15.24			
Mass of container g	6.10	6.26			
Mass of moisture g	1.58	1.75			
Mass of dry soil g	8.03	8.98			
Moisture content %	19.7	19.5			19.6

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.3	16.4	16.5	18.4	18.5	18.7	21.6	21.7	21.9	24.8	24.9	24.8
Average penetration mm	16.4			18.5			21.7			24.8		
Container no.	0			17			94			23		
Mass of wet soil + container g	30.38			30.71			31.08			34.53		
Mass of dry soil + container g	26.49			25.40			26.00			29.00		
Mass of container g	12.89			8.20			10.47			12.88		
Mass of moisture g	3.89			5.31			5.08			5.53		
Mass of dry soil g	13.60			17.20			15.53			16.12		
Moisture content %	28.6			30.9			32.7			34.3		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received

washed on 425 μ m sieve

air dried at $^{\circ}$ C

oven dried at 105 $^{\circ}$ C

not known

Proportion retained
on 425 μ m sieve %

Liquid limit	31.4 %
Plastic limit	19.6 %
Plasticity index	11.8

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 1-2	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		24.2-24.5	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/8/2011	

Plastic Limit	1	2	3	4	Average
Container no.	18	11			
Mass of wet soil + container g	14.60	13.90			
Mass of dry soil + container g	13.31	12.68			
Mass of container g	6.51	6.20			
Mass of moisture g	1.29	1.22			
Mass of dry soil g	6.80	6.48			
Moisture content %	19.0	18.8			18.9

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.2	15.3	15.2	18.7	18.5	18.6	21.1	21.3	21.5	23.5	23.6	23.7
Average penetration mm	15.0			18.6			21.3			23.6		
Container no.	52			22			46			55		
Mass of wet soil + container g	41.80			43.40			38.30			45.68		
Mass of dry soil + container g	34.18			35.02			31.27			36.41		
Mass of container g	12.68			12.82			13.34			14.00		
Mass of moisture g	7.62			8.38			7.03			9.27		
Mass of dry soil g	21.50			22.20			17.93			22.41		
Moisture content %	35.4			37.7			39.2			41.4		

Moisture content, %

Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained
on 425 μm sieve %

Liquid limit	38.7 %
Plastic limit	18.9 %
Plasticity index	19.8

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 1-2	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		25.2-25.4	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/9/2011	

Plastic Limit	1	2	3	4	Average
Container no.	6	4			
Mass of wet soil + container g	14.60	15.81			
Mass of dry soil + container g	13.35	14.53			
Mass of container g	6.20	7.28			
Mass of moisture g	1.25	1.28			
Mass of dry soil g	7.15	7.25			
Moisture content %	17.5	17.7			17.6

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading mm	15.0	15.1	15.2	18.5	18.5	18.6	20.2	20.3	20.4	24.6	24.7	
Average penetration mm	15.0			18.5			20.3			24.7		
Container no.	Ж			XX			22			92		
Mass of wet soil + container g	29.90			25.90			27.64			24.70		
Mass of dry soil + container g	25.41			22.34			23.63			20.42		
Mass of container g	11.60			12.28			12.82			9.63		
Mass of moisture g	4.49			3.56			4.01			4.28		
Mass of dry soil g	13.81			10.06			10.81			10.79		
Moisture content %	32.5			35.4			37.1			39.7		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained
on 425 μm sieve %

Liquid limit	36.4 %
Plastic limit	17.6 %
Plasticity index	18.9

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		23.4-23.7	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/21/2011	

Plastic Limit		1	2	3	4	Average
Container no.		18	11			
Mass of wet soil + container	g	15.16	14.86			
Mass of dry soil + container	g	13.73	13.45			
Mass of container	g	6.38	6.26			
Mass of moisture	g	1.43	1.41			
Mass of dry soil	g	7.35	7.19			
Moisture content	%	19.5	19.6			19.5

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.7	15.8	15.6	18.3	18.4	18.6	20.3	20.0	20.2	25.5	25.6	
Average penetration	mm	15.7			18.4			20.2			25.6		
Container no.		48			40			23			A		
Mass of wet soil + container	g	33.92			32.38			37.70			39.52		
Mass of dry soil + container	g	28.39			26.19			30.77			31.71		
Mass of container	g	13.40			9.89			12.88			12.60		
Mass of moisture	g	5.53			6.19			6.93			7.81		
Mass of dry soil	g	14.99			16.30			17.89			19.11		
Moisture content	%	36.9			38.0			38.7			40.9		

Moisture content, %

Sample preparation
as received
washed on 425 μm sieve
air dried at °C
oven dried at 105 °C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	38.6 %
Plastic limit	19.5 %
Plasticity index	19.1

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-3	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		24.15-24.45	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/22/2011	

Plastic Limit		1	2	3	4	Average
Container no.		5	2			
Mass of wet soil + container	g	14.52	12.45			
Mass of dry soil + container	g	13.28	11.50			
Mass of container	g	6.38	6.26			
Mass of moisture	g	1.24	0.95			
Mass of dry soil	g	6.90	5.24			
Moisture content	%	18.0	18.1			18.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	15.1	15.3	15.2	18.5	18.3	18.4	20.5	20.4	20.3	25.8	25.4	
Average penetration	mm	15.2			18.4			20.4			25.6		
Container no.		VII			A			H			F		
Mass of wet soil + container	g	33.60			29.12			37.32			35.07		
Mass of dry soil + container	g	28.03			24.30			29.90			27.95		
Mass of container	g	11.60			10.54			9.95			10.00		
Mass of moisture	g	5.57			4.82			7.42			7.12		
Mass of dry soil	g	16.43			13.76			19.95			17.95		
Moisture content	%	33.9			35.0			37.2			39.7		

Penetration of cone, mm

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at $^{\circ}$ C
oven dried at 105 $^{\circ}$ C
not known
Proportion retained
on 425 μ m sieve %

Liquid limit	36.5 %
Plastic limit	18.1 %
Plasticity index	18.5

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-4	
Soil Description:		Sample no.			
Rounded GRAVEL with low plastic silty sandy clay matrix		Depth		13.1-13.3	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/11/2011	

Plastic Limit		1	2	3	4	Average
Container no.		11	19			
Mass of wet soil + container	g	15.02	15.78			
Mass of dry soil + container	g	13.56	14.18			
Mass of container	g	6.20	6.30			
Mass of moisture	g	1.46	1.60			
Mass of dry soil	g	7.36	7.88			
Moisture content	%	19.8	20.3			20.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.4	15.4	15.7	18.2	18.3	18.4	20.3	20.4	20.3	24.5	24.6	24.6
Average penetration	mm	15.5			18.3			20.3			24.6		
Container no.		H			J			B			F		
Mass of wet soil + container	g	30.86			33.75			38.26			41.37		
Mass of dry soil + container	g	26.48			28.77			31.20			33.15		
Mass of container	g	9.50			11.60			9.71			10.00		
Mass of moisture	g	4.38			4.98			7.06			8.22		
Mass of dry soil	g	16.98			17.17			21.49			23.15		
Moisture content	%	25.8			29.0			32.9			35.5		

Moisture content, %

Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	31.2 %
Plastic limit	20.1 %
Plasticity index	11.1

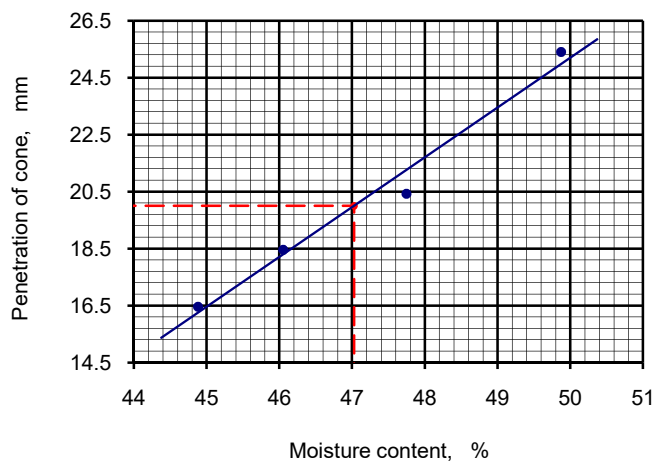
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB1-4
Soil Description: Intermediately plastic silty CLAY	Sample no.	
	Depth	25.3-25.6
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/11/2011

Plastic Limit	1	2	3	4	Average
Container no.	11	19			
Mass of wet soil + container g	14.32	16.37			
Mass of dry soil + container g	12.90	14.57			
Mass of container g	6.20	6.30			
Mass of moisture g	1.42	1.80			
Mass of dry soil g	6.70	8.27			
Moisture content %	21.2	21.8			21.5

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.5	16.4	16.5	18.3	18.6	18.5	20.4	20.5	20.4	25.5	25.3	25.4
Average penetration mm	16.5			18.5			20.4			25.4		
Container no.	23			19			IX			97		
Mass of wet soil + container g	35.80			34.67			36.55			32.30		
Mass of dry soil + container g	28.70			26.80			28.72			24.62		
Mass of container g	12.88			9.71			12.32			9.22		
Mass of moisture g	7.10			7.87			7.83			7.68		
Mass of dry soil g	15.82			17.09			16.40			15.40		
Moisture content %	44.9			46.1			47.7			49.9		



Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μm sieve		
Liquid limit		47.0 %
Plastic limit		21.5 %
Plasticity index		25.5
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB1-5	
Soil Description: Intermediately plastic sandy silty CLAY		Sample no.			
		Depth		0.4-0.6	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/22/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	11			
Mass of wet soil + container	g	15.07	13.87			
Mass of dry soil + container	g	13.29	12.45			
Mass of container	g	5.50	6.20			
Mass of moisture	g	1.78	1.42			
Mass of dry soil	g	7.79	6.25			
Moisture content	%	22.8	22.7			22.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.7	16.8	16.5	18.2	18.1	18.4	21.1	21.3	21.4	25.1	25.4	25.4
Average penetration	mm	16.7			18.2			21.3			25.3		
Container no.		32			97			82			J		
Mass of wet soil + container	g	36.90			32.18			31.73			41.82		
Mass of dry soil + container	g	30.70			26.20			26.00			33.38		
Mass of container	g	12.68			9.22			10.20			11.60		
Mass of moisture	g	6.20			5.98			5.73			8.44		
Mass of dry soil	g	18.02			16.98			15.80			21.78		
Moisture content	%	34.4			35.2			36.3			38.8		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	36.0 %
Plastic limit	22.8 %
Plasticity index	13.2

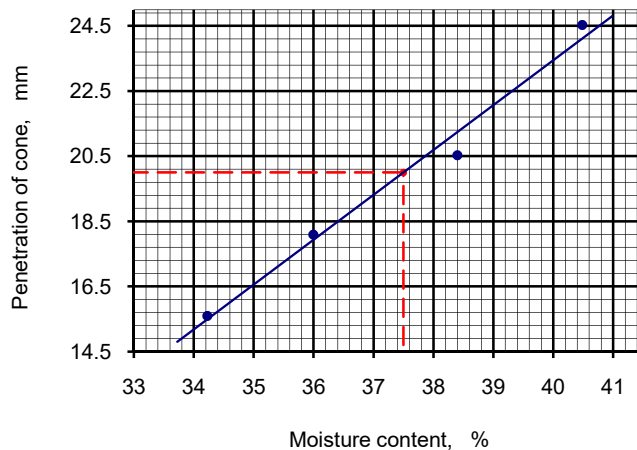
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB 1-6
Soil Description: Intermediately plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	0.3-1.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/14/2011

Plastic Limit	1	2	3	4	Average
Container no.	12	16			
Mass of wet soil + container g	15.93	15.79			
Mass of dry soil + container g	14.35	14.03			
Mass of container g	7.20	6.10			
Mass of moisture g	1.58	1.76			
Mass of dry soil g	7.15	7.93			
Moisture content %	22.1	22.2			22.1

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.6	15.7	18.2	18.1	18.0	20.5	20.5	20.6	24.6	24.5	24.5
Average penetration mm	15.6			18.1			20.5			24.5		
Container no.	A			48			50			43		
Mass of wet soil + container g	34.15			38.30			33.73			32.00		
Mass of dry soil + container g	28.13			31.71			28.70			26.30		
Mass of container g	10.54			13.40			15.60			12.22		
Mass of moisture g	6.02			6.59			5.03			5.70		
Mass of dry soil g	17.59			18.31			13.10			14.08		
Moisture content %	34.2			36.0			38.4			40.5		



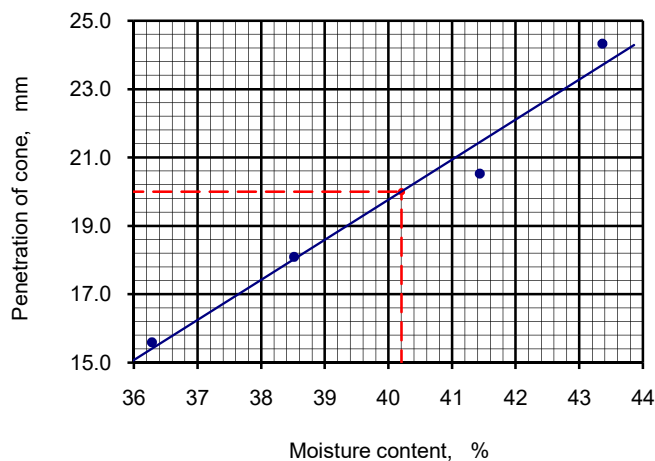
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μm sieve		
Liquid limit		37.5 %
Plastic limit		22.1 %
Plasticity index		15.4
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB 1-6
Soil Description: Intermediately plastic silty CLAY	Sample no.	
	Depth	25.0-25.5
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/14/2011

Plastic Limit	1	2	3	4	Average
Container no.	15	14			
Mass of wet soil + container g	14.35	15.64			
Mass of dry soil + container g	13.28	14.16			
Mass of container g	7.62	6.50			
Mass of moisture g	1.07	1.48			
Mass of dry soil g	5.66	7.66			
Moisture content %	18.9	19.3			19.1

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.6	15.7	18.2	18.1	18.0	20.5	20.5	20.6	24.2	24.3	24.5
Average penetration mm	15.6			18.1			20.5			24.3		
Container no.	22			40			50			A		
Mass of wet soil + container g	35.53			46.45			39.10			43.63		
Mass of dry soil + container g	29.50			36.76			30.49			34.13		
Mass of container g	12.88			11.60			9.71			12.22		
Mass of moisture g	6.03			9.69			8.61			9.50		
Mass of dry soil g	16.62			25.16			20.78			21.91		
Moisture content %	36.3			38.5			41.4			43.4		



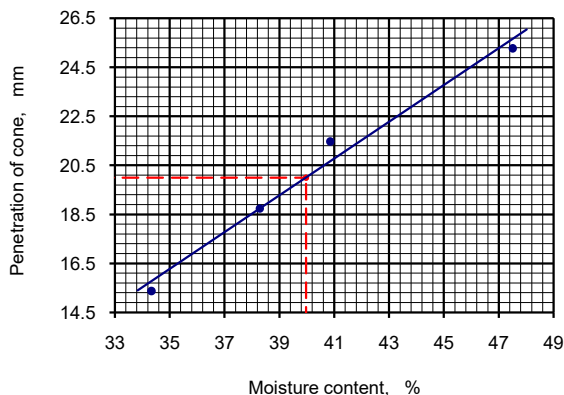
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		°C
oven dried at		105 °C
not known		
Proportion retained		
on 425 μm sieve		%
Liquid limit		40.2 %
Plastic limit		19.1 %
Plasticity index		21.1
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastik Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-12
Soil Description: Intermediately plastic silty sandy CLAY	Sample no.	
	Depth	0.4-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/20/2011

Plastic Limit		1	2	3	4	Average
Container no.		15	1			
Mass of wet soil + container	g	13.80	13.20			
Mass of dry soil + container	g	12.50	11.95			
Mass of container	g	5.91	5.61			
Mass of moisture	g	1.30	1.25			
Mass of dry soil	g	6.59	6.34			
Moisture content	%	19.7	19.7			19.7

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.1	15.5	15.5	18.9	18.7	18.6	21.5	21.4	21.5	25.1	25.3	25.4
Average penetration	mm	15.4			18.7			21.5			25.3		
Container no.		0.0			95			XX			XI		
Mass of wet soil + container	g	34.80			23.73			37.17			34.89		
Mass of dry soil + container	g	29.20			19.79			29.95			27.62		
Mass of container	g	12.89			9.50			12.28			12.32		
Mass of moisture	g	5.60			3.94			7.22			7.27		
Mass of dry soil	g	16.31			10.29			17.67			15.30		
Moisture content	%	34.3			38.3			40.9			47.5		



Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105 $^{\circ}\text{C}$
not known
Proportion retained
on 425 μm sieve %

Liquid limit 40.0 %

Plastic limit 19.7 %

Plasticity index 20.3

Operator Checked Approved

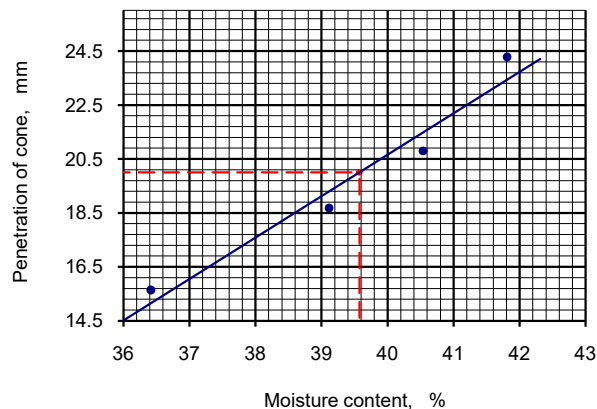
T.Gorgidze R.Kavelashvili L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB6-1
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel content	Sample no.	
	Depth	0.3-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/22/2011

Plastic Limit		1	2	3	4	Average
Container no.		4	11			
Mass of wet soil + container	g	11.86	12.32			
Mass of dry soil + container	g	10.79	11.30			
Mass of container	g	5.50	6.20			
Mass of moisture	g	1.07	1.02			
Mass of dry soil	g	5.29	5.10			
Moisture content	%	20.2	20.0			20.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.6	15.5	18.7	18.8	18.5	20.7	20.8	20.9	24.3	24.4	24.1
Average penetration	mm	15.6			18.7			20.8			24.3		
Container no.		Φ			0			XI			II		
Mass of wet soil + container	g	32.40			38.06			41.08			40.38		
Mass of dry soil + container	g	26.42			30.12			32.10			32.11		
Mass of container	g	10.00			9.82			9.95			12.33		
Mass of moisture	g	5.98			7.94			8.98			8.27		
Mass of dry soil	g	16.42			20.30			22.15			19.78		
Moisture content	%	36.4			39.1			40.5			41.8		



Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %

Liquid limit 39.6 %
Plastic limit 20.1 %
Plasticity index 19.5

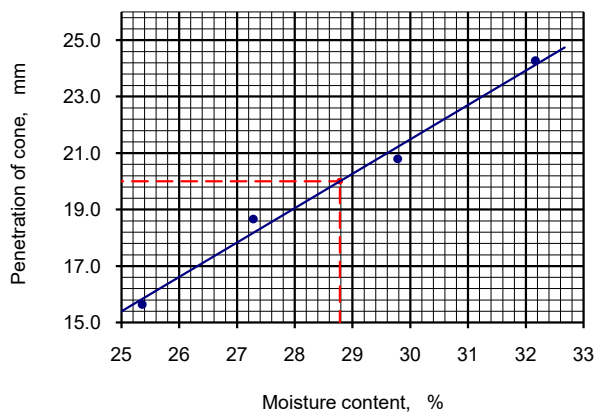
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB 6-1
Soil Description: Rounded GRAVEL with low plastic sandy silt matrix, with little rounded cobbles inclusions	Sample no.	
	Depth	7.0-8.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/22/2011

Plastic Limit		1	2	3	4	Average
Container no.		4	11			
Mass of wet soil + container	g	17.23	16.20			
Mass of dry soil + container	g	15.10	14.37			
Mass of container	g	5.50	6.20			
Mass of moisture	g	2.13	1.83			
Mass of dry soil	g	9.60	8.17			
Moisture content	%	22.2	22.4			22.3

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.6	15.5	18.7	18.8	18.5	20.7	20.8	20.9	24.3	24.4	24.1
Average penetration	mm	15.6			18.7			20.8			24.3		
Container no.		46			L			H			23		
Mass of wet soil + container	g	31.43			36.53			33.35			33.71		
Mass of dry soil + container	g	27.77			31.40			27.98			28.64		
Mass of container	g	13.34			12.60			9.95			12.88		
Mass of moisture	g	3.66			5.13			5.37			5.07		
Mass of dry soil	g	14.43			18.80			18.03			15.76		
Moisture content	%	25.4			27.3			29.8			32.2		



Sample preparation
as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105°C

not known

Proportion retained

on 425 μm sieve %

Liquid limit 28.8 %

Plastic limit 22.3 %

Plasticity index 6.5

Operator Checked Approved

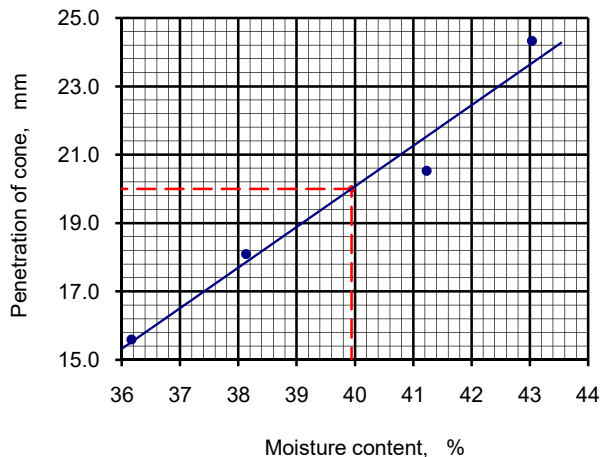
T.Gorgidze R.Kavelashvili L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in	Borehole/Pit no.	BH-SB 6-1
Soil Description: Intermediately plastic silty sandy CLAY with a little rounded gravel content	Sample no.	
	Depth	27.1-27.3
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/25/2011

Plastic Limit	1	2	3	4	Average
Container no.	15	14			
Mass of wet soil + container g	14.37	15.64			
Mass of dry soil + container g	13.30	14.16			
Mass of container g	7.62	6.50			
Mass of moisture g	1.07	1.48			
Mass of dry soil g	5.68	7.66			
Moisture content %	18.8	19.3			19.1

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.6	15.7	18.2	18.1	18.0	20.5	20.5	20.6	24.2	24.3	24.5
Average penetration mm	15.6			18.1			20.5			24.3		
Container no.	22			40			50			A		
Mass of wet soil + container g	35.51			46.45			39.10			43.63		
Mass of dry soil + container g	29.50			36.83			30.52			34.18		
Mass of container g	12.88			11.60			9.71			12.22		
Mass of moisture g	6.01			9.62			8.58			9.45		
Mass of dry soil g	16.62			25.23			20.81			21.96		
Moisture content %	36.2			38.1			41.2			43.0		



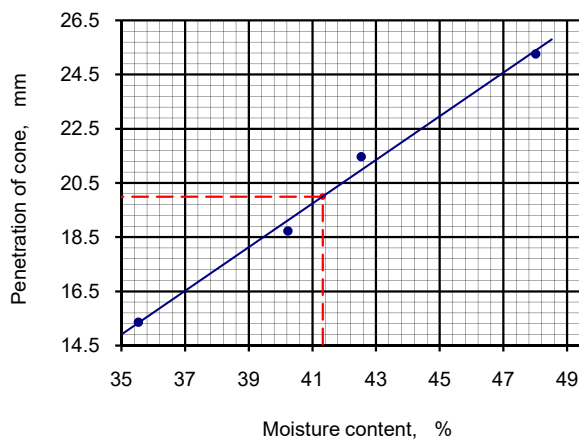
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μm sieve		
Liquid limit		39.9 %
Plastic limit		19.1 %
Plasticity index		20.9
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastik Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-12-1
Soil Description: Intermediately plastic silty sandy CLAY	Sample no.	
	Depth	0.0-1.8
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/5/2011

Plastic Limit	1	2	3	4	Average
Container no.	11	6			
Mass of wet soil + container g	15.89	17.33			
Mass of dry soil + container g	14.29	15.46			
Mass of container g	6.20	6.20			
Mass of moisture g	1.60	1.87			
Mass of dry soil g	8.09	9.26			
Moisture content %	19.8	20.2			20.0

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.1	15.5	15.5	18.9	18.7	18.6	21.5	21.4	21.5	25.1	25.3	25.4
Average penetration mm	15.4			18.7			21.5			25.3		
Container no.	97			95			H			55		
Mass of wet soil + container g	33.50			23.68			36.24			34.89		
Mass of dry soil + container g	27.20			19.79			28.46			27.62		
Mass of container g	9.22			10.00			9.95			12.32		
Mass of moisture g	6.30			3.89			7.78			7.27		
Mass of dry soil g	17.98			9.79			18.51			15.30		
Moisture content %	35.0			39.7			42.0			47.5		



Sample preparation		
as received		
washed on 425 μ m sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μ m sieve		
Liquid limit		40.8 %
Plastic limit		20.0 %
Plasticity index		20.8
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description: Intermediately plastic silty sandy CLAY		Sample no.			
		Depth		0.4-2.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/16/2011	

Plastic Limit	1	2	3	4	Average
Container no.	16	5			
Mass of wet soil + container g	14.00	13.23			
Mass of dry soil + container g	12.69	12.10			
Mass of container g	6.10	6.38			
Mass of moisture g	1.31	1.13			
Mass of dry soil g	6.59	5.72			
Moisture content %	19.9	19.8			19.8

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.1	16.2	16.3	18.6	18.7	18.8	21.6	21.5	21.7	25.3	25.4	25.5
Average penetration mm	16.2			18.7			21.6			25.4		
Container no.	55			0			XI			82		
Mass of wet soil + container g	33.89			31.82			30.80			32.30		
Mass of dry soil + container g	28.29			26.29			25.28			25.52		
Mass of container g	14.00			12.89			12.32			10.20		
Mass of moisture g	5.60			5.53			5.52			6.78		
Mass of dry soil g	14.29			13.40			12.96			15.32		
Moisture content %	39.2			41.3			42.6			44.3		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	41.6 %
Plastic limit	19.8 %
Plasticity index	21.7

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description: Low plastic silty sandy CLAY		Sample no.			
		Depth		27.0-27.7	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/17/2011	

Plastic Limit	1	2	3	4	Average
Container no.	18	18			
Mass of wet soil + container g	16.57	14.02			
Mass of dry soil + container g	15.28	12.98			
Mass of container g	7.42	6.51			
Mass of moisture g	1.29	1.04			
Mass of dry soil g	7.86	6.47			
Moisture content %	16.4	16.1			16.2

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.3	16.2	16.4	18.3	18.5	18.6	21.7	21.5	21.3	24.8	24.7	24.8
Average penetration mm	16.3			18.5			21.5			24.8		
Container no.	17			94			XX			80		
Mass of wet soil + container g	28.63			33.00			32.08			28.50		
Mass of dry soil + container g	24.51			26.12			27.49			24.05		
Mass of container g	8.20			1.47			12.22			10.38		
Mass of moisture g	4.12			6.88			4.59			4.45		
Mass of dry soil g	16.31			24.65			15.27			13.67		
Moisture content %	25.3			27.9			30.1			32.6		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	28.7 %
Plastic limit	16.2 %
Plasticity index	12.5

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 3-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth		28.3-28.5	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/17/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	1			
Mass of wet soil + container	g	17.41	18.96			
Mass of dry soil + container	g	15.88	16.91			
Mass of container	g	7.28	5.61			
Mass of moisture	g	1.53	2.05			
Mass of dry soil	g	8.60	11.30			
Moisture content	%	17.8	18.1			18.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.5	16.7	16.5	19.2	19.0	19.1	21.5	21.3	21.4	24.9	24.8	24.6
Average penetration	mm	16.6			19.1			21.4			24.8		
Container no.		48			80			55			93		
Mass of wet soil + container	g	32.11			30.93			31.42			30.73		
Mass of dry soil + container	g	28.15			26.30			27.30			25.59		
Mass of container	g	13.40			10.38			14.00			9.71		
Mass of moisture	g	3.96			4.63			4.12			5.14		
Mass of dry soil	g	14.75			15.92			13.30			15.88		
Moisture content	%	26.8			29.1			31.0			32.4		

Moisture content, %

Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	29.5 %
Plastic limit	18.0 %
Plasticity index	11.5

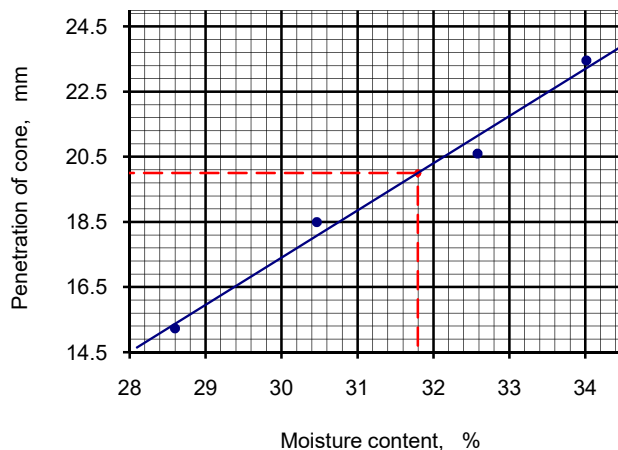
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-15
Soil Description: Low plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	0.0-2.4
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/13/2011

Plastic Limit	1	2	3	4	Average
Container no.	16	14			
Mass of wet soil + container g	13.86	15.82			
Mass of dry soil + container g	12.67	14.50			
Mass of container g	6.10	7.10			
Mass of moisture g	1.19	1.32			
Mass of dry soil g	6.57	7.40			
Moisture content %	18.1	17.8			18.0

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.3	15.2	15.2	18.5	18.4	18.6	20.5	20.6	20.7	23.3	23.5	23.6
Average penetration mm	15.2			18.5			20.6			23.5		
Container no.	XI			Ж			22			37		
Mass of wet soil + container g	41.46			36.91			44.48			39.85		
Mass of dry soil + container g	34.98			31.00			36.70			32.68		
Mass of container g	12.32			11.60			12.82			11.60		
Mass of moisture g	6.48			5.91			7.78			7.17		
Mass of dry soil g	22.66			19.40			23.88			21.08		
Moisture content %	28.6			30.5			32.6			34.0		



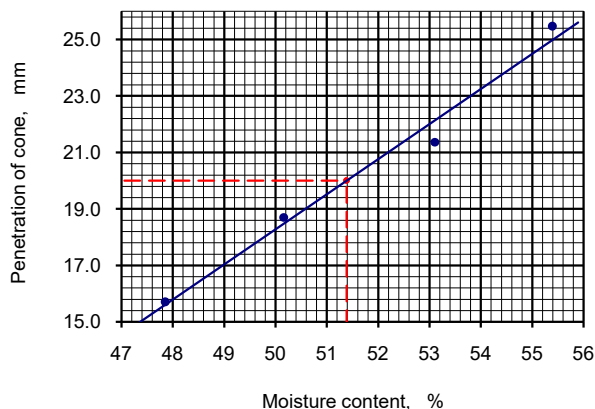
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at $^{\circ}\text{C}$		
oven dried at 105 $^{\circ}\text{C}$		
not known		
Proportion retained		
on 425 μm sieve %		
Liquid limit		31.8 %
Plastic limit		18.0 %
Plasticity index		13.8
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SI 2-1
Soil Description: Highly plastic silty CLAY	Sample no.	
	Depth	1.0-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/17/2011

Plastic Limit		1	2	3	4	Average
Container no.		12'	4			
Mass of wet soil + container	g	15.86	15.78			
Mass of dry soil + container	g	14.23	14.15			
Mass of container	g	7.20	7.28			
Mass of moisture	g	1.63	1.63			
Mass of dry soil	g	7.03	6.87			
Moisture content	%	23.2	23.7			23.5

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.6	15.8	15.7	18.6	18.7	18.8	21.2	21.5	21.4	25.5	25.4	25.5
Average penetration	mm	15.7			18.7			21.4			25.5		
Container no.		92			52			96			30		
Mass of wet soil + container	g	21.00			24.20			18.80			28.90		
Mass of dry soil + container	g	17.32			21.13			15.64			23.20		
Mass of container	g	9.63			15.01			9.69			12.91		
Mass of moisture	g	3.68			3.07			3.16			5.70		
Mass of dry soil	g	7.69			6.12			5.95			10.29		
Moisture content	%	47.9			50.2			53.1			55.4		



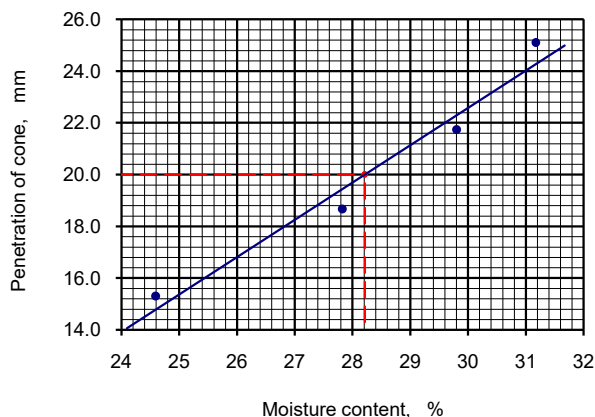
Sample preparation as received		
washed on 425 μ m sieve		
air dried at $^{\circ}$ C		
oven dried at 105 $^{\circ}$ C		
not known		
Proportion retained on 425 μ m sieve		
Liquid limit		51.4 %
Plastic limit		23.5 %
Plasticity index		27.9
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SI 2-1
Soil Description: Low plastic silty sandy CLAY	Sample no.	
	Depth	3.6-3.85
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/16/2011

Plastic Limit		1	2	3	4	Average
Container no.		12	2			
Mass of wet soil + container	g	15.43	13.60			
Mass of dry soil + container	g	14.11	12.58			
Mass of container	g	6.18	6.26			
Mass of moisture	g	1.32	1.02			
Mass of dry soil	g	7.93	6.32			
Moisture content	%	16.6	16.1			16.4

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.2	15.3	15.4	18.5	18.7	18.8	21.7	21.8	21.7	25.0	25.1	25.2
Average penetration	mm	15.3			18.7			21.7			25.1		
Container no.		50			40			100			B		
Mass of wet soil + container	g	37.34			32.10			32.10			32.98		
Mass of dry soil + container	g	32.93			27.25			27.00			27.45		
Mass of container	g	15.00			9.82			9.89			9.71		
Mass of moisture	g	4.41			4.85			5.10			5.53		
Mass of dry soil	g	17.93			17.43			17.11			17.74		
Moisture content	%	24.6			27.8			29.8			31.2		



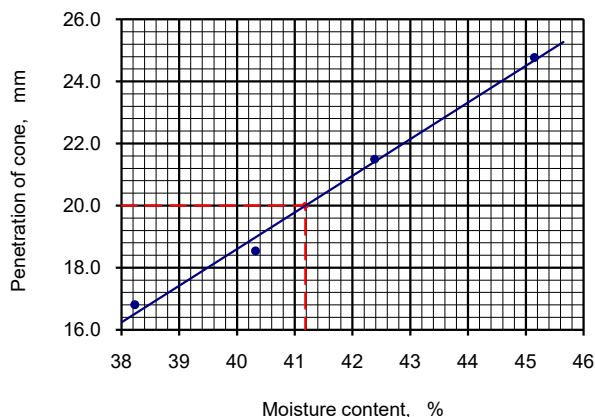
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washed on 425 μ m sieve		
air dried at $^{\circ}$ C		
oven dried at 105 $^{\circ}$ C		
not known		
Proportion retained on 425 μ m sieve		
Liquid limit		28.2 %
Plastic limit		16.4 %
Plasticity index		11.8
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SI 2-1
Soil Description: Intermediately plastic silty sandy CLAY	Sample no.	
	Depth	4.65-4.9
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/17/2011

Plastic Limit		1	2	3	4	Average
Container no.		14	4'			
Mass of wet soil + container	g	15.75	14.23			
Mass of dry soil + container	g	14.30	12.78			
Mass of container	g	7.10	5.50			
Mass of moisture	g	1.45	1.45			
Mass of dry soil	g	7.20	7.28			
Moisture content	%	20.1	19.9			20.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.9	16.8	16.7	18.4	18.5	18.7	21.4	21.5	21.6	24.6	24.8	24.9
Average penetration	mm	16.8			18.5			21.5			24.8		
Container no.		32			23			Π			22		
Mass of wet soil + container	g	31.95			30.28			34.40			31.08		
Mass of dry soil + container	g	26.62			25.28			27.83			25.40		
Mass of container	g	12.68			12.88			12.33			12.82		
Mass of moisture	g	5.33			5.00			6.57			5.68		
Mass of dry soil	g	13.94			12.40			15.50			12.58		
Moisture content	%	38.2			40.3			42.4			45.2		



Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	41.2 %
Plastic limit	20.0 %
Plasticity index	21.2

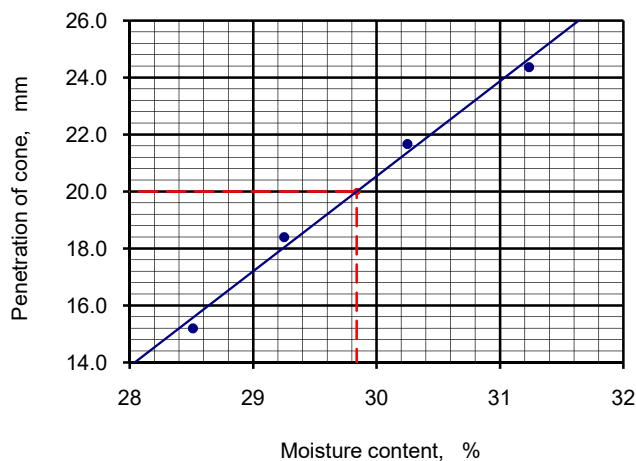
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-18
Soil Description: Low plastic sandy clayey SILT with a little rounded gravel inclusions	Sample no.	
	Depth	0.4-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/13/2011

Plastic Limit	1	2	3	4	Average
Container no.	11	6			
Mass of wet soil + container g	15.92	16.71			
Mass of dry soil + container g	14.16	14.65			
Mass of container g	6.20	6.20			
Mass of moisture g	1.76	2.06			
Mass of dry soil g	7.96	8.45			
Moisture content %	22.1	24.4			23.2

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.1	15.3	15.2	18.4	18.3	18.5	21.8	21.7	21.5	24.0	24.6	24.5
Average penetration mm	15.2			18.4			21.7			24.4		
Container no.	H			46			XX			100		
Mass of wet soil + container g	31.72			35.30			33.55			32.20		
Mass of dry soil + container g	26.89			30.33			28.61			26.89		
Mass of container g	9.95			13.34			12.28			9.89		
Mass of moisture g	4.83			4.97			4.94			5.31		
Mass of dry soil g	16.94			16.99			16.33			17.00		
Moisture content %	28.5			29.3			30.3			31.2		



Sample preparation

as received

washed on 425 μm sieve

air dried at $^{\circ}\text{C}$

oven dried at 105 $^{\circ}\text{C}$

not known

Proportion retained

on 425 μm sieve %

Liquid limit 29.8 %

Plastic limit 23.2 %

Plasticity index 6.6

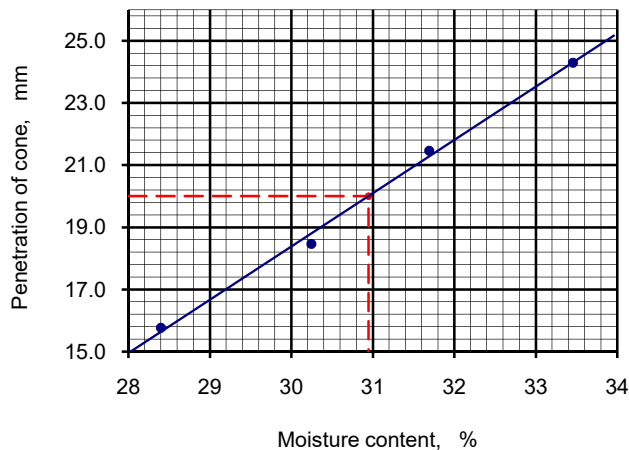
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-18
Soil Description: Low plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	2.3-2.5
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/15/2011

Plastic Limit	1	2	3	4	Average
Container no.	2	1			
Mass of wet soil + container g	15.50	14.68			
Mass of dry soil + container g	13.87	13.08			
Mass of container g	6.26	5.61			
Mass of moisture g	1.63	1.60			
Mass of dry soil g	7.61	7.47			
Moisture content %	21.4	21.4			21.4

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.8	15.9	15.6	18.5	18.4	18.5	21.5	21.4	21.5	24.2	24.3	24.4
Average penetration mm	15.8			18.5			21.5			24.3		
Container no.	A			2			0			100		
Mass of wet soil + container g	32.65			35.03			41.70			37.33		
Mass of dry soil + container g	27.76			29.19			34.89			30.88		
Mass of container g	10.54			9.88			13.40			11.60		
Mass of moisture g	4.89			5.84			6.81			6.45		
Mass of dry soil g	17.22			19.31			21.49			19.28		
Moisture content %	28.4			30.2			31.7			33.5		



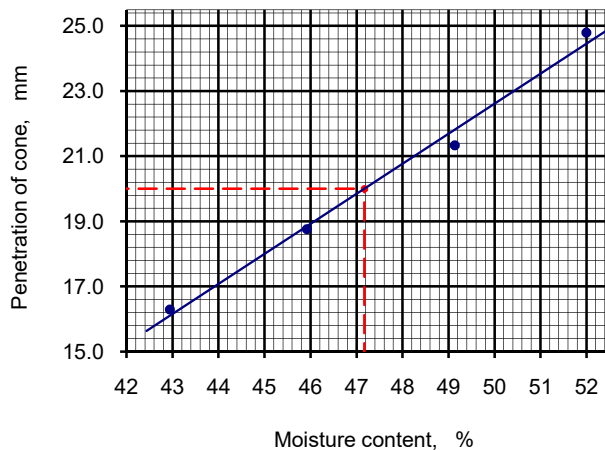
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at $^{\circ}\text{C}$		
oven dried at 105°C		
not known		
Proportion retained		
on 425 μm sieve %		
Liquid limit		30.9 %
Plastic limit		21.4 %
Plasticity index		9.5
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-19
Soil Description: Intermediately plastic silty CLAY	Sample no.	
	Depth	0.5-1.3
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/2/2011

Plastic Limit	1	2	3	4	Average
Container no.	4'	16			
Mass of wet soil + container g	13.23	14.10			
Mass of dry soil + container g	11.75	12.55			
Mass of container g	5.50	6.10			
Mass of moisture g	1.48	1.55			
Mass of dry soil g	6.25	6.45			
Moisture content %	23.7	24.0			23.9

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.4	16.3	16.2	18.6	18.8	18.9	21.4	21.3	21.3	24.9	24.8	24.7
Average penetration mm	16.3			18.8			21.3			24.8		
Container no.	23			XI			95			A		
Mass of wet soil + container g	38.68			35.90			30.20			41.63		
Mass of dry soil + container g	30.93			28.48			23.38			31.70		
Mass of container g	12.88			12.32			9.50			12.60		
Mass of moisture g	7.75			7.42			6.82			9.93		
Mass of dry soil g	18.05			16.16			13.88			19.10		
Moisture content %	42.9			45.9			49.1			52.0		



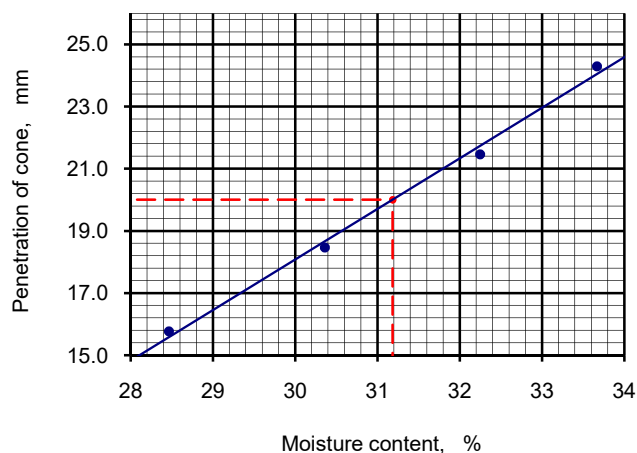
Sample preparation		
as received		
washed on 425 μm sieve		
air dried at $^{\circ}\text{C}$		
oven dried at 105°C		
not known		
Proportion retained		
on 425 μm sieve %		
Liquid limit		47.2 %
Plastic limit		23.9 %
Plasticity index		23.3
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-19
Soil Description: Low plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	3.2-3.4
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/15/2011

Plastic Limit	1	2	3	4	Average
Container no.	2	1			
Mass of wet soil + container g	15.57	15.03			
Mass of dry soil + container g	13.89	13.30			
Mass of container g	6.26	5.61			
Mass of moisture g	1.68	1.73			
Mass of dry soil g	7.63	7.69			
Moisture content %	22.0	22.5			22.3

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.8	15.9	15.6	18.5	18.4	18.5	21.5	21.4	21.5	24.2	24.3	24.4
Average penetration mm	15.8			18.5			21.5			24.3		
Container no.	XI			ж			22			37		
Mass of wet soil + container g	41.43			36.89			44.40			39.83		
Mass of dry soil + container g	34.98			31.00			36.70			32.72		
Mass of container g	12.32			11.60			12.82			11.60		
Mass of moisture g	6.45			5.89			7.70			7.11		
Mass of dry soil g	22.66			19.40			23.88			21.12		
Moisture content %	28.5			30.4			32.2			33.7		



Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %
Liquid limit 31.2 %
Plastic limit 22.3 %
Plasticity index 8.9

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-19	
Soil Description:		Sample no.			
Low plastic sandy silty CLAY with a rounded gravel content		Depth		9.9-10.2	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/3/2011	

Plastic Limit	1	2	3	4	Average
Container no.	19	14			
Mass of wet soil + container g	14.98	15.64			
Mass of dry soil + container g	13.49	14.08			
Mass of container g	6.91	7.10			
Mass of moisture g	1.49	1.56			
Mass of dry soil g	6.58	6.98			
Moisture content %	22.6	22.3			22.5

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.1	15.3	15.4	18.6	18.5	18.3	21.4	21.5	21.6	25.4	25.5	25.6
Average penetration mm	15.3			18.5			21.5			25.5		
Container no.	55			32			95			94		
Mass of wet soil + container g	34.30			37.42			39.93			33.10		
Mass of dry soil + container g	29.79			31.50			32.74			27.10		
Mass of container g	14.00			12.68			11.60			10.47		
Mass of moisture g	4.51			5.92			7.19			6.00		
Mass of dry soil g	15.79			18.82			21.14			16.63		
Moisture content %	28.6			31.5			34.0			36.1		

Moisture content, %

Sample preparation
as received
washed on 425 μm sieve
air dried at $^{\circ}\text{C}$
oven dried at 105°C
not known
Proportion retained
on 425 μm sieve %

Liquid limit	32.4 %
Plastic limit	22.5 %
Plasticity index	9.9

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description: Intermediately plastic sandy silty CLAY with a little rounded gravel content		Sample no.			
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Depth		0.5-2.0	
		Date		7/20/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	1			
Mass of wet soil + container	g	17.32	18.96			
Mass of dry soil + container	g	15.80	17.10			
Mass of container	g	7.28	5.61			
Mass of moisture	g	1.52	1.86			
Mass of dry soil	g	8.52	11.49			
Moisture content	%	17.8	16.2			17.0

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Final dial gauge reading	mm	16.2	16.4	16.5	19.2	19.0	19.1	21.5	21.3	21.4	24.6	24.8	
Average penetration	mm	16.4			19.1			21.4			24.8		
Container no.		48			80			P			F		
Mass of wet soil + container	g	32.10			31.05			31.72			31.25		
Mass of dry soil + container	g	27.08			25.27			26.62			24.75		
Mass of container	g	13.40			10.38			14.00			9.71		
Mass of moisture	g	5.02			5.78			5.10			6.50		
Mass of dry soil	g	13.68			14.89			12.62			15.04		
Moisture content	%	36.7			38.8			40.4			43.2		

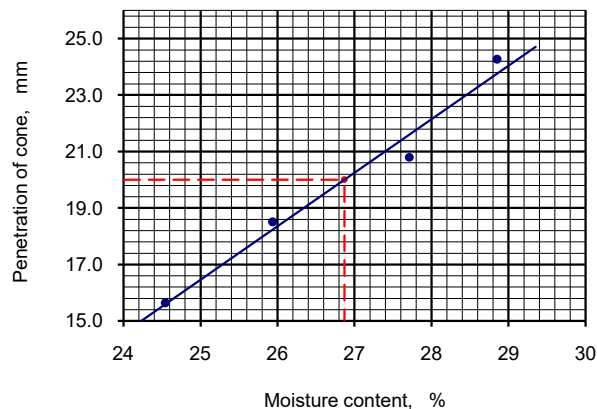
	Sample preparation as received		
	washed on 425 μ m sieve		
	air dried at $^{\circ}$ C		
	oven dried at 105 $^{\circ}$ C		
	not known		
Proportion retained on 425 μ m sieve			%
Liquid limit			39.5 %
Plastic limit			17.0 %
Plasticity index			22.5
Operator	Checked	Approved	
T.Gorgidze	R.Kavelashvili	L.Gorgidze	

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SB 4-1
Soil Description: Low plastic sandy clayey SILT with a little rounded gravel content	Sample no.	
	Depth	5.0-9.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	7/26/2011

Plastic Limit		1	2	3	4	Average
Container no.		5	9			
Mass of wet soil + container	g	13.00	14.50			
Mass of dry soil + container	g	11.85	13.02			
Mass of container	g	6.38	6.00			
Mass of moisture	g	1.15	1.48			
Mass of dry soil	g	5.47	7.02			
Moisture content	%	21.0	21.1			21.1

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.6	15.5	18.4	18.6	18.5	20.7	20.8	20.9	24.3	24.4	24.1
Average penetration	mm	15.6			18.5			20.8			24.3		
Container no.		55			L			H			23		
Mass of wet soil + container	g	31.10			36.39			33.13			33.20		
Mass of dry soil + container	g	27.73			31.49			28.10			28.65		
Mass of container	g	14.00			12.60			9.95			12.88		
Mass of moisture	g	3.37			4.90			5.03			4.55		
Mass of dry soil	g	13.73			18.89			18.15			15.77		
Moisture content	%	24.5			25.9			27.7			28.9		



Sample preparation		
as received		
washed on 425 μ m sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μ m sieve		
Liquid limit		26.9 %
Plastic limit		21.1 %
Plasticity index		5.8
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB2-1	
Soil Description:		Sample no.			
Low plastic silty sandy CLAY		Depth		21.1-22.5	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		7/22/2011	

Plastic Limit		1	2	3	4	Average
Container no.		4	1			
Mass of wet soil + container	g	17.32	18.96			
Mass of dry soil + container	g	15.88	17.03			
Mass of container	g	7.28	5.61			
Mass of moisture	g	1.44	1.93			
Mass of dry soil	g	8.60	11.42			
Moisture content	%	16.7	16.9			16.8

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	16.2	16.4	16.5	19.2	19.0	19.1	21.5	21.3	21.4	24.9	24.8	24.6
Average penetration	mm	16.4			19.1			21.4			24.8		
Container no.		48			80			55			93		
Mass of wet soil + container	g	32.00			30.93			31.42			30.25		
Mass of dry soil + container	g	28.15			26.56			27.62			25.72		
Mass of container	g	13.40			10.38			14.00			9.71		
Mass of moisture	g	3.85			4.37			3.80			4.53		
Mass of dry soil	g	14.75			16.18			13.62			16.01		
Moisture content	%	26.1			27.0			27.9			28.3		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve %

Liquid limit	27.2 %
Plastic limit	16.8 %
Plasticity index	10.4

Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SB 2-1	
Soil Description: Low plastic sandy clayey SILT with a little rounded gravel content		Sample no.			
		Depth		5.0-9.0	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/29/2011	

Plastic Limit		1	2	3	4	Average
Container no.		5	9			
Mass of wet soil + container	g	12.70	13.89			
Mass of dry soil + container	g	11.57	12.51			
Mass of container	g	6.38	6.00			
Mass of moisture	g	1.13	1.38			
Mass of dry soil	g	5.19	6.51			
Moisture content	%	21.8	21.2			21.5

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.8	15.6	15.7	18.4	18.6	18.7	20.7	20.8	20.8	25.1	25.2	25.4
Average penetration	mm	15.7			18.6			20.8			25.2		
Container no.		46			A			H			23		
Mass of wet soil + container	g	31.49			36.55			33.11			33.37		
Mass of dry soil + container	g	27.88			31.61			28.00			28.65		
Mass of container	g	13.34			12.60			9.95			12.88		
Mass of moisture	g	3.61			4.94			5.11			4.72		
Mass of dry soil	g	14.54			19.01			18.05			15.77		
Moisture content	%	24.8			26.0			28.3			29.9		

Moisture content, %

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	27.2 %
Plastic limit	21.5 %
Plasticity index	5.7

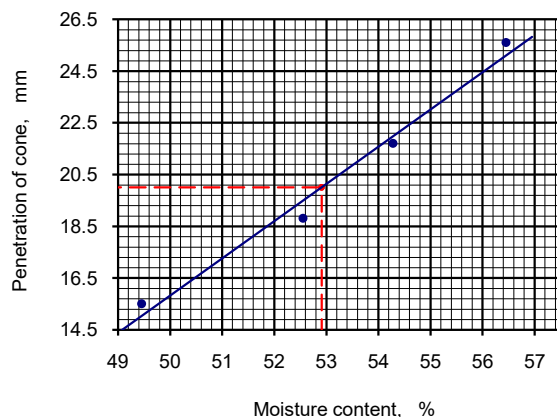
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-20
Soil Description: Highly plastic silty CLAY	Sample no.	
	Depth	0.0-2.0
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/9/2011

Plastic Limit	1	2	3	4	Average
Container no.	12'	18			
Mass of wet soil + container g	15.45	14.30			
Mass of dry soil + container g	13.63	12.58			
Mass of container g	7.20	6.51			
Mass of moisture g	1.82	1.72			
Mass of dry soil g	6.43	6.07			
Moisture content %	28.3	28.3			28.3

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.4	15.5	15.6	18.7	18.8	18.9	21.6	21.7	21.8	25.5	25.6	25.7
Average penetration mm	15.5			18.8			21.7			25.6		
Container no.	93			Φ			97			B		
Mass of wet soil + container g	24.79			30.32			28.49			26.20		
Mass of dry soil + container g	19.80			23.32			21.71			20.25		
Mass of container g	9.71			10.00			9.22			9.71		
Mass of moisture g	4.99			7.00			6.78			5.95		
Mass of dry soil g	10.09			13.32			12.49			10.54		
Moisture content %	49.5			52.6			54.3			56.5		



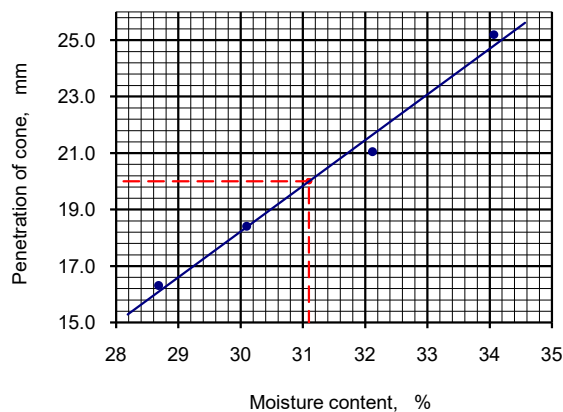
Sample preparation as received washed on 425 μm sieve air dried at $^{\circ}\text{C}$ oven dried at 105 $^{\circ}\text{C}$ not known Proportion retained on 425 μm sieve %		
Liquid limit	52.9 %	
Plastic limit	28.3 %	
Plasticity index	24.6	
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-20
Soil Description: Low plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	13.4-13.6
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/1/2011

Plastic Limit	1	2	3	4	Average
Container no.	15	5			
Mass of wet soil + container g	13.78	16.62			
Mass of dry soil + container g	12.64	15.15			
Mass of container g	5.91	6.38			
Mass of moisture g	1.14	1.47			
Mass of dry soil g	6.73	8.77			
Moisture content %	16.9	16.8			16.9

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	16.4	16.2	16.3	18.4	18.5	18.3	21.0	21.0	21.1	25.1	25.2	25.3
Average penetration mm	16.3			18.4			21.0			25.2		
Container no.	100			30			IX			82		
Mass of wet soil + container g	32.41			32.10			30.50			33.85		
Mass of dry soil + container g	27.39			27.66			26.08			27.84		
Mass of container g	9.89			12.91			12.32			10.20		
Mass of moisture g	5.02			4.44			4.42			6.01		
Mass of dry soil g	17.50			14.75			13.76			17.64		
Moisture content %	28.7			30.1			32.1			34.1		



Sample preparation

as received

washed on 425 μm sieveair dried at $^{\circ}\text{C}$ oven dried at 105 $^{\circ}\text{C}$

not known

Proportion retained

on 425 μm sieve %

Liquid limit 31.1 %

Plastic limit 16.9 %

Plasticity index 14.2

Operator Checked Approved

T.Gorgidze R.Kavelashvili L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128		Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole/Pit no.		BH-SE-20	
Soil Description: Intermediately plastic silty CLAY		Sample no.			
		Depth		2.0-2.3	
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5		Date		8/9/2011	

Plastic Limit	1	2	3	4	Average
Container no.	19	15			
Mass of wet soil + container g	15.29	16.45			
Mass of dry soil + container g	13.48	14.50			
Mass of container g	5.61	6.00			
Mass of moisture g	1.81	1.95			
Mass of dry soil g	7.87	8.50			
Moisture content %	23.0	22.9			23.0

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.3	15.4	15.6	18.7	18.5	18.6	20.6	20.4	20.5	24.3	24.5	24.7
Average penetration mm	15.4			18.6			20.5			24.5		
Container no.	5			19			32			95		
Mass of wet soil + container g	32.88			39.17			34.65			31.70		
Mass of dry soil + container g	26.90			31.05			27.68			24.65		
Mass of container g	12.71			12.71			12.68			9.95		
Mass of moisture g	5.98			8.12			6.97			7.05		
Mass of dry soil g	14.19			18.34			15.00			14.70		
Moisture content %	42.1			44.3			46.5			48.0		

The chart plots Penetration of cone (mm) on the y-axis (14.5 to 24.5) against Moisture content (%) on the x-axis (42 to 49). A solid blue line represents the liquid limit curve. Data points are plotted at (42.1, 15.3), (44.3, 18.5), (46.5, 20.4), and (48.0, 24.5). A red dashed line at 25 mm penetration intersects the liquid limit curve at approximately 45.4% moisture content.

Sample preparation
as received
washed on 425 μ m sieve
air dried at _____ °C
oven dried at 105 °C
not known
Proportion retained
on 425 μ m sieve _____ %

Liquid limit	45.4 %
Plastic limit	23.0 %
Plasticity index	22.4

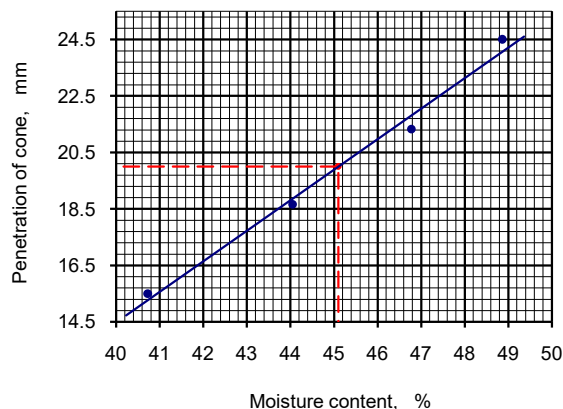
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-20
Soil Description: Intermediately plastic silty CLAY	Sample no.	
	Depth	4.1-4.3
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/9/2011

Plastic Limit	1	2	3	4	Average
Container no.	19	15			
Mass of wet soil + container g	15.32	16.48			
Mass of dry soil + container g	13.50	14.51			
Mass of container g	5.61	6.00			
Mass of moisture g	1.82	1.97			
Mass of dry soil g	7.89	8.51			
Moisture content %	23.1	23.1			23.1

Liquid Limit	1			2			3			4		
Initial dial gauge reading mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading mm	15.5	15.4	15.6	18.7	18.7	18.6	21.3	21.4	21.3	24.3	24.5	24.7
Average penetration mm	15.5			18.7			21.3			24.5		
Container no.	37			T			XX			30		
Mass of wet soil + container g	32.78			32.90			39.80			44.90		
Mass of dry soil + container g	26.65			26.61			31.03			34.40		
Mass of container g	11.60			12.33			12.28			12.91		
Mass of moisture g	6.13			6.29			8.77			10.50		
Mass of dry soil g	15.05			14.28			18.75			21.49		
Moisture content %	40.7			44.0			46.8			48.9		



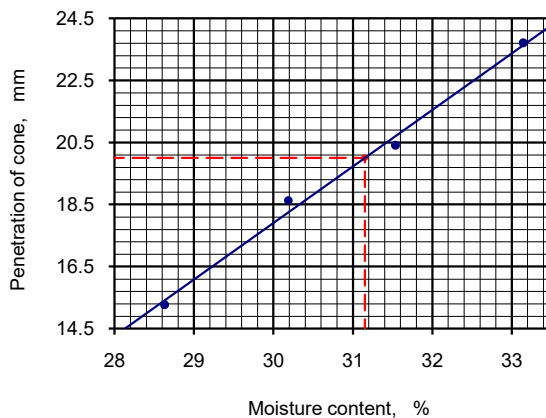
Sample preparation		
as received		
washed on 425 μ m sieve		
air dried at		°C
oven dried at		105 °C
not known		
Proportion retained		
on 425 μ m sieve		%
Liquid limit		45.1 %
Plastic limit		23.1 %
Plasticity index		22.0
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

Liquid Limit (Cone Penetrometer) and Plastic Limit

Project Name: GC-1128	Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Borehole/Pit no.	BH-SE-20
Soil Description: Low plastic sandy silty CLAY with a little rounded gravel content	Sample no.	
	Depth	6.0-6.8
Test Method: BS 1377 : Part 2 : 1990 : 4.3/5	Date	8/2/2011

Plastic Limit		1	2	3	4	Average
Container no.		4'	9			
Mass of wet soil + container	g	14.30	13.10			
Mass of dry soil + container	g	13.03	12.10			
Mass of container	g	5.50	6.00			
Mass of moisture	g	1.27	1.00			
Mass of dry soil	g	7.53	6.10			
Moisture content	%	16.9	16.4			16.6

Liquid Limit		1			2			3			4		
Initial dial gauge reading	mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final dial gauge reading	mm	15.3	15.2	15.3	18.5	18.6	18.8	20.5	20.4	20.3	23.6	23.7	23.8
Average penetration	mm	15.3			18.6			20.4			23.7		
Container no.		XI			Ж			22			35		
Mass of wet soil + container	g	41.43			36.70			44.31			40.12		
Mass of dry soil + container	g	34.95			30.88			36.76			33.02		
Mass of container	g	12.32			11.60			12.82			11.60		
Mass of moisture	g	6.48			5.82			7.55			7.10		
Mass of dry soil	g	22.63			19.28			23.94			21.42		
Moisture content	%	28.6			30.2			31.5			33.1		



Sample preparation		
as received		
washed on 425 μm sieve		
air dried at		
oven dried at		
not known		
Proportion retained		
on 425 μm sieve		
Liquid limit		31.2 %
Plastic limit		16.6 %
Plasticity index		14.5
Operator	Checked	Approved
T.Gorgidze	R.Kavelashvili	L.Gorgidze

ANNEX 1 .4

Defining Particles density

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-1		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions			Depth			1.0-2.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1495.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	654.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	153.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.61					
Average value	ρ_s	Mg/m ³	2.61					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SE-1	
Soil Description:				Sample no.			
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions				Depth		0.4-2.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		7/21/2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1488.5			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	647.00			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	160.00			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.50			
Average value ρ_s			Mg/m ³	2.50			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
						Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-2		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions			Depth			1.0-2.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1487					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	645.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	161.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.48					
Average value	ρ_s	Mg/m ³	2.48					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-3		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles and boulders inclusions			Depth			0.5-1.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/11/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1493					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	651.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	155.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.57					
Average value	ρ_s	Mg/m ³	2.57					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-4		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles			Depth			2.5-3.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1490					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	648.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	158.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.52					
Average value	ρ_s	Mg/m ³	2.52					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-5		
Soil Description:			Sample no.					
Rounded GRAVEL with intermediately plastic silty clay matrix, with rounded cobbles inclusions			Depth			1.7-2.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1492					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	650.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	156.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.56					
Average value	ρ_s	Mg/m ³	2.56					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-3	
Soil Description:			Sample no.				
Rounded GRAVEL with intermediately plastic sandy silty clay matrix			Depth			1.7-1.85	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/25/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m ₃	g	1496.5				
Mass of bottle + soil	m ₂	g	841.50				
Mass of bottle full of water	m ₄	g	1248.50				
Mass of bottle	m ₁	g	441.50				
Mass of soil	m ₂ -m ₁	g	400.00				
Mass of water in full bottle	m ₄ -m ₁	g	807.00				
Mass of water used	m ₃ -m ₂	g	655.00				
Volume of soil particles	(m ₄ -m ₁)-(m ₃ -m ₂)	mL	152.00				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.63				
Average value	ρ_s	Mg/m ³	2.63				
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-6	
Soil Description:			Sample no.				
Rounded GRAVEL with low plastic sandy silty clay matrix, with rounded cobbles inclusions			Depth			2.5-3.0	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011	
Specimen reference	1/1						
Pyknometer number	1						
Mass of bottle + soil + water	m_3 g	1491					
Mass of bottle + soil	m_2 g	841.50					
Mass of bottle full of water	m_4 g	1248.50					
Mass of bottle	m_1 g	441.50					
Mass of soil	$m_2 - m_1$ g	400.00					
Mass of water in full bottle	$m_4 - m_1$ g	807.00					
Mass of water used	$m_3 - m_2$ g	649.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$ mL	157.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.54					
Average value	ρ_s Mg/m ³	2.54					
		Operator	Checked		Approved		
		Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili		

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-7		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions			Depth			1.3-2.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1487					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	645.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	161.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.48					
Average value	ρ_s	Mg/m ³	2.48					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SI 1-1	
Soil Description:				Sample no.			
Rounded GRAVEL with sand matrix				Depth		26.5-27.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		8/18/2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1486.5			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	645.00			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	162.00			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.47			
Average value ρ_s			Mg/m ³	2.47			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
						Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128					Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia					Borehole/Pit no.			BH-SI 1-2	
Soil Description:					Sample no.				
Rounded GRAVEL with sand matrix					Depth			3.8-4.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4			Date			8/19/2011	
Specimen reference				1/1					
Pyknometer number				1					
Mass of bottle + soil + water m_3 g				1488.5					
Mass of bottle + soil m_2 g				841.50					
Mass of bottle full of water m_4 g				1248.50					
Mass of bottle m_1 g				441.50					
Mass of soil m_2-m_1 g				400.00					
Mass of water in full bottle m_4-m_1 g				807.00					
Mass of water used m_3-m_2 g				647.00					
Volume of soil particles $(m_4-m_1)-(m_3-m_2)$ mL				160.00					
Particle density $\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³				2.50					
Average value ρ_s Mg/m ³				2.50					
				Operator		Checked		Approved	
				Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SI 1-2	
Soil Description:				Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions				Depth		16.0-17.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		8/19/2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1487			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	645.50			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	161.50			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.48			
Average value ρ_s			Mg/m ³	2.48			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
				Roin Kavelashvili			

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/<u>Pit no.</u>			TP-SE-8		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions			Depth			2.5-3.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/13/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1483					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	641.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	165.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.42					
Average value	ρ_s	Mg/m ³	2.42					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-9	
Soil Description:			Sample no.				
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions			Depth			2.6-2.8	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/25/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m_3	g	1490.5				
Mass of bottle + soil	m_2	g	841.50				
Mass of bottle full of water	m_4	g	1248.50				
Mass of bottle	m_1	g	441.50				
Mass of soil	$m_2 - m_1$	g	400.00				
Mass of water in full bottle	$m_4 - m_1$	g	807.00				
Mass of water used	$m_3 - m_2$	g	649.00				
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	158.00				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.53				
Average value	ρ_s	Mg/m ³	2.53				
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-9		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic sandy silty CLAY matrix, with rounded cobbles inclusions			Depth			9.8-10.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/26/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1491.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	650.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	157.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.55					
Average value	ρ_s	Mg/m ³	2.55					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.			BH-SE-10		
Soil Description:				Sample no.					
Rounded GRAVEL with intermediately plastic sandy silty CLAY matrix				Depth			0.5-1.5		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date			7/22/2011		
Specimen reference			1/1						
Pyknometer number			1						
Mass of bottle + soil + water			m ₃ g	1494.5					
Mass of bottle + soil			m ₂ g	841.50					
Mass of bottle full of water			m ₄ g	1248.50					
Mass of bottle			m ₁ g	441.50					
Mass of soil			m ₂ -m ₁ g	400.00					
Mass of water in full bottle			m ₄ -m ₁ g	807.00					
Mass of water used			m ₃ -m ₂ g	653.00					
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	154.00					
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.60					
Average value ρ_s			Mg/m ³	2.60					
				Operator		Checked		Approved	
				Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-11	
Soil Description:			Sample no.				
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions			Depth			0.5-2.0	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/14/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m_3	g	1490.5				
Mass of bottle + soil	m_2	g	841.50				
Mass of bottle full of water	m_4	g	1248.50				
Mass of bottle	m_1	g	441.50				
Mass of soil	$m_2 - m_1$	g	400.00				
Mass of water in full bottle	$m_4 - m_1$	g	807.00				
Mass of water used	$m_3 - m_2$	g	649.00				
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	158.00				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.53				
Average value	ρ_s	Mg/m ³	2.53				
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name: GC-1128				Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.			BH-SE-11		
Soil Description:				Sample no.					
Rounded GRAVEL with sand matrix, with little rounded cobbles inclusions				Depth			4.4-4.6		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date			7/14/2011		
Specimen reference			1/1						
Pyknometer number			1						
Mass of bottle + soil + water			m ₃ g	1489.0					
Mass of bottle + soil			m ₂ g	841.50					
Mass of bottle full of water			m ₄ g	1248.50					
Mass of bottle			m ₁ g	441.50					
Mass of soil			m ₂ -m ₁ g	400.00					
Mass of water in full bottle			m ₄ -m ₁ g	807.00					
Mass of water used			m ₃ -m ₂ g	647.50					
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	159.50					
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.51					
Average value ρ_s			Mg/m ³	2.51					
				Operator		Checked		Approved	
				Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 1-2		
Soil Description:			Sample no.					
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions			Depth			0.4-1.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/20/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1489.0					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	647.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	159.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.51					
Average value	ρ_s	Mg/m ³	2.51					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 1-2		
Soil Description:			Sample no.					
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions			Depth			10.0-11.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			22.07.2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1490.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	649.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	158.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.53					
Average value	ρ_s	Mg/m ³	2.53					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 1-2		
Soil Description:			Sample no.					
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions			Depth			33.0-34.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			22.07.2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1493.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	652.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	155.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.58					
Average value	ρ_s	Mg/m ³	2.58					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SB1-3	
Soil Description:				Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions				Depth		0.4-2.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		7/15/2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1498			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	656.50			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	150.50			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.66			
Average value ρ_s			Mg/m ³	2.66			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
				Roin Kavelashvili			

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-3	
Soil Description:			Sample no.				
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			2.0-2.4	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m ₃	g	1492.0				
Mass of bottle + soil	m ₂	g	841.50				
Mass of bottle full of water	m ₄	g	1248.50				
Mass of bottle	m ₁	g	441.50				
Mass of soil	m ₂ -m ₁	g	400.00				
Mass of water in full bottle	m ₄ -m ₁	g	807.00				
Mass of water used	m ₃ -m ₂	g	650.50				
Volume of soil particles	(m ₄ -m ₁)-(m ₃ -m ₂)	mL	156.50				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$		Mg/m ³	2.56			
Average value ρ_s			Mg/m ³	2.56			
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 1-3		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			5.0-5.4		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1492.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	651.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	156.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.56					
Average value	ρ_s	Mg/m ³	2.56					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-3		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			6.7-7.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1493.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	652.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	155.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.58					
Average value ρ_s		Mg/m ³	2.58					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-4		
Soil Description:			Sample no.					
Rounded GRAVEL with low plastic silty sandy clay matrix			Depth			13.1-13.3		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/11/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1476.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	635.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	172.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.33					
Average value ρ_s		Mg/m ³	2.33					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-4	
Soil Description:			Sample no.				
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			29.0-29.5	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/11/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m ₃	g	1485.5				
Mass of bottle + soil	m ₂	g	841.50				
Mass of bottle full of water	m ₄	g	1248.50				
Mass of bottle	m ₁	g	441.50				
Mass of soil	m ₂ -m ₁	g	400.00				
Mass of water in full bottle	m ₄ -m ₁	g	807.00				
Mass of water used	m ₃ -m ₂	g	644.00				
Volume of soil particles	(m ₄ -m ₁)-(m ₃ -m ₂)	mL	163.00				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$		Mg/m ³	2.45			
Average value ρ_s		Mg/m ³	2.45				
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-4		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			4.0-4.3		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/12/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1491.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	650.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	157.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.55					
Average value	ρ_s	Mg/m ³	2.55					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

SPECIFIC GRAVITY

Project Name:GC-1128				Location		Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SB1-4		
Soil Description:				Sample no.				
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions				Depth		5.7-6.0		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		7/11/2011		
Specimen reference			1/1					
Pyknometer number			1					
Mass of bottle + soil + water m_3 g			1497					
Mass of bottle + soil m_2 g			841.50					
Mass of bottle full of water m_4 g			1248.50					
Mass of bottle m_1 g			441.50					
Mass of soil m_2-m_1 g			400.00					
Mass of water in full bottle m_4-m_1 g			807.00					
Mass of water used m_3-m_2 g			655.50					
Volume of soil particles $(m_4-m_1)-(m_3-m_2)$ mL			151.50					
Particle density $\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³			2.64					
Average value ρ_s Mg/m ³			2.64					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-4		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			9.3-9.8		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/12/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1493.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	652.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	155.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.58					
Average value	ρ_s	Mg/m ³	2.58					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name: GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 1-5		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			4.0-5.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/14/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1491.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	650.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	157.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.55					
Average value	ρ_s	Mg/m ³	2.55					
			Operator		Checked		Approved	
			Natalia Gachechiladze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-6	
Soil Description:			Sample no.				
Rounded GRAVEL with silty sand matrix			Depth			3.5-4.0	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011	
Specimen reference	1/1						
Pyknometer number	1						
Mass of bottle + soil + water	m_3 g	1494.5					
Mass of bottle + soil	m_2 g	841.50					
Mass of bottle full of water	m_4 g	1248.50					
Mass of bottle	m_1 g	441.50					
Mass of soil	$m_2 - m_1$ g	400.00					
Mass of water in full bottle	$m_4 - m_1$ g	807.00					
Mass of water used	$m_3 - m_2$ g	653.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$ mL	154.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.60					
Average value	ρ_s Mg/m ³	2.60					
		Operator	Checked			Approved	
		Tamar Gorgidze	Tatia Jajanidze			Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SB1-6		
Soil Description:				Sample no.				
Rounded GRAVEL with sand matrix				Depth		6.0-6.5		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		7/15/2011		
Specimen reference			1/1					
Pyknometer number			1					
Mass of bottle + soil + water m_3 g			1494					
Mass of bottle + soil m_2 g			841.50					
Mass of bottle full of water m_4 g			1248.50					
Mass of bottle m_1 g			441.50					
Mass of soil m_2-m_1 g			400.00					
Mass of water in full bottle m_4-m_1 g			807.00					
Mass of water used m_3-m_2 g			652.50					
Volume of soil particles $(m_4-m_1)-(m_3-m_2)$ mL			154.50					
Particle density $\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³			2.59					
Average value ρ_s Mg/m ³			2.59					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB1-6		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			16.0-17.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m ₃	g	1492.0					
Mass of bottle + soil	m ₂	g	841.50					
Mass of bottle full of water	m ₄	g	1246.00					
Mass of bottle	m ₁	g	441.50					
Mass of soil	m ₂ -m ₁	g	400.00					
Mass of water in full bottle	m ₄ -m ₁	g	804.50					
Mass of water used	m ₃ -m ₂	g	650.50					
Volume of soil particles	(m ₄ -m ₁)-(m ₃ -m ₂)	mL	154.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$		Mg/m ³	2.60				
Average value ρ_s		Mg/m ³	2.60					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SE-12	
Soil Description:				Sample no.			
Rounded GRAVEL with sand matrix, with little rounded cobbles inclusions				Depth		4.0-4.3	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		7/14/2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1486.5			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	645.00			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	162.00			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.47			
Average value ρ_s			Mg/m ³	2.47			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
						Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE 12-1	
Soil Description:			Sample no.				
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			4.0-5.0	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/22/2011	
Specimen reference		1/1					
Pyknometer number		1					
Mass of bottle + soil + water	m ₃	g	1496.5				
Mass of bottle + soil	m ₂	g	841.50				
Mass of bottle full of water	m ₄	g	1248.50				
Mass of bottle	m ₁	g	441.50				
Mass of soil	m ₂ -m ₁	g	400.00				
Mass of water in full bottle	m ₄ -m ₁	g	807.00				
Mass of water used	m ₃ -m ₂	g	655.00				
Volume of soil particles	(m ₄ -m ₁)-(m ₃ -m ₂)	mL	152.00				
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.63				
Average value ρ_s		Mg/m ³	2.63				
			Operator		Checked		Approved
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili

Specific Gravity

Project Name:GC-1128					Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia					Borehole/Pit no.			BH-SB3-1	
Soil Description:					Sample no.				
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions					Depth			12.0-14.0	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4			Date			8/18/2011	
Specimen reference				1/1					
Pyknometer number				1					
Mass of bottle + soil + water m_3 g				1488.5					
Mass of bottle + soil m_2 g				841.50					
Mass of bottle full of water m_4 g				1248.50					
Mass of bottle m_1 g				441.50					
Mass of soil m_2-m_1 g				400.00					
Mass of water in full bottle m_4-m_1 g				807.00					
Mass of water used m_3-m_2 g				647.00					
Volume of soil particles $(m_4-m_1)-(m_3-m_2)$ mL				160.00					
Particle density $\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³				2.50					
Average value ρ_s Mg/m ³				2.50					
				Operator		Checked		Approved	
				Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-14	
Soil Description:			Sample no.				
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions			Depth			2.7-3.0	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/15/2011	
Specimen reference	1/1						
Pyknometer number	1						
Mass of bottle + soil + water	m_3 g	1493.5					
Mass of bottle + soil	m_2 g	841.50					
Mass of bottle full of water	m_4 g	1248.50					
Mass of bottle	m_1 g	441.50					
Mass of soil	$m_2 - m_1$ g	400.00					
Mass of water in full bottle	$m_4 - m_1$ g	807.00					
Mass of water used	$m_3 - m_2$ g	652.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$ mL	155.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.58					
Average value	ρ_s Mg/m ³	2.58					
		Operator	Checked			Approved	
		Tamar Gorgidze	Tatia Jajanidze			Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128					Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia					Borehole/Pit no.			BH-SE-14		
Soil Description:					Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions					Depth			5.8-6.0		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4			Date			7/15/2011		
Specimen reference				1/1						
Pyknometer number				1						
Mass of bottle + soil + water m_3 g				1488.0						
Mass of bottle + soil m_2 g				841.50						
Mass of bottle full of water m_4 g				1248.50						
Mass of bottle m_1 g				441.50						
Mass of soil m_2-m_1 g				400.00						
Mass of water in full bottle m_4-m_1 g				807.00						
Mass of water used m_3-m_2 g				646.50						
Volume of soil particles $(m_4-m_1)-(m_3-m_2)$ mL				160.50						
Particle density $\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³				2.49						
Average value ρ_s Mg/m ³				2.49						
					Operator		Checked		Approved	
					Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SI 2-1	
Soil Description:			Sample no.				
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions			Depth			10.2-10.5	
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			8/19/2011	
Specimen reference	1/1						
Pyknometer number	1						
Mass of bottle + soil + water	m_3 g	1488.0					
Mass of bottle + soil	m_2 g	841.50					
Mass of bottle full of water	m_4 g	1248.50					
Mass of bottle	m_1 g	441.50					
Mass of soil	$m_2 - m_1$ g	400.00					
Mass of water in full bottle	$m_4 - m_1$ g	807.00					
Mass of water used	$m_3 - m_2$ g	646.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$ mL	160.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.49					
Average value	ρ_s Mg/m ³	2.49					
		Operator	Checked		Approved		
		Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili		

Specific Gravity

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.		BH-SE-16	
Soil Description:				Sample no.			
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions				Depth		4.5-4.8	
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date		19.07.2011	
Specimen reference			1/1				
Pyknometer number			1				
Mass of bottle + soil + water			m ₃ g	1489.0			
Mass of bottle + soil			m ₂ g	841.50			
Mass of bottle full of water			m ₄ g	1248.50			
Mass of bottle			m ₁ g	441.50			
Mass of soil			m ₂ -m ₁ g	400.00			
Mass of water in full bottle			m ₄ -m ₁ g	807.00			
Mass of water used			m ₃ -m ₂ g	647.50			
Volume of soil particles			(m ₄ -m ₁)-(m ₃ -m ₂) mL	159.50			
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.51			
Average value ρ_s			Mg/m ³	2.51			
				Operator		Checked	
				Tamar Gorgidze		Tatia Jajanidze	
						Approved	
						Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128				Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole/Pit no.			BH-SE-17		
Soil Description:				Sample no.					
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions				Depth			3.3-3.5		
Test Method:		BS 1377 : Part 2 : 1990 : 8.4		Date			7/19/2011		
Specimen reference			1/1						
Pyknometer number			1						
Mass of bottle + soil + water			m_3 g	1491.0					
Mass of bottle + soil			m_2 g	841.50					
Mass of bottle full of water			m_4 g	1248.50					
Mass of bottle			m_1 g	441.50					
Mass of soil			$m_2 - m_1$ g	400.00					
Mass of water in full bottle			$m_4 - m_1$ g	807.00					
Mass of water used			$m_3 - m_2$ g	649.50					
Volume of soil particles			$(m_4 - m_1) - (m_3 - m_2)$ mL	157.50					
Particle density			$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$ Mg/m ³	2.54					
Average value ρ_s			Mg/m ³	2.54					
				Operator		Checked		Approved	
				Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-18		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			2.8-3.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/20/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1489.0					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	647.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	159.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.51					
Average value	ρ_s	Mg/m ³	2.51					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-18		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			8.7-9.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/20/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1488.0					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	646.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	160.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.49					
Average value	ρ_s	Mg/m ³	2.49					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-19		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions			Depth			7.2-7.6		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			22.07.2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1490.0					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	648.50					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	158.50					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.52					
Average value	ρ_s	Mg/m ³	2.52					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SB 2-1		
Soil Description:			Sample no.					
Rounded GRAVEL with silty sand matrix, with a little rounded cobbles inclusions			Depth			16.0-19.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/22/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1489.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	648.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	159.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.52					
Average value	ρ_s	Mg/m ³	2.52					
			Operator		Checked		Approved	
			Natalia Gachechiladze		Tatia Jajanidze		Roin Kavelashvili	

Specific Gravity

Project Name:GC-1128			Location			Imereti Region, Georgia		
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole/Pit no.			BH-SE-20		
Soil Description:			Sample no.					
Rounded GRAVEL with sand matrix, with rounded cobbles inclusions			Depth			14.0-15.0		
Test Method:	BS 1377 : Part 2 : 1990 : 8.4		Date			7/25/2011		
Specimen reference		1/1						
Pyknometer number		1						
Mass of bottle + soil + water	m_3	g	1495.5					
Mass of bottle + soil	m_2	g	841.50					
Mass of bottle full of water	m_4	g	1248.50					
Mass of bottle	m_1	g	441.50					
Mass of soil	$m_2 - m_1$	g	400.00					
Mass of water in full bottle	$m_4 - m_1$	g	807.00					
Mass of water used	$m_3 - m_2$	g	654.00					
Volume of soil particles	$(m_4 - m_1) - (m_3 - m_2)$	mL	153.00					
Particle density	$\rho_s = \frac{m_2 - m_1}{(m_4 - m_1) - (m_3 - m_2)} \cdot \rho_L$	Mg/m ³	2.61					
Average value	ρ_s	Mg/m ³	2.61					
			Operator		Checked		Approved	
			Tamar Gorgidze		Tatia Jajanidze		Roin Kavelashvili	

ANNEX 1 .5

Defining Natural Density

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SE-2	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with a rounded gravel inclusions				Depth		2.4-2.6	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		02.08.2011	
Length of core cutter				mm			
Volume (V _c)			340	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	674,50			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,98			
Average value ρ			Mg/m ³	1,98			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		TP-SE-5	
Soil Description			Sample no.			
Low plastic silty sandy CLAY			Depth		1.5-1.6	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		11.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	335,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	259,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,91				
Average value ρ	Mg/m ³	1,91				
			Operator		Checked	
			Tamar Gorgidze		Tatia Jajanidze	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / <u>Pit. No.</u>		TP-SE-6	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions				depth		0.5-1.0	
Test Method		BS 1377: Part 9: 1990: 7.3		date		11.07.2011	
Length of core cutter				mm			
Volume (V_c)			330	sm ³			
Test number				1	2	3	4
Mass of wet soil (m_s)			g	660,50			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	2,00			
Average value ρ			Mg/m ³	2,00			
			Operator	Checked	Approved		
			Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili		

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / <u>Pit. No.</u>		TP-SE-6	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions				Depth		1.5-1.7	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		13.07.2011	
Length of core cutter				mm			
Volume (V_c)			260	cm ³			
Test number				1	2	3	4
Mass of wet soil (m_s)			g	500,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,92			
Average value ρ			Mg/m ³	1,92			
			Operator	Checked		Approved	
			Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-4	
Soil Description			Sample no.			
Intermediately plastic silty CLAY with a little rounded gravel inclusions			Depth		0.4-2.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	350,10				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	274,40				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,02				
Average value ρ	Mg/m ³	2,02				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SE-5	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel inclusions				Depth		2.3-2.6	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		1.08.2011	
Length of core cutter				mm			
Volume (V _c)			380	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	833,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	2,19			
Average value ρ			Mg/m ³	2,19			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 1-2	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		21.0-21.3	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		11.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	338,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	262,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,93				
Average value ρ	Mg/m ³	1,93				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 1-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY			Depth		21.2-21.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		10.08.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	354,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	278,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,02				
Average value ρ	Mg/m ³	2,02				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 1-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content			Depth		23.7-24.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		11.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	341,00				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	265,30				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,95				
Average value ρ	Mg/m ³	1,95				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-7	
Soil Description			Sample no.			
Highly plastic silty CLAY			Depth		0.5-1.7	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	cm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	340,11				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	264,41				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,94				
Average value ρ	Mg/m ³	1,94				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / <u>Pit. No.</u>		TP-SE-8	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions				Depth		0.5-1.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		13.07.2011	
Length of core cutter				mm			
Volume (V_c)			305	sm ³			
Test number				1	2	3	4
Mass of wet soil (m_s)			g	570,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,87			
Average value ρ			Mg/m ³	1,87			
			Operator	Checked	Approved		
			Tamar Gorgidze	Tatia Jajanidze	Roin Kavelashvili		

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-2	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		24.2-24.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		26.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	331,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	255,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,85				
Average value ρ	Mg/m ³	1,85				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-2	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		25.2-25.4	
Test method	BS 1377: Part 9: 1990: 2.4		Date		26.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	335,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	259,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,88				
Average value ρ	Mg/m ³	1,88				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-3	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		23.4-23.7	
Test method	BS 1377: Part 9: 1990: 2.4		Date		26.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	332,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	256,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,86				
Average value ρ	Mg/m ³	1,86				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-3	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		24.15-24.45	
Test method	BS 1377: Part 9: 1990: 2.4		Date		27.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	351,00				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	274,98				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,99				
Average value ρ	Mg/m ³	1,99				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB1-4	
Soil Description				Sample no.			
Rounded GRAVEL with sand matrix, with a little rounded cobbles inclusions				Depth		5.7-6.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		11.07.2011	
Length of core cutter				mm			
Volume (V _c)			180	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	400,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	2,22			
Average value ρ			Mg/m ³	2,22			
			Operator	Checked		Approved	
			Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB1-4	
Soil Description				Sample no.			
Rounded GRAVEL with low plastic silty sandy clay matrix				Depth		13.1-13.3	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		11.07.2011	
Length of core cutter				mm			
Volume (V _c)			310	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	624,80			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	2,02			
Average value ρ			Mg/m ³	2,02			
			Operator	Checked		Approved	
			Tamar Gorgidze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-4	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		25.3-25.6	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		13.07.2011	
Length of core cutter	mm	24,9				
Volume of core cutter (V_c)	sm ³	149,3				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	490,08				
Mass of container (m_c)	g	191,18				
Mass of wet soil ($m_s - m_c$)	g	298,90				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,00				
Average value ρ	Mg/m ³	2,00				
			Operator		Checked	
			Tamar Gorgidze		Tatia Jajanidze	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-5	
Soil Description			Sample no.			
Intermediately plastic sandy silty CLAY			Depth		0.4-0.6	
Test method	BS 1377: Part 9: 1990: 2.4		Date		15.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	314,00				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	237,98				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,72				
Average value ρ	Mg/m ³	1,72				
			Operator		Checked	
			Tamar Gorgidze		Tatia Jajanidze	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB 1-6	
Soil Description				Sample no.			
Intermediately plastic sandy silty CLAY with a little rounded gravel content				Depth		0.3-1.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		26.07.2011	
Length of core cutter				mm			
Volume (V _c)			360	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	675,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,88			
Average value ρ			Mg/m ³	1,88			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB1-6	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		25.0-25.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		27.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	338,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	262,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,90				
Average value ρ	Mg/m ³	1,90				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-12	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY			Depth		0.4-2.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	340,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	264,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,95				
Average value ρ	Mg/m ³	1,95				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE 12-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY			Depth		0.0-1.8	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	333,25				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	257,55				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,89				
Average value ρ	Mg/m ³	1,89				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB3-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY			Depth		0.4-2.0	
Test method	BS 1377: Part 9: 1990: 2.4		Date		09.08.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	331,00				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	254,98				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,85				
Average value ρ	Mg/m ³	1,85				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB3-1	
Soil Description			Sample no.			
Low plastic silty sandy CLAY			Depth		27.0-27.7	
Test method	BS 1377: Part 9: 1990: 2.4		Date		09.08.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	353,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	277,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,01				
Average value ρ	Mg/m ³	2,01				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB3-1	
Soil Description			Sample no.			
Low plastic silty sandy CLAY			Depth		28.3-28.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		09.08.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	350,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	274,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,99				
Average value ρ	Mg/m ³	1,99				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SE-15	
Soil Description				Sample no.			
Low plastic sandy silty CLAY with a little rounded gravel content				Depth		0.0-2.4	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		02.08.2011	
Length of core cutter				mm			
Volume (V _c)			360	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	690,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,92			
Average value ρ			Mg/m ³	1,92			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 2-1	
Soil Description			Sample no.			
Highly plastic silty CLAY			Depth		1.0-2.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		11.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	334,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	258,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,90				
Average value ρ	Mg/m ³	1,90				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 2-1	
Soil Description			Sample no.			
Low plastic silty sandy CLAY			Depth		3.6-3.85	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		10.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	355,10				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	279,40				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,05				
Average value ρ	Mg/m ³	2,05				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SI 2-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY			Depth		4.65-4.9	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		12.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	341,00				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	265,30				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,95				
Average value ρ	Mg/m ³	1,95				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-19	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		0.5-1.3	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		29.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	330,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	254,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,87				
Average value ρ	Mg/m ³	1,87				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB 2-1	
Soil Description				Sample no.			
Intermediately plastic sandy silty CLAY with a little rounded gravel content				Depth		0.5-2.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		03.08.2011	
Length of core cutter				mm			
Volume (V _c)			345	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	655,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,90			
Average value ρ			Mg/m ³	1,90			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB 2-1	
Soil Description			Sample no.			
Low plastic sandy clayey SILT with a little rounded gravel content			Depth		5.0-9.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		26.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	320,70				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	245,00				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,80				
Average value ρ	Mg/m ³	1,80				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB2-1	
Soil Description			Sample no.			
Low plastic sandy clayey SILT with a little rounded gravel content			Depth		10.3-10.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	325,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	249,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,81				
Average value ρ	Mg/m ³	1,81				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB2-1	
Soil Description			Sample no.			
Low plastic silty sandy CLAY			Depth		21.1-22.5	
Test method	BS 1377: Part 9: 1990: 2.4		Date		28.07.2011	
Length of core cutter	mm	34,5				
Volume of core cutter (V_c)	sm ³	138				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	354,50				
Mass of container (m_c)	g	76,02				
Mass of wet soil ($m_s - m_c$)	g	278,48				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	2,02				
Average value ρ	Mg/m ³	2,02				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-20	
Soil Description			Sample no.			
Highly plastic silty CLAY			Depth		0.0-2.0	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		29.07.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	333,65				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	257,95				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,90				
Average value ρ	Mg/m ³	1,90				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-20	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		2.0-2.3	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		01.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	332,00				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	256,30				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,88				
Average value ρ	Mg/m ³	1,88				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SE-20	
Soil Description			Sample no.			
Intermediately plastic silty CLAY			Depth		4.1-4.3	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		01.08.2011	
Length of core cutter	mm	34,0				
Volume of core cutter (V_c)	sm ³	136,1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	335,50				
Mass of container (m_c)	g	75,70				
Mass of wet soil ($m_s - m_c$)	g	259,80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1,91				
Average value ρ	Mg/m ³	1,91				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB 4-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content			Depth		25.3-25.5	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		23.08.2011	
Length of core cutter	mm	34.0				
Volume of core cutter (V_c)	sm ³	136.1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	337.50				
Mass of container (m_c)	g	75.70				
Mass of wet soil ($m_s - m_c$)	g	261.80				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1.92				
Average value ρ	Mg/m ³	1.92				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB 5-1	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content				Depth		0.4-2.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		23.08.2011	
Length of core cutter				mm			
Volume (V _c)			355	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	672,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,89			
Average value ρ			Mg/m ³	1,89			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128				Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				Borehole / Pit. No.		BH-SB 6-1	
Soil Description				Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content				Depth		0.3-2.0	
Test Method		BS 1377: Part 9: 1990: 7.3		Date		24.08.2011	
Length of core cutter				mm			
Volume (V _c)			350	sm ³			
Test number				1	2	3	4
Mass of wet soil (m _s)			g	670,00			
Bulk density $\rho = \frac{m_s - m_c}{V_c}$			Mg/m ³	1,91			
Average value ρ			Mg/m ³	1,91			
			Operator	Checked		Approved	
			Natalia Gachechiladze	Tatia Jajanidze		Roin Kavelashvili	

Density Test

Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB 6-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content			Depth		27.1-27.3	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		23.08.2011	
Length of core cutter	mm	34.0				
Volume of core cutter (V_c)	sm ³	136.1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	334.80				
Mass of container (m_c)	g	75.70				
Mass of wet soil ($m_s - m_c$)	g	259.10				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1.90				
Average value ρ	Mg/m ³	1.90				
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

Density Test

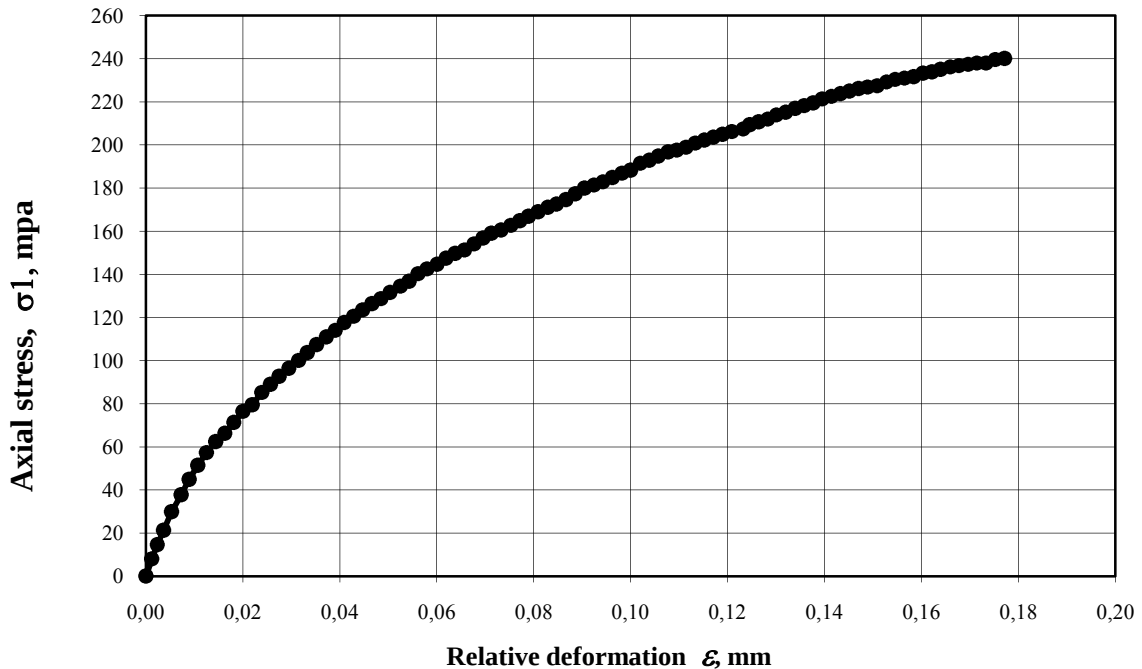
Project Name:GC-1128			Location		Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			Borehole / Pit. No.		BH-SB 6-1	
Soil Description			Sample no.			
Intermediately plastic silty sandy CLAY with a little rounded gravel content			Depth		29.7-29.9	
Test Method	BS 1377: Part 9: 1990: 2.4		Date		23.08.2011	
Length of core cutter	mm	34.0				
Volume of core cutter (V_c)	sm ³	136.1				
Test number	g	1	2	3	4	
Mass of container and wet soil (m_s)	g	336.90				
Mass of container (m_c)	g	75.70				
Mass of wet soil ($m_s - m_c$)	g	261.20				
Bulk density $\rho = \frac{m_s - m_c}{V_c}$	Mg/m ³	1.92				
Average value ρ		Mg/m ³	1.92			
			Operator		Checked	
			Natalia Gachechiladze		Tatia Jajanidze	
					Approved	
					Roin Kavelashvili	

ANNEX 1 .6
Unconfined Compression Test for soils

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB1-3	
Soil description		Sample no:			
Intermediately plastic silty CLAY		Depth, m		24.15-24.45	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	70,0	Mass g	64,4		
Area A_0 , mm ²	3847	Dry mass g	53,67		
Length L_0 , mm	140,0	Moisture content %	20,0		
Volume cm ³	538,51				
Mass g	1070				
Density Mg/m ³	1,99				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils										
Project Name: GC-1128					Location		Imereti Region, Georgia			
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia										
Soil description					Borehole		BH-SB1-3			
Intermediately plastic silty CLAY					Sample no:					
					Depth, m		24.15-24.45			
					Date		12.08.2011			
Test method			BS 1377 : Part 7 : 1990 : 7.2							
Compression test										
Machine no.		24-9160				Rate of deformation		1	mm/min	
Force device no.		"1155-16-19694"					Mean calibration		25.632	
							N/division		Stress	
									kPa/division	
Time H:Min:Seg	Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force		Corrected area		Axial stress
	ΔL mm	ΔL %	ϵ	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa		
0:00:00	0,00	0,00	0,0000	0,000	0,0	0,0	3846,50	0,00		
0:00:15	0,17	0,12	0,0012	0,001	1,2	30,8	3851,18	7,99		
0:00:30	0,33	0,24	0,0024	0,002	2,2	56,4	3855,59	14,63		
0:00:45	0,51	0,36	0,0036	0,004	3,2	82,0	3860,56	21,25		
0:01:00	0,74	0,53	0,0053	0,005	4,5	115,3	3866,94	29,83		
0:01:15	1,02	0,73	0,0073	0,007	5,7	146,1	3874,73	37,71		
0:01:30	1,25	0,89	0,0089	0,009	6,8	174,3	3881,15	44,91		
0:01:45	1,50	1,07	0,0107	0,011	7,8	199,9	3888,16	51,42		
0:02:00	1,75	1,25	0,0125	0,013	8,7	223,0	3895,19	57,25		
0:02:15	2,02	1,44	0,0144	0,014	9,5	243,5	3902,81	62,39		
0:02:30	2,28	1,63	0,0163	0,016	10,1	258,9	3910,18	66,21		
0:02:45	2,54	1,81	0,0181	0,018	10,9	279,4	3917,58	71,32		
0:03:00	2,80	2,00	0,0200	0,020	11,7	299,9	3925,00	76,41		
0:03:15	3,07	2,19	0,0219	0,022	12,2	312,7	3932,74	79,51		
0:03:30	3,35	2,39	0,0239	0,024	13,1	335,8	3940,80	85,21		
0:03:45	3,60	2,57	0,0257	0,026	13,7	351,2	3948,02	88,95		
0:04:00	3,85	2,75	0,0275	0,028	14,3	366,5	3955,27	92,67		
0:04:15	4,13	2,95	0,0295	0,030	14,9	381,9	3963,42	96,36		
0:04:30	4,41	3,15	0,0315	0,032	15,5	397,3	3971,61	100,03		
0:04:45	4,66	3,33	0,0333	0,033	16,1	412,7	3978,94	103,71		
0:05:00	4,93	3,52	0,0352	0,035	16,7	428,1	3986,90	107,37		
0:05:15	5,21	3,72	0,0372	0,037	17,3	443,4	3995,18	110,99		
0:05:30	5,47	3,91	0,0391	0,039	17,8	456,2	4002,90	113,98		
0:05:45	5,73	4,09	0,0409	0,041	18,4	471,6	4010,65	117,59		
0:06:00	6,00	4,29	0,0429	0,043	18,9	484,4	4018,73	120,55		
0:06:15	6,26	4,47	0,0447	0,045	19,4	497,3	4026,54	123,50		
0:06:30	6,53	4,66	0,0466	0,047	19,9	510,1	4034,69	126,42		
0:06:45	6,79	4,85	0,0485	0,049	20,3	520,3	4042,56	128,71		
0:07:00	7,05	5,04	0,0504	0,050	20,8	533,1	4050,47	131,63		
0:07:15	7,35	5,25	0,0525	0,053	21,3	546,0	4059,63	134,49		
0:07:30	7,60	5,43	0,0543	0,054	21,7	556,2	4067,30	136,75		
0:07:45	7,86	5,61	0,0561	0,056	22,3	571,6	4075,30	140,26		
0:08:00	8,12	5,80	0,0580	0,058	22,7	581,8	4083,33	142,49		
0:08:15	8,41	6,01	0,0601	0,060	23,1	592,1	4092,33	144,69		
0:08:30	8,67	6,19	0,0619	0,062	23,6	604,9	4100,43	147,52		
0:08:45	8,93	6,38	0,0638	0,064	24,0	615,2	4108,57	149,73		
0:09:00	9,20	6,57	0,0657	0,066	24,3	622,9	4117,05	151,29		
0:09:15	9,48	6,77	0,0677	0,068	24,8	635,7	4125,88	154,07		
0:09:30	9,74	6,96	0,0696	0,070	25,3	648,5	4134,12	156,86		
0:09:45	9,98	7,13	0,0713	0,071	25,7	658,7	4141,75	159,05		
0:10:00	10,26	7,33	0,0733	0,073	26,0	666,4	4150,69	160,56		
0:10:15	10,54	7,53	0,0753	0,075	26,4	676,7	4159,66	162,68		
0:10:30	10,80	7,71	0,0771	0,077	26,8	686,9	4168,03	164,81		
0:10:45	11,05	7,89	0,0789	0,079	27,2	697,2	4176,11	166,95		
0:11:00	11,33	8,09	0,0809	0,081	27,6	707,4	4185,20	169,03		
0:11:15	11,61	8,29	0,0829	0,083	28,0	717,7	4194,33	171,11		
0:11:30	11,86	8,47	0,0847	0,085	28,3	725,4	4202,51	172,61		
0:11:45	12,13	8,66	0,0866	0,087	28,7	735,6	4211,39	174,68		
0:12:00	12,40	8,86	0,0886	0,089	29,2	748,5	4220,30	177,35		
0:12:15	12,67	9,05	0,0905	0,091	29,7	761,3	4229,25	180,00		
0:12:30	12,94	9,24	0,0924	0,092	30,0	769,0	4238,23	181,43		
0:12:45	13,20	9,43	0,0943	0,094	30,3	776,6	4246,92	182,87		

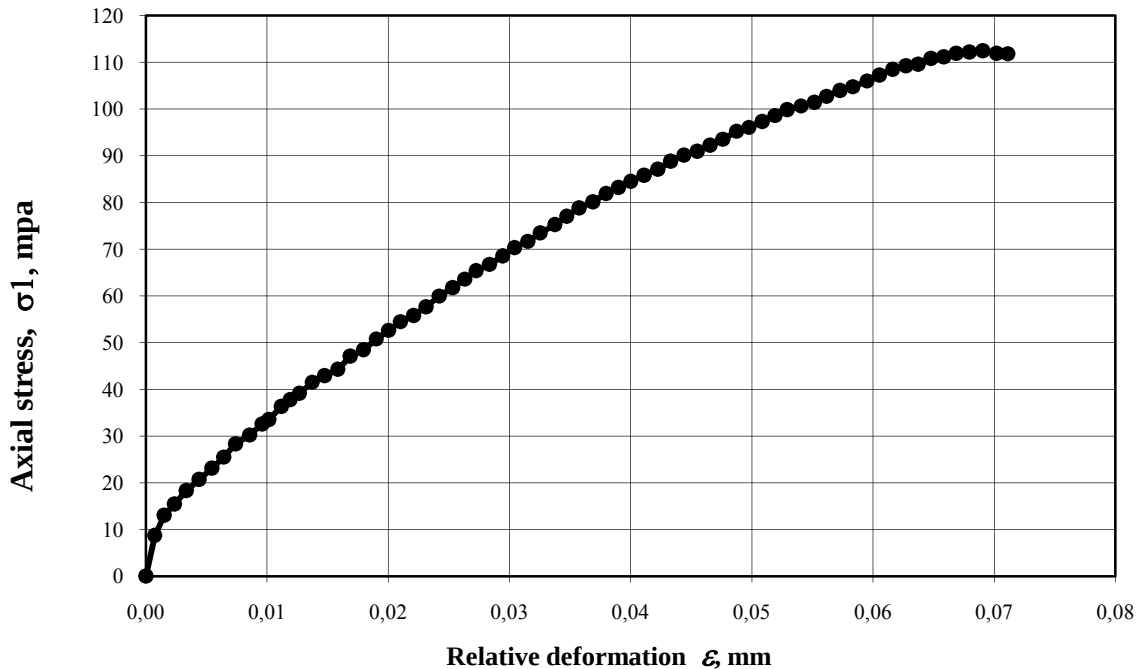
0:13:00	13,47	9,62	0,0962	0,096	30,7	786,9	4255,99	184,89
0:13:15	13,75	9,82	0,0982	0,098	31,1	797,2	4265,43	186,89
0:13:30	14,00	10,00	0,1000	0,100	31,4	804,8	4273,89	188,32
0:13:45	14,28	10,20	0,1020	0,102	32,0	820,2	4283,41	191,49
0:14:00	14,54	10,39	0,1039	0,104	32,3	827,9	4292,28	192,88
0:14:15	14,80	10,57	0,1057	0,106	32,7	838,2	4301,20	194,87
0:14:30	15,08	10,77	0,1077	0,108	33,1	848,4	4310,84	196,81
0:14:45	15,33	10,95	0,1095	0,110	33,3	853,5	4319,48	197,60
0:15:00	15,60	11,14	0,1114	0,111	33,6	861,2	4328,86	198,95
0:15:15	15,87	11,34	0,1134	0,113	34,0	871,5	4338,27	200,88
0:15:30	16,13	11,52	0,1152	0,115	34,3	879,2	4347,38	202,23
0:15:45	16,39	11,71	0,1171	0,117	34,6	886,9	4356,52	203,57
0:16:00	16,65	11,89	0,1189	0,119	34,9	894,6	4365,71	204,91
0:16:15	16,92	12,09	0,1209	0,121	35,2	902,2	4375,28	206,21
0:16:30	17,25	12,32	0,1232	0,123	35,5	909,9	4387,05	207,41
0:16:45	17,44	12,46	0,1246	0,125	35,9	920,2	4393,85	209,43
0:17:00	17,70	12,64	0,1264	0,126	36,2	927,9	4403,19	210,73
0:17:15	17,96	12,83	0,1283	0,128	36,5	935,6	4412,57	212,02
0:17:30	18,21	13,01	0,1301	0,130	36,9	945,8	4421,63	213,91
0:17:45	18,48	13,20	0,1320	0,132	37,2	953,5	4431,45	215,17
0:18:00	18,75	13,39	0,1339	0,134	37,6	963,8	4441,32	217,00
0:18:15	19,01	13,58	0,1358	0,136	37,9	971,5	4450,86	218,26
0:18:30	19,27	13,76	0,1376	0,138	38,2	979,1	4460,45	219,52
0:18:45	19,53	13,95	0,1395	0,140	38,6	989,4	4470,08	221,34
0:19:00	19,80	14,14	0,1414	0,141	38,9	997,1	4480,12	222,56
0:19:15	20,06	14,33	0,1433	0,143	39,2	1004,8	4489,83	223,79
0:19:30	20,32	14,51	0,1451	0,145	39,5	1012,5	4499,58	225,01
0:19:45	20,58	14,70	0,1470	0,147	39,8	1020,2	4509,38	226,23
0:20:00	20,84	14,89	0,1489	0,149	40,0	1025,3	4519,22	226,87
0:20:15	21,12	15,09	0,1509	0,151	40,2	1030,4	4529,86	227,47
0:20:30	21,39	15,28	0,1528	0,153	40,6	1040,7	4540,17	229,21
0:20:45	21,64	15,46	0,1546	0,155	40,9	1048,3	4549,76	230,42
0:21:00	21,91	15,65	0,1565	0,157	41,1	1053,5	4560,17	231,02
0:21:15	22,17	15,84	0,1584	0,158	41,3	1058,6	4570,23	231,63
0:21:30	22,44	16,03	0,1603	0,160	41,7	1068,9	4580,72	233,34
0:21:45	22,70	16,21	0,1621	0,162	41,9	1074,0	4590,88	233,94
0:22:00	22,95	16,39	0,1639	0,164	42,2	1081,7	4600,68	235,11
0:22:15	23,23	16,59	0,1659	0,166	42,5	1089,4	4611,72	236,22
0:22:30	23,48	16,77	0,1677	0,168	42,7	1094,5	4621,61	236,82
0:22:45	23,75	16,96	0,1696	0,170	42,9	1099,6	4632,34	237,38
0:23:00	24,00	17,14	0,1714	0,171	43,1	1104,7	4642,33	237,97
0:23:15	24,26	17,33	0,1733	0,173	43,2	1107,3	4652,76	237,99
0:23:30	24,53	17,52	0,1752	0,175	43,6	1117,6	4663,64	239,63
0:23:45	24,80	17,71	0,1771	0,177	43,8	1122,7	4674,57	240,17
0:24:00								
Sketch of					Maximum axial stress		240,17	kPa
					Axial strain at failure		17,71	%
					Unconfined compressive strength q_u		240,17	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils				
Project Name: GC-1128		Location	Imereti Region, Georgia	
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB1-3	
		Sample no:		
Soil description Intermediately plastic silty CLAY		Depth, m	24.15-24.45	
		Date	12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2		
 The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 260) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.20). The data points form a smooth, upward-curving line, indicating a non-linear relationship between stress and strain. The curve starts at the origin (0,0) and reaches approximately 240 mpa at 0.18 mm relative deformation.				
		Operator	Checked	Approved
		T. Jajanidze	T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Job Ref:					
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB1-4	
Soil description		Sample no:			
Clay		Depth, m		12,8-13,0	
		Date		14.07.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	73,0	Mass g	36,2		
Area A_0 , mm ²	4183	Dry mass g	29,90		
Length L_0 , mm	145,0	Moisture content %	21,1		
Volume cm ³	606,57				
Mass g	1275,0				
Density Mg/m ³	2,10				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils										
Job ref:					Location		Imereti Region, Georgia			
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia										
					Borehole		BH-SB1-4			
Soil description					Sample no:					
Clay					Depth, m		12,8-13,0			
					Date		14.07.2011			
Test method			BS 1377 : Part 7 : 1990 : 7.2							
Compression test										
Machine no.		24-9160				Rate of deformation		1	mm/min	
Force device no.		"1155-16-19694"					Mean calibration		25.632	
							N/division		Stress	
									kPa/division	
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force	Corrected area		Axial stress
		ΔL mm	ΔL %	ϵ	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa	
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	4183,27	0,00	
0:00:15		0,11	0,07	0,0007	0,001	1,4	36,4	4186,33	8,70	
0:00:30		0,22	0,15	0,0015	0,002	2,1	54,6	4189,56	13,04	
0:00:45		0,34	0,24	0,0024	0,002	2,5	64,8	4193,14	15,44	
0:01:00		0,48	0,33	0,0033	0,003	3,0	76,9	4197,24	18,32	
0:01:15		0,64	0,44	0,0044	0,004	3,4	87,0	4201,69	20,71	
0:01:30		0,79	0,54	0,0054	0,005	3,8	97,1	4206,16	23,09	
0:01:45		0,93	0,64	0,0064	0,006	4,2	107,2	4210,28	25,47	
0:02:00		1,07	0,74	0,0074	0,007	4,7	119,4	4214,42	28,33	
0:02:15		1,24	0,86	0,0086	0,009	5,0	127,5	4219,42	30,21	
0:02:30		1,39	0,96	0,0096	0,010	5,4	137,6	4223,75	32,58	
0:02:45		1,47	1,02	0,0102	0,010	5,5	141,7	4226,17	33,52	
0:03:00		1,62	1,12	0,0112	0,011	6,0	153,8	4230,51	36,35	
0:03:15		1,73	1,19	0,0119	0,012	6,2	159,9	4233,64	37,76	
0:03:30		1,84	1,27	0,0127	0,013	6,5	165,9	4236,95	39,16	
0:03:45		1,99	1,37	0,0137	0,014	6,9	176,1	4241,49	41,51	
0:04:00		2,14	1,47	0,0147	0,015	7,1	182,1	4245,86	42,89	
0:04:15		2,30	1,58	0,0158	0,016	7,3	188,2	4250,59	44,27	
0:04:30		2,44	1,69	0,0169	0,017	7,8	200,3	4254,98	47,08	
0:04:45		2,60	1,80	0,0180	0,018	8,1	206,4	4259,73	48,45	
0:05:00		2,76	1,90	0,0190	0,019	8,4	216,5	4264,32	50,78	
0:05:15		2,90	2,00	0,0200	0,020	8,8	224,6	4268,73	52,62	
0:05:30		3,04	2,10	0,0210	0,021	9,1	232,7	4272,98	54,46	
0:05:45		3,20	2,21	0,0221	0,022	9,3	238,8	4277,78	55,82	
0:06:00		3,35	2,31	0,0231	0,023	9,6	246,9	4282,22	57,65	
0:06:15		3,51	2,42	0,0242	0,024	10,0	257,0	4287,03	59,95	
0:06:30		3,67	2,53	0,0253	0,025	10,3	265,1	4291,86	61,77	
0:06:45		3,82	2,63	0,0263	0,026	10,7	273,2	4296,33	63,59	
0:07:00		3,95	2,73	0,0273	0,027	11,0	281,3	4300,46	65,41	
0:07:15		4,11	2,83	0,0283	0,028	11,2	287,3	4305,31	66,74	
0:07:30		4,27	2,94	0,0294	0,029	11,5	295,4	4310,18	68,55	
0:07:45		4,41	3,04	0,0304	0,030	11,8	303,5	4314,51	70,35	
0:08:00		4,57	3,15	0,0315	0,032	12,1	309,6	4319,39	71,68	
0:08:15		4,72	3,25	0,0325	0,033	12,4	317,7	4323,93	73,48	
0:08:30		4,89	3,37	0,0337	0,034	12,7	325,8	4329,38	75,25	
0:08:45		5,04	3,47	0,0347	0,035	13,0	333,9	4333,75	77,04	
0:09:00		5,18	3,57	0,0357	0,036	13,3	342,0	4338,31	78,83	
0:09:15		5,35	3,69	0,0369	0,037	13,6	348,1	4343,44	80,13	
0:09:30		5,51	3,80	0,0380	0,038	13,9	356,1	4348,39	81,90	
0:09:45		5,65	3,90	0,0390	0,039	14,1	362,2	4352,98	83,21	
0:10:00		5,80	4,00	0,0400	0,040	14,4	368,3	4357,59	84,52	
0:10:15		5,96	4,11	0,0411	0,041	14,6	374,4	4362,57	85,81	
0:10:30		6,12	4,22	0,0422	0,042	14,8	380,4	4367,75	87,10	
0:10:45		6,28	4,33	0,0433	0,043	15,2	388,5	4372,57	88,86	
0:11:00		6,44	4,44	0,0444	0,044	15,4	394,6	4377,59	90,14	
0:11:15		6,60	4,55	0,0455	0,045	15,6	398,6	4382,62	90,96	
0:11:30		6,75	4,65	0,0465	0,047	15,8	404,7	4387,47	92,24	
0:11:45		6,90	4,76	0,0476	0,048	16,0	410,8	4392,33	93,52	
0:12:00		7,07	4,87	0,0487	0,049	16,3	418,9	4397,58	95,25	
0:12:15		7,21	4,98	0,0498	0,050	16,5	422,9	4402,28	96,07	
0:12:30		7,37	5,08	0,0508	0,051	16,7	429,0	4407,37	97,34	
0:12:45		7,53	5,19	0,0519	0,052	17,0	435,1	4412,28	98,60	

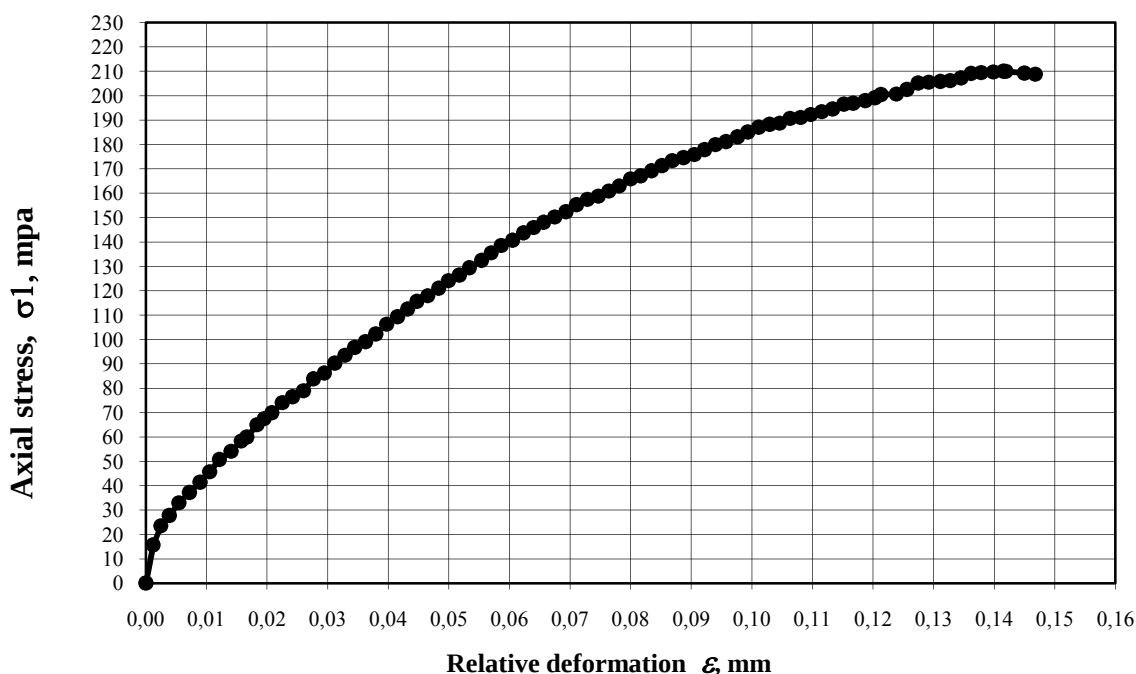
0:13:00	7,67	5,29	0,0529	0,053	17,2	441,1	4417,01	99,87	
0:13:15	7,84	5,41	0,0541	0,054	17,4	445,2	4422,32	100,67	
0:13:30	8,00	5,52	0,0552	0,055	17,5	449,2	4427,45	101,47	
0:13:45	8,14	5,62	0,0562	0,056	17,8	455,3	4432,21	102,73	
0:14:00	8,30	5,73	0,0573	0,057	18,0	461,4	4437,37	103,98	
0:14:15	8,46	5,83	0,0583	0,058	18,2	465,4	4442,34	104,77	
0:14:30	8,63	5,95	0,0595	0,059	18,4	471,5	4447,91	106,00	
0:14:45	8,77	6,05	0,0605	0,061	18,6	477,6	4452,71	107,25	
0:15:00	8,93	6,16	0,0616	0,062	18,9	483,6	4457,92	108,49	
0:15:15	9,09	6,27	0,0627	0,063	19,0	487,7	4463,13	109,27	
0:15:30	9,24	6,37	0,0637	0,064	19,1	489,7	4467,97	109,60	
0:15:45	9,39	6,48	0,0648	0,065	19,3	495,8	4473,02	110,84	
0:16:00	9,55	6,58	0,0658	0,066	19,4	497,8	4478,07	111,16	
0:16:15	9,69	6,68	0,0668	0,067	19,6	501,8	4482,95	111,95	
0:16:30	9,85	6,79	0,0679	0,068	19,7	503,7	4488,22	112,22	
0:16:45	10,01	6,90	0,0690	0,069	19,7	505,5	4493,51	112,49	
0:17:00	10,18	7,02	0,0702	0,070	19,7	503,7	4499,00	111,95	
0:17:15	10,31	7,11	0,0711	0,071	19,7	503,7	4503,53	111,84	
Sketch of						Maximum axial stress		112,49	kPa
						Axial strain at failure		6,9	%
						Unconfined compressive strength q _u		112,49	kPa
Inclination of shear surface						Operator	Checked	Approved	
						T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																					
Job ref:		Location	Imereti Region, Georgia																		
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB1-4																		
Soil description		Sample no:																			
Clay		Depth, m	12,8-13,0																		
		Date	14.07.2011																		
Test method		BS 1377 : Part 7 : 1990 : 7.2																			
 The graph displays the unconfined compression test results for a clay sample. The vertical axis represents Axial stress (σ_1) in MPa, ranging from 0 to 120. The horizontal axis represents Relative deformation (ϵ) in mm, ranging from 0.00 to 0.08. The curve starts at the origin (0,0) and follows a non-linear path, showing an initial linear elastic region followed by a non-linear region where the stress increases more rapidly with deformation. The peak stress is approximately 112 MPa at a relative deformation of 0.07 mm. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation (ϵ, mm)</th> <th>Axial stress (σ_1, mpa)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0</td></tr> <tr><td>0.01</td><td>35</td></tr> <tr><td>0.02</td><td>55</td></tr> <tr><td>0.03</td><td>70</td></tr> <tr><td>0.04</td><td>85</td></tr> <tr><td>0.05</td><td>95</td></tr> <tr><td>0.06</td><td>105</td></tr> <tr><td>0.07</td><td>112</td></tr> </tbody> </table>				Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)	0.00	0	0.01	35	0.02	55	0.03	70	0.04	85	0.05	95	0.06	105	0.07	112
Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)																				
0.00	0																				
0.01	35																				
0.02	55																				
0.03	70																				
0.04	85																				
0.05	95																				
0.06	105																				
0.07	112																				
		Operator	Checked	Approved																	
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																	

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Job Ref:					
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB1-4	
Soil description		Sample no:			
Clay		Depth, m		24,1-24,3	
		Date		14.07.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	75,0	Mass g	46,04		
Area A_0 , mm ²	4416	Dry mass g	37,90		
Length L_0 , mm	150,0	Moisture content %	21,5		
Volume cm ³	662,34				
Mass g	1415,0				
Density Mg/m ³	2,14				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils												
Job ref:					Location		Imereti Region, Georgia					
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia												
					Borehole		BH-SB1-4					
Soil description					Sample no:							
Clay					Depth, m		24,1-24,3					
					Date		14.07.2011					
Test method			BS 1377 : Part 7 : 1990 : 7.2									
Compression test												
Machine no.		24-9160				Rate of deformation		1	mm/min			
Force device no.		"1155-16-19694"				Mean calibration		25.632		Stress		
								N/division		kPa/division		
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain		Force gauge reading	Axial force		Corrected area		Axial stress
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$	P, N		$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa			
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	4415,63		0,00		
0:00:15		0,18	0,12	0,0012	0,001	2,7	69,2	4420,93		15,65		
0:00:30		0,37	0,25	0,0025	0,002	4,1	103,8	4426,54		23,45		
0:00:45		0,58	0,39	0,0039	0,004	4,8	123,0	4432,77		27,76		
0:01:00		0,82	0,55	0,0055	0,005	5,7	146,1	4439,90		32,91		
0:01:15		1,08	0,72	0,0072	0,007	6,5	165,3	4447,65		37,17		
0:01:30		1,34	0,89	0,0089	0,009	7,2	184,6	4455,43		41,42		
0:01:45		1,58	1,05	0,0105	0,011	8,0	203,8	4462,63		45,66		
0:02:00		1,82	1,21	0,0121	0,012	8,9	226,8	4469,86		50,75		
0:02:15		2,11	1,41	0,0141	0,014	9,5	242,2	4478,62		54,08		
0:02:30		2,36	1,57	0,0157	0,016	10,2	261,4	4486,21		58,28		
0:02:45		2,50	1,67	0,0167	0,017	10,5	269,1	4490,47		59,93		
0:03:00		2,75	1,83	0,0183	0,018	11,4	292,2	4498,09		64,96		
0:03:15		2,93	1,95	0,0195	0,020	11,9	303,7	4503,60		67,44		
0:03:30		3,12	2,08	0,0208	0,021	12,3	315,3	4509,42		69,91		
0:03:45		3,38	2,25	0,0225	0,023	13,1	334,5	4517,42		74,05		
0:04:00		3,63	2,42	0,0242	0,024	13,5	346,0	4525,13		76,47		
0:04:15		3,90	2,60	0,0260	0,026	14,0	357,6	4533,50		78,87		
0:04:30		4,15	2,77	0,0277	0,028	14,9	380,6	4541,27		83,82		
0:04:45		4,42	2,95	0,0295	0,029	15,3	392,2	4549,69		86,20		
0:05:00		4,68	3,12	0,0312	0,031	16,1	411,4	4557,83		90,26		
0:05:15		4,93	3,29	0,0329	0,033	16,7	426,8	4565,68		93,47		
0:05:30		5,17	3,45	0,0345	0,034	17,3	442,2	4573,25		96,68		
0:05:45		5,44	3,63	0,0363	0,036	17,7	453,7	4581,79		99,02		
0:06:00		5,69	3,79	0,0379	0,038	18,3	469,1	4589,73		102,20		
0:06:15		5,96	3,97	0,0397	0,040	19,1	488,3	4598,33		106,19		
0:06:30		6,23	4,15	0,0415	0,042	19,7	503,7	4606,97		109,33		
0:06:45		6,48	4,32	0,0432	0,043	20,3	519,0	4614,99		112,47		
0:07:00		6,71	4,47	0,0447	0,045	20,9	534,4	4622,40		115,62		
0:07:15		6,98	4,65	0,0465	0,047	21,3	546,0	4631,13		117,89		
0:07:30		7,25	4,83	0,0483	0,048	21,9	561,3	4639,89		120,98		
0:07:45		7,49	4,99	0,0499	0,050	22,5	576,7	4647,70		124,09		
0:08:00		7,76	5,17	0,0517	0,052	23,0	588,3	4656,52		126,33		
0:08:15		8,01	5,34	0,0534	0,053	23,6	603,6	4664,72		129,40		
0:08:30		8,31	5,54	0,0554	0,055	24,2	619,0	4674,60		132,42		
0:08:45		8,55	5,70	0,0570	0,057	24,8	634,4	4682,53		135,48		
0:09:00		8,80	5,87	0,0587	0,059	25,4	649,8	4690,82		138,52		
0:09:15		9,08	6,05	0,0605	0,061	25,8	661,3	4700,14		140,70		
0:09:30		9,35	6,23	0,0623	0,062	26,4	676,7	4709,16		143,70		
0:09:45		9,60	6,40	0,0640	0,064	26,9	688,2	4717,55		145,88		
0:10:00		9,85	6,57	0,0657	0,066	27,3	699,8	4725,96		148,07		
0:10:15		10,12	6,75	0,0675	0,067	27,8	711,3	4735,09		150,22		
0:10:30		10,40	6,93	0,0693	0,069	28,2	722,8	4744,58		152,35		
0:10:45		10,66	7,11	0,0711	0,071	28,8	738,2	4753,44		155,30		
0:11:00		10,93	7,29	0,0729	0,073	29,3	749,7	4762,66		157,42		
0:11:15		11,20	7,47	0,0747	0,075	29,6	757,4	4771,93		158,73		
0:11:30		11,46	7,64	0,0764	0,076	30,0	769,0	4780,88		160,84		
0:11:45		11,72	7,81	0,0781	0,078	30,5	780,5	4789,87		162,95		
0:12:00		12,00	8,00	0,0800	0,080	31,1	795,9	4799,59		165,82		
0:12:15		12,25	8,17	0,0817	0,082	31,4	803,6	4808,30		167,12		
0:12:30		12,52	8,35	0,0835	0,083	31,8	815,1	4817,75		169,19		
0:12:45		12,78	8,52	0,0852	0,085	32,3	826,6	4826,87		171,26		

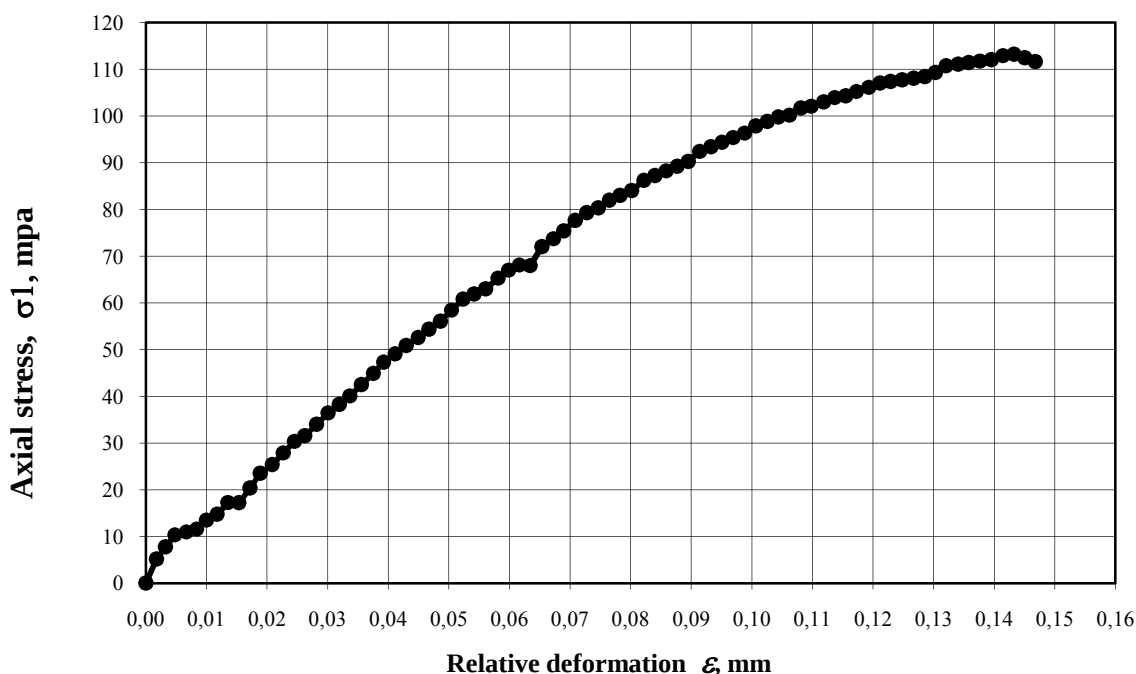
0:13:00	13,03	8,69	0,0869	0,087	32,7	838,2	4835,68	173,33
0:13:15	13,31	8,87	0,0887	0,089	33,0	845,9	4845,59	174,56
0:13:30	13,58	9,05	0,0905	0,091	33,3	853,5	4855,18	175,80
0:13:45	13,83	9,22	0,0922	0,092	33,8	865,1	4864,09	177,85
0:14:00	14,10	9,40	0,0940	0,094	34,2	876,6	4873,76	179,86
0:14:15	14,36	9,57	0,0957	0,096	34,5	884,3	4883,10	181,09
0:14:30	14,65	9,77	0,0977	0,098	35,0	895,8	4893,56	183,06
0:14:45	14,90	9,93	0,0993	0,099	35,4	907,4	4902,62	185,08
0:15:00	15,17	10,11	0,1011	0,101	35,9	918,9	4912,44	187,06
0:15:15	15,44	10,29	0,1029	0,103	36,2	926,6	4922,29	188,24
0:15:30	15,69	10,46	0,1046	0,105	36,3	930,4	4931,46	188,67
0:15:45	15,95	10,63	0,1063	0,106	36,8	942,0	4941,02	190,64
0:16:00	16,21	10,81	0,1081	0,108	36,9	945,8	4950,62	191,05
0:16:15	16,46	10,97	0,1097	0,110	37,2	953,5	4959,89	192,24
0:16:30	16,73	11,15	0,1115	0,112	37,5	961,2	4969,94	193,40
0:16:45	17,00	11,33	0,1133	0,113	37,8	968,9	4980,03	194,56
0:17:00	17,28	11,52	0,1152	0,115	38,3	980,4	4990,53	196,46
0:17:15	17,51	11,67	0,1167	0,117	38,4	984,3	4999,20	196,89
0:17:30	17,81	11,87	0,1187	0,119	38,7	992,0	5010,54	197,97
0:17:45	18,05	12,03	0,1203	0,120	39,0	999,6	5019,66	199,15
0:18:00	18,20	12,13	0,1213	0,121	39,3	1007,3	5025,37	200,45
0:18:15	18,58	12,39	0,1239	0,124	39,5	1011,2	5039,90	200,64
0:18:30	18,84	12,56	0,1256	0,126	39,9	1022,7	5049,89	202,52
0:18:45	19,12	12,75	0,1275	0,127	40,5	1038,1	5060,69	205,13
0:19:00	19,38	12,92	0,1292	0,129	40,7	1041,9	5070,77	205,48
0:19:15	19,67	13,11	0,1311	0,131	40,8	1045,8	5082,05	205,78
0:19:30	19,91	13,27	0,1327	0,133	41,0	1049,6	5091,43	206,16
0:19:45	20,18	13,45	0,1345	0,135	41,3	1057,3	5102,02	207,24
0:20:00	20,43	13,62	0,1362	0,136	41,7	1068,9	5111,86	209,09
0:20:15	20,68	13,79	0,1379	0,138	41,9	1072,7	5121,74	209,44
0:20:30	20,98	13,99	0,1399	0,140	42,0	1076,5	5133,65	209,70
0:20:45	21,23	14,15	0,1415	0,142	42,2	1080,4	5143,62	210,04
0:21:00	21,29	14,19	0,1419	0,142	42,2	1080,4	5146,02	209,95
0:21:15	21,75	14,50	0,1450	0,145	42,2	1080,4	5164,47	209,20
0:21:30	22,02	14,68	0,1468	0,147	42,2	1080,4	5175,37	208,76
Sketch of					Maximum axial stress		210,04	kPa
					Axial strain at failure		14,15	%
					Unconfined compressive strength q_u		210,04	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils			
Job ref:		Location	Imereti Region, Georgia
Geotechnical Investigation for Zestafoni-New Kutaisi Bypass Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB1-4
Soil description		Sample no:	
Clay		Depth, m	24,1-24,3
		Date	14.07.2011
Test method		BS 1377 : Part 7 : 1990 : 7.2	
 The graph displays the unconfined compression test results for a clay sample. The vertical axis represents Axial stress (σ_1) in MPa, ranging from 0 to 230. The horizontal axis represents Relative deformation (ϵ) in mm, ranging from 0.00 to 0.16. The data points form a smooth, non-linear curve that starts at the origin (0,0) and reaches a peak stress of approximately 210 MPa at a relative deformation of about 0.14 mm. The curve then slightly decreases, indicating a post-peak behavior.			
		Operator	Checked
		T. Jajanidze	T. Gorgidze
		Approved	
		R. Kavelashvili	

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB2-1	
Soil description		Sample no:			
Low plastic silty sandy CLAY		Depth, m		21,1-22,5	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	71,0	Mass g	32,46		
Area A_0 , mm ²	3957	Dry mass g	26,20		
Length L_0 , mm	142,0	Moisture content %	23,9		
Volume cm ³	561,92				
Mass g	1135				
Density Mg/m ³	2,02				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils													
Project Name: GC-1128					Location		Imereti Region, Georgia						
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia													
Soil description					Borehole		BH-SB2-1						
					Sample no:								
					Depth, m		21,1-22,5						
Low plastic silty sandy CLAY					Date		12.08.2011						
Test method				BS 1377 : Part 7 : 1990 : 7.2									
Compression test													
Machine no.		24-9160					Rate of deformation		1	mm/min			
Force device no.		"1155-16-19694"					Mean calibration		25,632		Stress		
									N/division		kPa/division		
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force	Corrected area		Axial stress			
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa				
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	3957,19		0,00			
0:00:15		0,25	0,18	0,0018	0,002	0,8	20,5	3964,16		5,17			
0:00:30		0,46	0,32	0,0032	0,003	1,2	30,8	3970,05		7,75			
0:00:45		0,68	0,48	0,0048	0,005	1,6	41,0	3976,23		10,31			
0:01:00		0,95	0,67	0,0067	0,007	1,7	43,6	3983,84		10,94			
0:01:15		1,19	0,84	0,0084	0,008	1,8	46,1	3990,63		11,56			
0:01:30		1,42	1,00	0,0100	0,010	2,1	53,8	3997,16		13,47			
0:01:45		1,67	1,18	0,0118	0,012	2,3	59,0	4004,28		14,72			
0:02:00		1,92	1,35	0,0135	0,014	2,7	69,2	4011,42		17,25			
0:02:15		2,18	1,54	0,0154	0,015	2,7	69,2	4018,88		17,22			
0:02:30		2,44	1,72	0,0172	0,017	3,2	82,0	4026,37		20,37			
0:02:45		2,68	1,89	0,0189	0,019	3,7	94,8	4033,31		23,51			
0:03:00		2,96	2,08	0,0208	0,021	4,0	102,5	4041,43		25,37			
0:03:15		3,22	2,27	0,0227	0,023	4,4	112,8	4049,00		27,85			
0:03:30		3,48	2,45	0,0245	0,025	4,8	123,0	4056,60		30,33			
0:03:45		3,72	2,62	0,0262	0,026	5,0	128,2	4063,64		31,54			
0:04:00		4,00	2,82	0,0282	0,028	5,4	138,4	4071,89		33,99			
0:04:15		4,27	3,01	0,0301	0,030	5,8	148,7	4079,87		36,44			
0:04:30		4,53	3,19	0,0319	0,032	6,1	156,4	4087,58		38,25			
0:04:45		4,78	3,37	0,0337	0,034	6,4	164,0	4095,03		40,06			
0:05:00		5,05	3,56	0,0356	0,036	6,8	174,3	4103,11		42,48			
0:05:15		5,33	3,75	0,0375	0,038	7,2	184,6	4111,51		44,89			
0:05:30		5,57	3,92	0,0392	0,039	7,6	194,8	4118,74		47,30			
0:05:45		5,84	4,11	0,0411	0,041	7,9	202,5	4126,91		49,07			
0:06:00		6,10	4,30	0,0430	0,043	8,2	210,2	4134,81		50,83			
0:06:15		6,38	4,49	0,0449	0,045	8,5	217,9	4143,34		52,58			
0:06:30		6,63	4,67	0,0467	0,047	8,8	225,6	4151,00		54,34			
0:06:45		6,90	4,86	0,0486	0,049	9,1	233,3	4159,29		56,08			
0:07:00		7,16	5,04	0,0504	0,050	9,5	243,5	4167,31		58,43			
0:07:15		7,43	5,23	0,0523	0,052	9,9	253,8	4175,67		60,77			
0:07:30		7,69	5,42	0,0542	0,054	10,1	258,9	4183,76		61,88			
0:07:45		7,96	5,61	0,0561	0,056	10,3	264,0	4192,18		62,98			
0:08:00		8,25	5,81	0,0581	0,058	10,7	274,3	4201,27		65,28			
0:08:15		8,50	5,99	0,0599	0,060	11,0	282,0	4209,14		66,99			
0:08:30		8,75	6,16	0,0616	0,062	11,2	287,1	4217,04		68,08			
0:08:45		9,00	6,34	0,0634	0,063	11,2	287,1	4224,96		67,95			
0:09:00		9,28	6,54	0,0654	0,065	11,9	305,0	4233,88		72,04			
0:09:15		9,55	6,73	0,0673	0,067	12,2	312,7	4242,51		73,71			
0:09:30		9,79	6,89	0,0689	0,069	12,5	320,4	4250,21		75,38			
0:09:45		10,06	7,08	0,0708	0,071	12,9	330,7	4258,91		77,64			
0:10:00		10,33	7,27	0,0727	0,073	13,2	338,3	4267,64		79,28			
0:10:15		10,60	7,46	0,0746	0,075	13,4	343,5	4276,41		80,32			
0:10:30		10,86	7,65	0,0765	0,076	13,7	351,2	4284,89		81,95			
0:10:45		11,11	7,82	0,0782	0,078	13,9	356,3	4293,07		82,99			
0:11:00		11,38	8,01	0,0801	0,080	14,1	361,4	4301,95		84,01			
0:11:15		11,67	8,22	0,0822	0,082	14,5	371,7	4311,52		86,20			
0:11:30		11,93	8,40	0,0840	0,084	14,7	376,8	4320,14		87,22			
0:11:45		12,19	8,58	0,0858	0,086	14,9	381,9	4328,79		88,23			
0:12:00		12,45	8,77	0,0877	0,088	15,1	387,0	4337,48		89,23			
0:12:15		12,71	8,95	0,0895	0,090	15,3	392,2	4346,20		90,23			
0:12:30		12,98	9,14	0,0914	0,091	15,7	402,4	4355,30		92,40			
0:12:45		13,24	9,32	0,0932	0,093	15,9	407,5	4364,09		93,39			

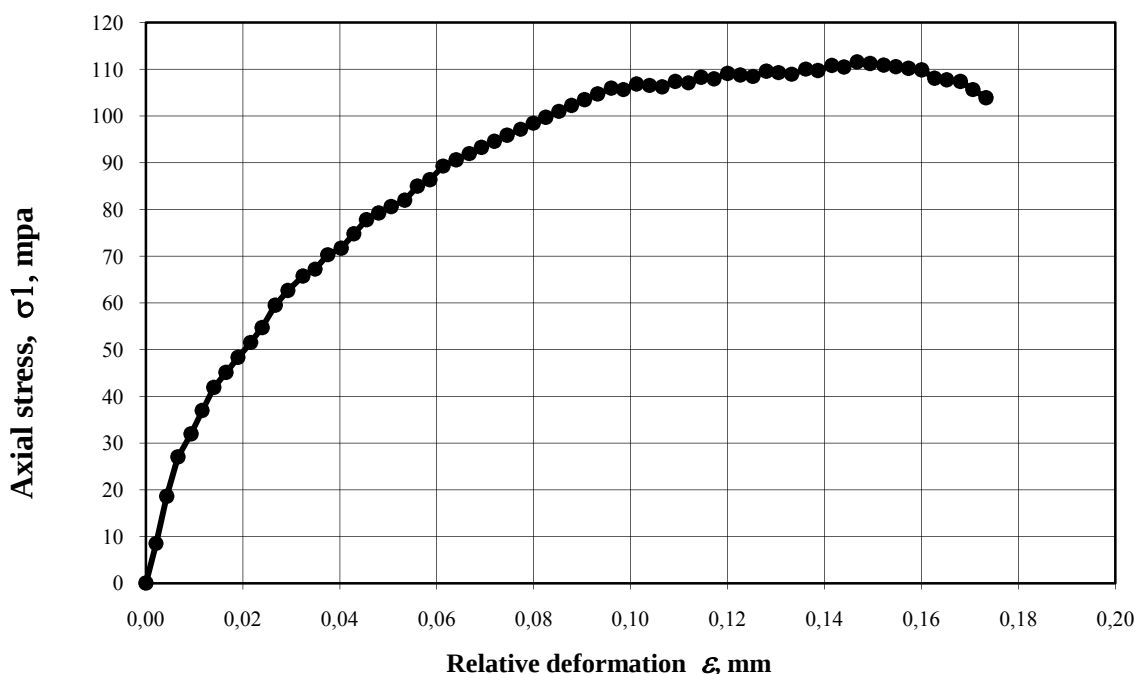
0:13:00	13,50	9,51	0,0951	0,095	16,1	412,7	4372,92	94,37	
0:13:15	13,76	9,69	0,0969	0,097	16,3	417,8	4381,79	95,35	
0:13:30	14,03	9,88	0,0988	0,099	16,5	422,9	4391,03	96,32	
0:13:45	14,29	10,06	0,1006	0,101	16,8	430,6	4399,97	97,87	
0:14:00	14,56	10,25	0,1025	0,103	17,0	435,7	4409,29	98,82	
0:14:15	14,82	10,44	0,1044	0,104	17,2	440,9	4418,31	99,78	
0:14:30	15,08	10,62	0,1062	0,106	17,3	443,4	4427,36	100,16	
0:14:45	15,35	10,81	0,1081	0,108	17,6	451,1	4436,80	101,68	
0:15:00	15,59	10,98	0,1098	0,110	17,7	453,7	4445,22	102,06	
0:15:15	15,88	11,18	0,1118	0,112	17,9	458,8	4455,44	102,98	
0:15:30	16,14	11,37	0,1137	0,114	18,1	463,9	4464,65	103,91	
0:15:45	16,40	11,55	0,1155	0,115	18,2	466,5	4473,89	104,27	
0:16:00	16,65	11,73	0,1173	0,117	18,4	471,6	4482,81	105,21	
0:16:15	16,94	11,93	0,1193	0,119	18,6	476,8	4493,21	106,11	
0:16:30	17,20	12,11	0,1211	0,121	18,8	481,9	4502,57	107,02	
0:16:45	17,45	12,29	0,1229	0,123	18,9	484,4	4511,60	107,38	
0:17:00	17,72	12,48	0,1248	0,125	19,0	487,0	4521,41	107,71	
0:17:15	17,99	12,67	0,1267	0,127	19,1	489,6	4531,25	108,04	
0:17:30	18,25	12,85	0,1285	0,129	19,2	492,1	4540,77	108,38	
0:17:45	18,50	13,03	0,1303	0,130	19,4	497,3	4549,96	109,29	
0:18:00	18,75	13,20	0,1320	0,132	19,7	505,0	4559,19	110,75	
0:18:15	19,03	13,40	0,1340	0,134	19,8	507,5	4569,57	111,06	
0:18:30	19,28	13,58	0,1358	0,136	19,9	510,1	4578,88	111,40	
0:18:45	19,54	13,76	0,1376	0,138	20,0	512,6	4588,60	111,72	
0:19:00	19,81	13,95	0,1395	0,140	20,1	515,2	4598,74	112,03	
0:19:15	20,08	14,14	0,1414	0,141	20,3	520,3	4608,93	112,90	
0:19:30	20,34	14,32	0,1432	0,143	20,4	522,9	4618,78	113,21	
0:19:45	20,59	14,50	0,1450	0,145	20,3	520,3	4628,29	112,42	
0:20:00	20,84	14,68	0,1468	0,147	20,2	517,8	4637,84	111,64	
Sketch of						Maximum axial stress		113,21	kPa
						Axial strain at failure		14,32	%
						Unconfined compressive strength q _u		113,21	kPa
Inclination of shear surface						Operator	Checked	Approved	
						T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils			
Project Name: GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB2-1
Soil description		Sample no:	
Low plastic silty sandy CLAY		Depth, m	21,1-22,5
		Date	12.08.2011
Test method		BS 1377 : Part 7 : 1990 : 7.2	
 The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 120) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.16). The data points form a smooth, upward-sloping curve that begins to level off as the deformation increases beyond 0.12 mm.			
		Operator	Checked
		T. Jajanidze	T. Gorgidze
		Approved	
		R. Kavelashvili	

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB3-1	
Soil description		Sample no:			
Low plastic silty sandy CLAY		Depth, m		28,3-28,5	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	50,0	Mass g	51,2		
Area A_0 , mm ²	1963	Dry mass g	41,13		
Length L_0 , mm	100,0	Moisture content %	24,5		
Volume cm ³	196,25				
Mass g	390				
Density Mg/m ³	1,99				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils											
Project Name: GC-1128					Location		Imereti Region, Georgia				
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia											
Soil description					Borehole		BH-SB3-1				
Low plastic silty sandy CLAY					Sample no:						
					Depth, m		28,3-28,5				
					Date		12.08.2011				
Test method			BS 1377 : Part 7 : 1990 : 7.2								
Compression test											
Machine no.		24-9160				Rate of deformation		1	mm/min		
Force device no.		"1155-16-19694"				Mean calibration		25,632		Stress	
								N/division		kPa/division	
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force	Corrected area		Axial stress	
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa		
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	1962,50		0,00	
0:00:15		0,21	0,21	0,0021	0,002	0,7	16,7	1966,63		8,47	
0:00:30		0,43	0,43	0,0043	0,004	1,4	36,7	1970,98		18,60	
0:00:45		0,66	0,66	0,0066	0,007	2,1	53,3	1975,54		26,99	
0:01:00		0,93	0,93	0,0093	0,009	2,5	63,3	1980,92		31,96	
0:01:15		1,16	1,16	0,0116	0,012	2,9	73,3	1985,53		36,92	
0:01:30		1,40	1,40	0,0140	0,014	3,3	83,3	1990,37		41,85	
0:01:45		1,65	1,65	0,0165	0,017	3,5	90,0	1995,42		45,09	
0:02:00		1,90	1,90	0,0190	0,019	3,8	96,6	2000,51		48,30	
0:02:15		2,16	2,16	0,0216	0,022	4,0	103,3	2005,83		51,50	
0:02:30		2,40	2,40	0,0240	0,024	4,3	110,0	2010,76		54,69	
0:02:45		2,67	2,67	0,0267	0,027	4,7	120,0	2016,34		59,49	
0:03:00		2,93	2,93	0,0293	0,029	4,9	126,6	2021,74		62,63	
0:03:15		3,24	3,24	0,0324	0,032	5,2	133,3	2028,21		65,72	
0:03:30		3,49	3,49	0,0349	0,035	5,3	136,6	2033,47		67,19	
0:03:45		3,75	3,75	0,0375	0,038	5,6	143,3	2038,96		70,27	
0:04:00		4,03	4,03	0,0403	0,040	5,7	146,6	2044,91		71,70	
0:04:15		4,29	4,29	0,0429	0,043	6,0	153,3	2050,46		74,75	
0:04:30		4,55	4,55	0,0455	0,046	6,2	159,9	2056,05		77,79	
0:04:45		4,80	4,80	0,0480	0,048	6,4	163,3	2061,45		79,20	
0:05:00		5,06	5,06	0,0506	0,051	6,5	166,6	2067,10		80,60	
0:05:15		5,34	5,34	0,0534	0,053	6,6	169,9	2073,21		81,97	
0:05:30		5,60	5,60	0,0560	0,056	6,9	176,6	2078,92		84,95	
0:05:45		5,86	5,86	0,0586	0,059	7,0	179,9	2084,66		86,31	
0:06:00		6,13	6,13	0,0613	0,061	7,3	186,6	2090,66		89,25	
0:06:15		6,40	6,40	0,0640	0,064	7,4	189,9	2096,69		90,59	
0:06:30		6,67	6,67	0,0667	0,067	7,5	193,3	2102,75		91,91	
0:06:45		6,92	6,92	0,0692	0,069	7,7	196,6	2108,40		93,24	
0:07:00		7,19	7,19	0,0719	0,072	7,8	199,9	2114,54		94,55	
0:07:15		7,45	7,45	0,0745	0,075	7,9	203,3	2120,48		95,86	
0:07:30		7,73	7,73	0,0773	0,077	8,1	206,6	2126,91		97,13	
0:07:45		7,99	7,99	0,0799	0,080	8,2	209,9	2132,92		98,42	
0:08:00		8,25	8,25	0,0825	0,083	8,3	213,3	2138,96		99,70	
0:08:15		8,52	8,52	0,0852	0,085	8,5	216,6	2145,28		100,96	
0:08:30		8,78	8,78	0,0878	0,088	8,6	219,9	2151,39		102,22	
0:08:45		9,05	9,05	0,0905	0,091	8,7	223,3	2157,78		103,47	
0:09:00		9,32	9,32	0,0932	0,093	8,8	226,6	2164,20		104,70	
0:09:15		9,60	9,60	0,0960	0,096	9,0	229,9	2170,91		105,91	
0:09:30		9,85	9,85	0,0985	0,099	9,0	229,9	2176,93		105,62	
0:09:45		10,12	10,12	0,1012	0,101	9,1	233,3	2183,47		106,83	
0:10:00		10,39	10,39	0,1039	0,104	9,1	233,3	2190,05		106,51	
0:10:15		10,65	10,65	0,1065	0,107	9,1	233,3	2196,42		106,20	
0:10:30		10,92	10,92	0,1092	0,109	9,2	236,6	2203,08		107,39	
0:10:45		11,19	11,19	0,1119	0,112	9,2	236,6	2209,77		107,06	
0:11:00		11,45	11,45	0,1145	0,115	9,4	239,9	2216,26		108,25	
0:11:15		11,72	11,72	0,1172	0,117	9,4	239,9	2223,04		107,92	
0:11:30		12,00	12,00	0,1200	0,120	9,5	243,2	2230,11		109,07	
0:11:45		12,26	12,26	0,1226	0,123	9,5	243,2	2236,72		108,75	
0:12:00		12,52	12,52	0,1252	0,125	9,5	243,2	2243,37		108,43	
0:12:15		12,80	12,80	0,1280	0,128	9,6	246,6	2250,57		109,56	
0:12:30		13,05	13,05	0,1305	0,131	9,6	246,6	2257,04		109,25	
0:12:45		13,32	13,32	0,1332	0,133	9,6	246,6	2264,07		108,91	

0:13:00	13,61	13,61	0,1361	0,136	9,8	249,9	2271,67	110,01
0:13:15	13,86	13,86	0,1386	0,139	9,8	249,9	2278,27	109,69
0:13:30	14,15	14,15	0,1415	0,142	9,9	253,2	2285,96	110,78
0:13:45	14,40	14,40	0,1440	0,144	9,9	253,2	2292,64	110,46
0:14:00	14,67	14,67	0,1467	0,147	10,0	256,6	2299,89	111,56
0:14:15	14,94	14,94	0,1494	0,149	10,0	256,6	2307,19	111,21
0:14:30	15,22	15,22	0,1522	0,152	10,0	256,6	2314,81	110,84
0:14:45	15,47	15,47	0,1547	0,155	10,0	256,6	2321,66	110,51
0:15:00	15,73	15,73	0,1573	0,157	10,0	256,6	2328,82	110,17
0:15:15	16,00	16,00	0,1600	0,160	10,0	256,6	2336,31	109,82
0:15:30	16,27	16,27	0,1627	0,163	9,9	253,2	2343,84	108,05
0:15:45	16,52	16,52	0,1652	0,165	9,9	253,2	2350,86	107,72
0:16:00	16,80	16,80	0,1680	0,168	9,9	253,2	2358,77	107,36
0:16:15	17,06	17,06	0,1706	0,171	9,8	249,9	2366,17	105,62
0:16:30	17,33	17,33	0,1733	0,173	9,6	246,6	2373,90	103,87
Sketch of					Maximum axial stress		111,56	kPa
					Axial strain at failure		14,67	%
					Unconfined compressive strength q_u		111,56	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																															
Project Name: GC-1128		Location	Imereti Region, Georgia																												
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB3-1																												
		Sample no:																													
Soil description Low plastic silty sandy CLAY		Depth, m	28,3-28,5																												
		Date	12.08.2011																												
Test method		BS 1377 : Part 7 : 1990 : 7.2																													
 The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 120) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.20). The data points form a smooth curve that starts at the origin, rises steeply to about 60 mpa at 0.02 mm deformation, then continues to rise more gradually to a peak of approximately 110 mpa at 0.14 mm deformation, before slightly declining. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation ϵ (mm)</th> <th>Axial stress σ_1 (mpa)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0</td></tr> <tr><td>0.01</td><td>25</td></tr> <tr><td>0.02</td><td>50</td></tr> <tr><td>0.03</td><td>65</td></tr> <tr><td>0.04</td><td>75</td></tr> <tr><td>0.05</td><td>85</td></tr> <tr><td>0.06</td><td>90</td></tr> <tr><td>0.08</td><td>100</td></tr> <tr><td>0.10</td><td>105</td></tr> <tr><td>0.12</td><td>108</td></tr> <tr><td>0.14</td><td>110</td></tr> <tr><td>0.16</td><td>108</td></tr> <tr><td>0.18</td><td>105</td></tr> </tbody> </table>				Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)	0.00	0	0.01	25	0.02	50	0.03	65	0.04	75	0.05	85	0.06	90	0.08	100	0.10	105	0.12	108	0.14	110	0.16	108	0.18	105
Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)																														
0.00	0																														
0.01	25																														
0.02	50																														
0.03	65																														
0.04	75																														
0.05	85																														
0.06	90																														
0.08	100																														
0.10	105																														
0.12	108																														
0.14	110																														
0.16	108																														
0.18	105																														
		Operator	Checked	Approved																											
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																											

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB4-1	
Soil description		Sample no:			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		25,3-25,5	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	74,0	Mass g	62,1		
Area A_0 , mm ²	4299	Dry mass g	49,10		
Lengt L_0 , mm	148,0	Moisture content %	26,5		
Volume cm ³	636,20				
Mass g	1222				
Density Mg/m ³	1,92				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils													
Project Name: GC-1128					Location		Imereti Region, Georgia						
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia													
Soil description					Borehole		BH-SB4-1						
					Sample no:								
					Depth, m		25,3-25,5						
Intermediately plastic silty sandy CLAY with a little rounded gravel content					Date		12.08.2011						
Test method				BS 1377 : Part 7 : 1990 : 7.2									
Compression test													
Machine no.		24-9160					Rate of deformation		1	mm/min			
Force device no.		"1155-16-19694"					Mean calibration		25.632		Stress		
									N/division		kPa/division		
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain		Force gauge reading	Axial force		Corrected area		Axial stress	
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$	P, N		$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa				
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	4298,66	0,00				
0:00:15		0,10	0,07	0,0007	0,001	2,5	64,1	4301,57	14,90				
0:00:30		0,27	0,18	0,0018	0,002	5,4	137,3	4306,52	31,89				
0:00:45		0,48	0,32	0,0032	0,003	8,1	206,9	4312,65	47,97				
0:01:00		0,71	0,48	0,0048	0,005	12,1	309,4	4319,38	71,63				
0:01:15		0,95	0,64	0,0064	0,006	17,2	441,2	4326,43	101,99				
0:01:30		1,21	0,82	0,0082	0,008	20,2	518,1	4334,09	119,55				
0:01:45		1,46	0,99	0,0099	0,010	22,9	585,9	4341,49	134,95				
0:02:00		1,71	1,16	0,0116	0,012	25,2	646,3	4348,91	148,61				
0:02:15		1,98	1,34	0,0134	0,013	27,1	695,7	4356,95	159,68				
0:02:30		2,28	1,54	0,0154	0,015	28,6	732,3	4365,92	167,74				
0:02:45		2,57	1,74	0,0174	0,017	31,4	805,6	4374,62	184,15				
0:03:00		2,78	1,88	0,0188	0,019	32,8	840,4	4380,95	191,82				
0:03:15		2,97	2,01	0,0201	0,020	33,6	860,5	4386,69	196,16				
0:03:30		3,24	2,19	0,0219	0,022	34,9	895,3	4394,87	203,71				
0:03:45		3,49	2,36	0,0236	0,024	35,8	917,3	4402,48	208,35				
0:04:00		3,71	2,51	0,0251	0,025	37,1	950,2	4409,19	215,51				
0:04:15		3,99	2,70	0,0270	0,027	37,8	968,5	4417,76	219,23				
0:04:30		4,24	2,86	0,0286	0,029	38,6	988,7	4425,44	223,40				
0:04:45		4,49	3,03	0,0303	0,030	39,4	1010,6	4433,15	227,97				
0:05:00		4,74	3,20	0,0320	0,032	39,5	1012,5	4440,89	227,99				
0:05:15		5,03	3,40	0,0340	0,034	39,9	1021,6	4449,90	229,58				
0:05:30		5,27	3,56	0,0356	0,036	42,1	1078,4	4457,38	241,93				
0:05:45		5,53	3,74	0,0374	0,037	42,5	1089,4	4465,51	243,95				
0:06:00		5,78	3,91	0,0391	0,039	43,4	1113,2	4473,36	248,84				
0:06:15		6,05	4,09	0,0409	0,041	43,7	1120,5	4481,87	250,00				
0:06:30		6,32	4,27	0,0427	0,043	44,4	1137,0	4490,41	253,20				
0:06:45		6,57	4,44	0,0444	0,044	44,9	1151,6	4498,35	256,01				
0:07:00		6,83	4,61	0,0461	0,046	45,6	1168,1	4506,64	259,19				
0:07:15		7,08	4,78	0,0478	0,048	45,7	1171,7	4514,63	259,54				
0:07:30		7,36	4,97	0,0497	0,050	46,4	1188,2	4523,62	262,67				
0:07:45		7,61	5,14	0,0514	0,051	47,0	1204,7	4531,67	265,84				
0:08:00		7,89	5,33	0,0533	0,053	47,2	1210,2	4540,73	266,52				
0:08:15		8,15	5,51	0,0551	0,055	48,3	1237,7	4549,17	272,06				
0:08:30		8,42	5,69	0,0569	0,057	47,9	1228,5	4557,97	269,53				
0:08:45		8,69	5,87	0,0587	0,059	48,5	1243,2	4566,81	272,21				
0:09:00		8,93	6,03	0,0603	0,060	48,6	1246,8	4574,69	272,55				
0:09:15		9,22	6,23	0,0623	0,062	48,6	1246,8	4584,25	271,98				
0:09:30		9,46	6,39	0,0639	0,064	49,1	1257,8	4592,19	273,90				
0:09:45		9,73	6,57	0,0657	0,066	49,2	1261,5	4601,15	274,16				
0:10:00		9,98	6,74	0,0674	0,067	49,5	1268,8	4609,49	275,25				
0:10:15		10,25	6,93	0,0693	0,069	49,6	1272,4	4618,52	275,51				
0:10:30		10,51	7,10	0,0710	0,071	49,9	1279,8	4627,26	276,57				
0:10:45		10,78	7,28	0,0728	0,073	49,9	1279,8	4636,36	276,03				
0:11:00		11,05	7,47	0,0747	0,075	50,0	1281,6	4645,50	275,88				
0:11:15		11,31	7,64	0,0764	0,076	50,1	1283,4	4654,34	275,75				
0:11:30		11,57	7,82	0,0782	0,078	50,1	1285,3	4663,21	275,62				
0:11:45		11,84	8,00	0,0800	0,080	50,1	1285,3	4672,46	275,07				
0:12:00		12,10	8,18	0,0818	0,082	50,1	1283,4	4681,40	274,16				
0:12:15		12,37	8,36	0,0836	0,084	50,1	1283,4	4690,72	273,61				
0:12:30		12,61	8,52	0,0852	0,085	50,0	1281,6	4699,03	272,74				
							Maximum axial stress		276.57	kPa			

Sketch of	Maximum shear stress		MPa	MPa
	Axial strain at failure		7,10	%
Inclination of shear surface	Unconfined compressive strength q_u		276,57	kPa
	Operator	Checked	Approved	
	T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																																									
Project Name: GC-1128		Location	Imereti Region, Georgia																																						
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB4-1																																						
		Sample no:																																							
Soil description Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m	25,3-25,5																																						
		Date	12.08.2011																																						
Test method		BS 1377 : Part 7 : 1990 : 7.2																																							
The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 300) against Relative deformation (ϵ, mm) on the x-axis (0,00 to 0,09). The data points show a non-linear relationship, starting at the origin and reaching a peak stress of about 275 mpa at a deformation of 0,055 mm, after which the stress slightly decreases to approximately 270 mpa at 0,085 mm deformation. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation ϵ (mm)</th> <th>Axial stress σ_1 (mpa)</th> </tr> </thead> <tbody> <tr><td>0,00</td><td>0</td></tr> <tr><td>0,005</td><td>100</td></tr> <tr><td>0,010</td><td>140</td></tr> <tr><td>0,015</td><td>170</td></tr> <tr><td>0,020</td><td>190</td></tr> <tr><td>0,025</td><td>210</td></tr> <tr><td>0,030</td><td>225</td></tr> <tr><td>0,035</td><td>235</td></tr> <tr><td>0,040</td><td>245</td></tr> <tr><td>0,045</td><td>255</td></tr> <tr><td>0,050</td><td>265</td></tr> <tr><td>0,055</td><td>275</td></tr> <tr><td>0,060</td><td>270</td></tr> <tr><td>0,065</td><td>272</td></tr> <tr><td>0,070</td><td>275</td></tr> <tr><td>0,075</td><td>275</td></tr> <tr><td>0,080</td><td>275</td></tr> <tr><td>0,085</td><td>270</td></tr> </tbody> </table>				Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)	0,00	0	0,005	100	0,010	140	0,015	170	0,020	190	0,025	210	0,030	225	0,035	235	0,040	245	0,045	255	0,050	265	0,055	275	0,060	270	0,065	272	0,070	275	0,075	275	0,080	275	0,085	270
Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)																																								
0,00	0																																								
0,005	100																																								
0,010	140																																								
0,015	170																																								
0,020	190																																								
0,025	210																																								
0,030	225																																								
0,035	235																																								
0,040	245																																								
0,045	255																																								
0,050	265																																								
0,055	275																																								
0,060	270																																								
0,065	272																																								
0,070	275																																								
0,075	275																																								
0,080	275																																								
0,085	270																																								
		Operator	Checked	Approved																																					
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																																					

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SI1-1	
Soil description		Sample no:			
Intermediately plastic silty sandy CLAY		Depth, m		21,2-21,5	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	50,0	Mass g	57,22		
Area A_0 , mm ²	1963	Dry mass g	46,20		
Length L_0 , mm	100,0	Moisture content %	23,9		
Volume cm ³	196,25				
Mass g	397				
Density Mg/m ³	2,02				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils												
Project Name: GC-1128					Location		Imereti Region, Georgia					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia												
Soil description					Sample no:		BH-SII-1					
Intermediately plastic silty sandy CLAY					Depth, m							
					Date		21,2-21,5					
12.08.2011												
Test method				BS 1377 : Part 7 : 1990 : 7.2								
Compression test												
Machine no.		24-9160					Rate of deformation		1	mm/min		
Force device no.		"1155-16-19694"					Mean calibration		25,632		Stress	
									N/division		kPa/division	
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain		Force gauge reading	Axial force		Corrected area		Axial stress
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$	P, N		$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa			
0:00:00		0,00	0,00	0,0000	0,000		0,0	0,0		1962,50		0,00
0:00:15		0,23	0,23	0,0023	0,002		1,4	34,9		1967,02		17,72
0:00:30		0,41	0,41	0,0041	0,004		1,9	47,9		1970,58		24,32
0:00:45		0,63	0,63	0,0063	0,006		2,6	65,4		1974,94		33,10
0:01:00		0,85	0,85	0,0085	0,009		3,1	78,4		1979,32		39,63
0:01:15		1,09	1,09	0,0109	0,011		3,6	91,5		1984,13		46,12
0:01:30		1,34	1,34	0,0134	0,013		4,3	108,9		1989,15		54,76
0:01:45		1,58	1,58	0,0158	0,016		4,8	122,0		1994,01		61,19
0:02:00		1,82	1,82	0,0182	0,018		5,1	130,7		1998,88		65,40
0:02:15		2,08	2,08	0,0208	0,021		5,4	139,4		2004,19		69,57
0:02:30		2,34	2,34	0,0234	0,023		6,0	152,5		2009,52		75,89
0:02:45		2,58	2,58	0,0258	0,026		6,5	165,6		2014,47		82,20
0:03:00		2,85	2,85	0,0285	0,029		6,6	169,9		2020,07		84,13
0:03:15		3,11	3,11	0,0311	0,031		7,0	178,7		2025,49		88,20
0:03:30		3,37	3,37	0,0337	0,034		7,3	187,4		2030,94		92,26
0:03:45		3,63	3,63	0,0363	0,036		7,5	191,7		2036,42		94,15
0:04:00		3,90	3,90	0,0390	0,039		7,8	200,4		2042,14		98,15
0:04:15		4,17	4,17	0,0417	0,042		8,2	209,2		2047,90		102,13
0:04:30		4,42	4,42	0,0442	0,044		8,5	217,9		2053,25		106,11
0:04:45		4,68	4,68	0,0468	0,047		8,8	226,6		2058,85		110,05
0:05:00		4,94	4,94	0,0494	0,049		9,2	235,3		2064,49		113,98
0:05:15		5,22	5,22	0,0522	0,052		9,5	244,0		2070,58		117,85
0:05:30		5,47	5,47	0,0547	0,055		9,9	252,7		2076,06		121,74
0:05:45		5,73	5,73	0,0573	0,057		10,2	261,4		2081,79		125,59
0:06:00		6,00	6,00	0,0600	0,060		10,4	265,8		2087,77		127,31
0:06:15		6,26	6,26	0,0626	0,063		10,5	270,2		2093,56		129,04
0:06:30		6,52	6,52	0,0652	0,065		10,7	274,5		2099,38		130,76
0:06:45		6,78	6,78	0,0678	0,068		11,1	283,2		2105,23		134,54
0:07:00		7,05	7,05	0,0705	0,071		11,4	291,9		2111,35		138,28
0:07:15		7,31	7,31	0,0731	0,073		11,7	300,7		2117,27		142,01
0:07:30		7,58	7,58	0,0758	0,076		11,9	305,0		2123,46		143,64
0:07:45		7,83	7,83	0,0783	0,078		12,1	309,4		2129,22		145,30
0:08:00		8,10	8,10	0,0810	0,081		12,2	313,7		2135,47		146,92
0:08:15		8,37	8,37	0,0837	0,084		12,6	322,5		2141,77		150,55
0:08:30		8,63	8,63	0,0863	0,086		12,8	326,8		2147,86		152,16
0:08:45		8,90	8,90	0,0890	0,089		13,1	335,5		2154,23		155,75
0:09:00		9,16	9,16	0,0916	0,092		13,4	344,2		2160,39		159,34
0:09:15		9,43	9,43	0,0943	0,094		13,6	348,6		2166,83		160,88
0:09:30		9,69	9,69	0,0969	0,097		13,8	353,0		2173,07		162,42
0:09:45		9,95	9,95	0,0995	0,100		14,1	361,7		2179,34		165,95
0:10:00		10,24	10,24	0,1024	0,102		14,5	370,4		2186,39		169,40
0:10:15		10,44	10,44	0,1044	0,104		14,6	374,7		2191,27		171,02
0:10:30		10,75	10,75	0,1075	0,108		14,8	379,1		2198,88		172,40
0:10:45		11,00	11,00	0,1100	0,110		15,0	383,5		2205,06		173,90
0:11:00		11,26	11,26	0,1126	0,113		15,1	387,8		2211,52		175,36
0:11:15		11,54	11,54	0,1154	0,115		15,3	392,2		2218,52		176,77
0:11:30		11,81	11,81	0,1181	0,118		15,5	396,5		2225,31		178,19
0:11:45		12,07	12,07	0,1207	0,121		15,6	400,9		2231,89		179,62
0:12:00		12,34	12,34	0,1234	0,123		16,0	409,6		2238,76		182,96
0:12:15		12,61	12,61	0,1261	0,126		16,2	414,0		2245,68		184,33
0:12:30		12,88	12,88	0,1288	0,129		16,3	418,3		2252,64		185,70
0:12:45		13,13	13,13	0,1313	0,131		16,3	418,3		2259,12		185,17

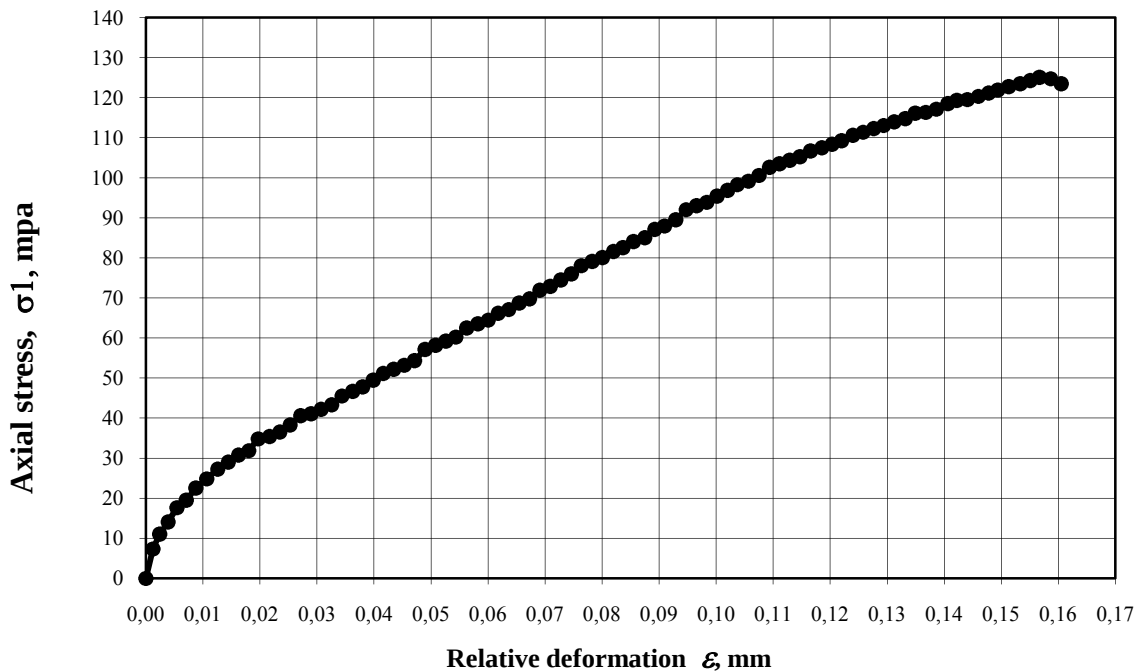
0:13:00	13,41	13,41	0,1341	0,134	16,7	427,0	2266,43	188,42
0:13:15	13,68	13,68	0,1368	0,137	16,8	431,4	2273,52	189,74
0:13:30	13,94	13,94	0,1394	0,139	17,0	435,7	2280,39	191,08
0:13:45	14,22	14,22	0,1422	0,142	17,0	435,7	2287,83	190,46
0:14:00	14,48	14,48	0,1448	0,145	17,2	440,1	2294,78	191,78
0:14:15	14,75	14,75	0,1475	0,148	17,2	440,1	2302,05	191,18
0:14:30	15,00	15,00	0,1500	0,150	17,2	440,1	2308,82	190,62
0:14:45	15,26	15,26	0,1526	0,153	17,3	444,5	2315,91	191,92
0:15:00	15,52	15,52	0,1552	0,155	17,3	444,5	2323,04	191,33
0:15:15	15,80	15,80	0,1580	0,158	17,5	448,8	2330,76	192,56
0:15:30	16,07	16,07	0,1607	0,161	17,5	448,8	2338,26	191,94
0:15:45	16,32	16,32	0,1632	0,163	17,7	453,2	2345,24	193,23
0:16:00	16,60	16,60	0,1660	0,166	17,5	448,8	2353,12	190,73
0:16:15	16,83	16,83	0,1683	0,168	17,5	448,8	2359,62	190,21
0:16:30	17,11	17,11	0,1711	0,171	17,5	448,8	2367,60	189,57
0:16:45	17,38	17,38	0,1738	0,174	17,5	448,8	2375,33	188,95
0:17:00	17,62	17,62	0,1762	0,176	17,5	448,8	2382,25	188,40
0:17:15	17,88	17,88	0,1788	0,179	17,5	448,8	2389,80	187,81
0:17:30	18,17	18,17	0,1817	0,182	17,3	444,5	2398,26	185,33
0:17:45	18,43	18,43	0,1843	0,184	17,3	444,5	2405,91	184,74
0:18:00	18,71	18,71	0,1871	0,187	17,3	444,5	2414,20	184,10
0:18:15	18,96	18,96	0,1896	0,190	17,2	440,1	2421,64	181,74
0:18:30	19,20	19,20	0,1920	0,192	17,0	435,7	2428,84	179,40
Sketch of					Maximum axial stress		193,23	kPa
					Axial strain at failure		16,32	%
					Unconfined compressive strength q_u		193,23	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																											
Project Name: GC-1128		Location	Imereti Region, Georgia																								
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SI1-1																								
		Sample no:																									
Soil description Intermediately plastic silty sandy CLAY		Depth, m	21,2-21,5																								
		Date	12.08.2011																								
Test method		BS 1377 : Part 7 : 1990 : 7.2																									
The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 210) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.22). The data points form a smooth curve that starts at the origin, rises steeply to about 100 mpa at 0.04 mm deformation, then continues to rise more gradually to a peak of approximately 195 mpa at 0.16 mm deformation, before slightly declining to about 180 mpa at 0.20 mm deformation. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation ϵ (mm)</th> <th>Axial stress σ_1 (mpa)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0</td></tr> <tr><td>0.02</td><td>70</td></tr> <tr><td>0.04</td><td>100</td></tr> <tr><td>0.06</td><td>125</td></tr> <tr><td>0.08</td><td>145</td></tr> <tr><td>0.10</td><td>165</td></tr> <tr><td>0.12</td><td>180</td></tr> <tr><td>0.14</td><td>190</td></tr> <tr><td>0.16</td><td>195</td></tr> <tr><td>0.18</td><td>190</td></tr> <tr><td>0.20</td><td>180</td></tr> </tbody> </table>				Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)	0.00	0	0.02	70	0.04	100	0.06	125	0.08	145	0.10	165	0.12	180	0.14	190	0.16	195	0.18	190	0.20	180
Relative deformation ϵ (mm)	Axial stress σ_1 (mpa)																										
0.00	0																										
0.02	70																										
0.04	100																										
0.06	125																										
0.08	145																										
0.10	165																										
0.12	180																										
0.14	190																										
0.16	195																										
0.18	190																										
0.20	180																										
		Operator	Checked	Approved																							
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																							

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SI1-2	
Soil description		Sample no:			
Intermediately plastic silty CLAY		Depth, m		21,0-21,3	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*			Nominal diameter		mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	73,0	Mass g	72,1		
Area A_0 , mm ²	4183	Dry mass g	55,10		
Length L_0 , mm	145,0	Moisture content %	30,9		
Volume cm ³	606,57				
Mass g	1168				
Density Mg/m ³	1,93				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils										
Project Name: GC-1128					Location		Imereti Region, Georgia			
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia										
Soil description					Borehole		BH-SII-2			
Intermediately plastic silty CLAY					Sample no:					
					Depth, m		21,0-21,3			
					Date		12.08.2011			
Test method			BS 1377 : Part 7 : 1990 : 7.2							
Compression test										
Machine no.		24-9160				Rate of deformation		1	mm/min	
Force device no.		"1155-16-19694"					Mean calibration		25,632	
							N/division		Stress	
									kPa/division	
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force	Corrected area		Axial stress
		ΔL mm	ΔL %	ε	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa	
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	4183,27	0,00	
0:00:15		0,18	0,12	0,0012	0,001	1,2	30,8	4188,46	7,34	
0:00:30		0,35	0,24	0,0024	0,002	1,8	46,1	4193,39	11,00	
0:00:45		0,56	0,39	0,0039	0,004	2,3	59,0	4199,48	14,04	
0:01:00		0,79	0,54	0,0054	0,005	2,9	74,3	4206,18	17,67	
0:01:15		1,03	0,71	0,0071	0,007	3,2	82,0	4213,19	19,47	
0:01:30		1,27	0,88	0,0088	0,009	3,7	94,8	4220,23	22,47	
0:01:45		1,55	1,07	0,0107	0,011	4,1	105,1	4228,47	24,85	
0:02:00		1,82	1,26	0,0126	0,013	4,5	115,3	4236,44	27,23	
0:02:15		2,09	1,44	0,0144	0,014	4,8	123,0	4244,44	28,99	
0:02:30		2,35	1,62	0,0162	0,016	5,1	130,7	4252,18	30,74	
0:02:45		2,61	1,80	0,0180	0,018	5,3	135,8	4259,94	31,89	
0:03:00		2,86	1,97	0,0197	0,020	5,8	148,7	4267,44	34,84	
0:03:15		3,14	2,17	0,0217	0,022	5,9	151,2	4275,86	35,37	
0:03:30		3,40	2,34	0,0234	0,023	6,1	156,4	4283,71	36,50	
0:03:45		3,66	2,52	0,0252	0,025	6,4	164,0	4291,59	38,22	
0:04:00		3,93	2,71	0,0271	0,027	6,8	174,3	4299,80	40,54	
0:04:15		4,20	2,90	0,0290	0,029	6,9	176,9	4308,05	41,05	
0:04:30		4,45	3,07	0,0307	0,031	7,1	182,0	4315,71	42,17	
0:04:45		4,72	3,26	0,0326	0,033	7,3	187,1	4324,02	43,27	
0:05:00		4,98	3,43	0,0343	0,034	7,7	197,4	4332,05	45,56	
0:05:15		5,26	3,63	0,0363	0,036	7,9	202,5	4340,73	46,65	
0:05:30		5,51	3,80	0,0380	0,038	8,1	207,6	4348,51	47,74	
0:05:45		5,78	3,99	0,0399	0,040	8,4	215,3	4356,94	49,42	
0:06:00		6,03	4,16	0,0416	0,042	8,7	223,0	4364,78	51,09	
0:06:15		6,30	4,34	0,0434	0,043	8,9	228,1	4373,28	52,16	
0:06:30		6,57	4,53	0,0453	0,045	9,1	233,3	4381,81	53,23	
0:06:45		6,83	4,71	0,0471	0,047	9,3	238,4	4390,05	54,30	
0:07:00		7,10	4,90	0,0490	0,049	9,8	251,2	4398,65	57,11	
0:07:15		7,37	5,08	0,0508	0,051	10,0	256,3	4407,28	58,16	
0:07:30		7,63	5,26	0,0526	0,053	10,2	261,4	4415,62	59,21	
0:07:45		7,88	5,43	0,0543	0,054	10,4	266,6	4423,67	60,26	
0:08:00		8,16	5,63	0,0563	0,056	10,8	276,8	4432,72	62,45	
0:08:15		8,44	5,82	0,0582	0,058	11,0	282,0	4441,81	63,48	
0:08:30		8,70	6,00	0,0600	0,060	11,2	287,1	4450,28	64,51	
0:08:45		8,95	6,17	0,0617	0,062	11,5	294,8	4458,46	66,11	
0:09:00		9,22	6,36	0,0636	0,064	11,7	299,9	4467,33	67,13	
0:09:15		9,49	6,54	0,0654	0,065	12,0	307,6	4476,23	68,72	
0:09:30		9,75	6,72	0,0672	0,067	12,2	312,7	4484,83	69,73	
0:09:45		10,01	6,90	0,0690	0,069	12,6	323,0	4493,47	71,87	
0:10:00		10,28	7,09	0,0709	0,071	12,8	328,1	4502,47	72,87	
0:10:15		10,55	7,28	0,0728	0,073	13,1	335,8	4511,52	74,43	
0:10:30		10,82	7,46	0,0746	0,075	13,4	343,5	4520,59	75,98	
0:10:45		11,07	7,63	0,0763	0,076	13,8	353,7	4529,03	78,10	
0:11:00		11,35	7,83	0,0783	0,078	14,0	358,8	4538,52	79,07	
0:11:15		11,61	8,01	0,0801	0,080	14,2	364,0	4547,37	80,04	
0:11:30		11,88	8,19	0,0819	0,082	14,5	371,7	4556,59	81,57	
0:11:45		12,13	8,37	0,0837	0,084	14,7	376,8	4565,16	82,54	
0:12:00		12,40	8,55	0,0855	0,086	15,0	384,5	4574,46	84,05	
0:12:15		12,68	8,74	0,0874	0,087	15,2	389,6	4584,14	84,99	
0:12:30		12,93	8,92	0,0892	0,089	15,6	399,9	4592,82	87,06	
0:12:45		13,19	9,10	0,0910	0,091	15,8	405,0	4601,88	88,00	

0:13:00	13,47	9,29	0,0929	0,093	16,1	412,7	4611,67	89,48
0:13:15	13,73	9,47	0,0947	0,095	16,6	425,5	4620,81	92,08
0:13:30	14,00	9,66	0,0966	0,097	16,8	430,6	4630,33	93,00
0:13:45	14,26	9,83	0,0983	0,098	17,0	435,7	4639,54	93,92
0:14:00	14,52	10,01	0,1001	0,100	17,3	443,4	4648,78	95,39
0:14:15	14,79	10,20	0,1020	0,102	17,6	451,1	4658,42	96,84
0:14:30	15,03	10,37	0,1037	0,104	17,9	458,8	4667,03	98,31
0:14:45	15,32	10,57	0,1057	0,106	18,1	463,9	4677,46	99,19
0:15:00	15,59	10,75	0,1075	0,108	18,4	471,6	4687,22	100,62
0:15:15	15,86	10,94	0,1094	0,109	18,8	481,9	4697,02	102,59
0:15:30	16,11	11,11	0,1111	0,111	19,0	487,0	4706,13	103,48
0:15:45	16,37	11,29	0,1129	0,113	19,2	492,1	4715,65	104,36
0:16:00	16,63	11,47	0,1147	0,115	19,4	497,3	4725,20	105,24
0:16:15	16,90	11,66	0,1166	0,117	19,7	505,0	4735,16	106,64
0:16:30	17,18	11,85	0,1185	0,118	19,9	510,1	4745,53	107,49
0:16:45	17,44	12,03	0,1203	0,120	20,1	515,2	4755,20	108,35
0:17:00	17,69	12,20	0,1220	0,122	20,3	520,3	4764,54	109,21
0:17:15	17,97	12,39	0,1239	0,124	20,6	528,0	4775,04	110,58
0:17:30	18,23	12,57	0,1257	0,126	20,8	533,1	4784,83	111,42
0:17:45	18,50	12,76	0,1276	0,128	21,0	538,3	4795,05	112,26
0:18:00	18,75	12,93	0,1293	0,129	21,2	543,4	4804,54	113,10
0:18:15	19,02	13,12	0,1312	0,131	21,4	548,5	4814,84	113,92
0:18:30	19,31	13,32	0,1332	0,133	21,6	553,7	4825,95	114,72
0:18:45	19,56	13,49	0,1349	0,135	21,9	561,3	4835,57	116,09
0:19:00	19,83	13,68	0,1368	0,137	22,0	563,9	4846,00	116,36
0:19:15	20,10	13,86	0,1386	0,139	22,2	569,0	4856,47	117,17
0:19:30	20,39	14,06	0,1406	0,141	22,5	576,7	4867,77	118,48
0:19:45	20,62	14,22	0,1422	0,142	22,7	581,8	4876,78	119,31
0:20:00	20,89	14,41	0,1441	0,144	22,8	584,4	4887,39	119,58
0:20:15	21,16	14,59	0,1459	0,146	23,0	589,5	4898,04	120,36
0:20:30	21,42	14,77	0,1477	0,148	23,2	594,7	4908,35	121,15
0:20:45	21,66	14,94	0,1494	0,149	23,4	599,8	4917,90	121,96
0:21:00	21,94	15,13	0,1513	0,151	23,6	604,9	4929,09	122,72
0:21:15	22,23	15,33	0,1533	0,153	23,8	610,0	4940,73	123,47
0:21:30	22,48	15,50	0,1550	0,155	24,0	615,2	4950,81	124,26
0:21:45	22,72	15,67	0,1567	0,157	24,2	620,3	4960,53	125,05
0:22:00	23,00	15,86	0,1586	0,159	24,2	620,3	4971,91	124,76
0:22:15	23,27	16,05	0,1605	0,160	24,0	615,2	4982,94	123,45
Sketch of					Maximum axial stress		125,05	kPa
					Axial strain at failure		15,67	%
					Unconfined compressive strength q_u		125,05	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																																							
Project Name: GC-1128		Location	Imereti Region, Georgia																																				
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SI1-2																																				
Soil description		Sample no:																																					
Intermediately plastic silty CLAY		Depth, m	21,0-21,3																																				
		Date	12.08.2011																																				
Test method		BS 1377 : Part 7 : 1990 : 7.2																																					
 The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 140) against Relative deformation (ϵ, mm) on the x-axis (0,00 to 0,17). The data points form a smooth, upward-curving line, indicating that the soil's strength increases with deformation at an increasing rate. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation (ϵ, mm)</th> <th>Axial stress (σ_1, mpa)</th> </tr> </thead> <tbody> <tr><td>0,00</td><td>0</td></tr> <tr><td>0,01</td><td>15</td></tr> <tr><td>0,02</td><td>30</td></tr> <tr><td>0,03</td><td>40</td></tr> <tr><td>0,04</td><td>48</td></tr> <tr><td>0,05</td><td>55</td></tr> <tr><td>0,06</td><td>62</td></tr> <tr><td>0,07</td><td>70</td></tr> <tr><td>0,08</td><td>78</td></tr> <tr><td>0,09</td><td>88</td></tr> <tr><td>0,10</td><td>95</td></tr> <tr><td>0,11</td><td>102</td></tr> <tr><td>0,12</td><td>108</td></tr> <tr><td>0,13</td><td>115</td></tr> <tr><td>0,14</td><td>120</td></tr> <tr><td>0,15</td><td>125</td></tr> <tr><td>0,16</td><td>128</td></tr> </tbody> </table>				Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)	0,00	0	0,01	15	0,02	30	0,03	40	0,04	48	0,05	55	0,06	62	0,07	70	0,08	78	0,09	88	0,10	95	0,11	102	0,12	108	0,13	115	0,14	120	0,15	125	0,16	128
Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)																																						
0,00	0																																						
0,01	15																																						
0,02	30																																						
0,03	40																																						
0,04	48																																						
0,05	55																																						
0,06	62																																						
0,07	70																																						
0,08	78																																						
0,09	88																																						
0,10	95																																						
0,11	102																																						
0,12	108																																						
0,13	115																																						
0,14	120																																						
0,15	125																																						
0,16	128																																						
		Operator	Checked	Approved																																			
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																																			

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SI2-1	
Soil description		Sample no:			
Intermediately plastic silty sandy CLAY		Depth, m		4,65-4,9	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	50,0	Mass g	54,3		
Area A_0 , mm ²	1963	Dry mass g	42,55		
Length L_0 , mm	100,0	Moisture content %	27,6		
Volume cm ³	196,25				
Mass g	383				
Density Mg/m ³	1,95				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils										
Project Name: GC-1128					Location		Imereti Region, Georgia			
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia										
Soil description					Borehole		BH-SI2-1			
Intermediately plastic silty sandy CLAY					Sample no:					
					Depth, m		4,65-4,9			
					Date		12.08.2011			
Test method			BS 1377 : Part 7 : 1990 : 7.2							
Compression test										
Machine no.		24-9160				Rate of deformation		1	mm/min	
Force device no.		"1155-16-19694"					Mean calibration		25,632	
							N/division		Stress	
									kPa/division	
Time H:Min:Seg	Compression of specimen		Relative deformation	Strain	Force gauge reading	Axial force	Corrected area		Axial stress	
	ΔL mm	ΔL %	ϵ	$\epsilon = \frac{\Delta L}{L_0}$		P, N	$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa		
0:00:00	0,00	0,00	0,0000	0,000	0,0	0,0	1962,50		0,00	
0:00:15	0,29	0,29	0,0029	0,003	2,4	61,5	1968,21		31,26	
0:00:30	0,51	0,51	0,0051	0,005	3,6	92,3	1972,56		46,78	
0:00:45	0,71	0,71	0,0071	0,007	4,4	112,8	1976,53		57,06	
0:01:00	0,96	0,96	0,0096	0,010	5,4	138,4	1981,52		69,85	
0:01:15	1,19	1,19	0,0119	0,012	6,0	153,8	1986,14		77,43	
0:01:30	1,44	1,44	0,0144	0,014	6,4	164,0	1991,17		82,39	
0:01:45	1,68	1,68	0,0168	0,017	7,0	179,4	1996,03		89,89	
0:02:00	1,93	1,93	0,0193	0,019	7,6	194,8	2001,12		97,35	
0:02:15	2,21	2,21	0,0221	0,022	8,0	205,1	2006,85		102,18	
0:02:30	2,47	2,47	0,0247	0,025	8,4	215,3	2012,20		107,00	
0:02:45	2,73	2,73	0,0273	0,027	8,6	220,4	2017,58		109,26	
0:03:00	3,00	3,00	0,0300	0,030	9,0	230,7	2023,20		114,02	
0:03:15	3,28	3,28	0,0328	0,033	9,6	246,1	2029,05		121,27	
0:03:30	3,54	3,54	0,0354	0,035	9,8	251,2	2034,52		123,47	
0:03:45	3,79	3,79	0,0379	0,038	10,0	256,3	2039,81		125,66	
0:04:00	4,07	4,07	0,0407	0,041	10,2	261,4	2045,76		127,80	
0:04:15	4,32	4,32	0,0432	0,043	10,4	266,6	2051,11		129,97	
0:04:30	4,58	4,58	0,0458	0,046	10,6	271,7	2056,70		132,10	
0:04:45	4,84	4,84	0,0484	0,048	10,8	276,8	2062,32		134,23	
0:05:00	5,10	5,10	0,0510	0,051	11,0	282,0	2067,97		136,34	
0:05:15	5,38	5,38	0,0538	0,054	11,4	292,2	2074,09		140,88	
0:05:30	5,62	5,62	0,0562	0,056	11,6	297,3	2079,36		142,99	
0:05:45	5,90	5,90	0,0590	0,059	11,6	297,3	2085,55		142,57	
0:06:00	6,15	6,15	0,0615	0,062	11,8	302,5	2091,10		144,64	
0:06:15	6,44	6,44	0,0644	0,064	11,8	302,5	2097,58		144,19	
0:06:30	6,69	6,69	0,0669	0,067	11,8	302,5	2103,20		143,81	
0:06:45	6,95	6,95	0,0695	0,070	12,0	307,6	2109,08		145,84	
0:07:00	7,20	7,20	0,0720	0,072	12,0	307,6	2114,76		145,45	
0:07:15	7,48	7,48	0,0748	0,075	12,2	312,7	2121,16		147,42	
0:07:30	7,73	7,73	0,0773	0,077	12,4	317,8	2126,91		149,44	
0:07:45	8,00	8,00	0,0800	0,080	12,4	317,8	2133,15		149,00	
0:08:00	8,26	8,26	0,0826	0,083	12,6	323,0	2139,20		150,97	
0:08:15	8,55	8,55	0,0855	0,086	12,6	323,0	2145,98		150,50	
0:08:30	8,80	8,80	0,0880	0,088	12,8	328,1	2151,86		152,47	
0:08:45	9,06	9,06	0,0906	0,091	13,0	333,2	2158,02		154,41	
0:09:00	9,33	9,33	0,0933	0,093	13,2	338,3	2164,44		156,32	
0:09:15	9,58	9,58	0,0958	0,096	13,4	343,5	2170,43		158,25	
0:09:30	9,86	9,86	0,0986	0,099	13,4	343,5	2177,17		157,76	
0:09:45	10,11	10,11	0,1011	0,101	13,6	348,6	2183,22		159,67	
0:10:00	10,38	10,38	0,1038	0,104	13,6	348,6	2189,80		159,19	
0:10:15	10,68	10,68	0,1068	0,107	13,8	353,7	2197,16		160,99	
0:10:30	10,91	10,91	0,1091	0,109	13,8	353,7	2202,83		160,58	
0:10:45	11,18	11,18	0,1118	0,112	13,8	353,7	2209,52		160,09	
0:11:00	11,45	11,45	0,1145	0,115	14,0	358,8	2216,26		161,92	
0:11:15	11,71	11,71	0,1171	0,117	14,0	358,8	2222,79		161,44	
0:11:30	11,97	11,97	0,1197	0,120	14,2	364,0	2229,35		163,26	
0:11:45	12,25	12,25	0,1225	0,123	14,2	364,0	2236,47		162,75	
0:12:00	12,51	12,51	0,1251	0,125	14,4	369,1	2243,11		164,55	
0:12:15	12,77	12,77	0,1277	0,128	14,4	369,1	2249,80		164,06	
0:12:30	13,03	13,03	0,1303	0,130	14,4	369,1	2256,53		163,57	
0:12:45	13,30	13,30	0,1330	0,133	14,6	374,2	2263,55		165,33	

0:13:00	13,56	13,56	0,1356	0,136	14,6	374,2	2270,36	164,83
0:13:15	13,83	13,83	0,1383	0,138	14,6	374,2	2277,47	164,32
0:13:30	14,09	14,09	0,1409	0,141	14,6	374,2	2284,37	163,82
0:13:45	14,35	14,35	0,1435	0,144	14,8	379,4	2291,30	165,56
0:14:00	14,63	14,63	0,1463	0,146	14,8	379,4	2298,82	165,02
0:14:15	14,90	14,90	0,1490	0,149	15,0	384,5	2306,11	166,72
0:14:30	15,15	15,15	0,1515	0,152	15,0	384,5	2312,91	166,23
0:14:45	15,41	15,41	0,1541	0,154	15,2	389,6	2320,01	167,93
0:15:00	15,67	15,67	0,1567	0,157	15,2	389,6	2327,17	167,42
0:15:15	15,95	15,95	0,1595	0,160	15,4	394,7	2334,92	169,06
0:15:30	16,23	16,23	0,1623	0,162	15,4	394,7	2342,72	168,49
0:15:45	16,47	16,47	0,1647	0,165	15,6	399,9	2349,46	170,19
0:16:00	16,74	16,74	0,1674	0,167	15,6	399,9	2357,07	169,64
0:16:15	17,00	17,00	0,1700	0,170	15,8	405,0	2364,46	171,28
0:16:30	17,27	17,27	0,1727	0,173	15,8	405,0	2372,17	170,72
0:16:45	17,53	17,53	0,1753	0,175	15,8	405,0	2379,65	170,19
0:17:00	17,79	17,79	0,1779	0,178	15,8	405,0	2387,18	169,65
0:17:15	18,06	18,06	0,1806	0,181	15,8	405,0	2395,05	169,09
0:17:30	18,34	18,34	0,1834	0,183	16,0	410,1	2403,26	170,65
0:17:45	18,58	18,58	0,1858	0,186	16,0	410,1	2410,34	170,15
0:18:00	18,85	18,85	0,1885	0,189	16,2	415,2	2418,36	171,70
0:18:15	19,11	19,11	0,1911	0,191	16,2	415,2	2426,13	171,15
0:18:30	19,37	19,37	0,1937	0,194	16,4	420,4	2433,96	172,71
0:18:45	19,64	19,64	0,1964	0,196	16,4	420,4	2442,14	172,13
0:19:00	19,92	19,92	0,1992	0,199	16,4	420,4	2450,67	171,53
0:19:15	20,18	20,18	0,2018	0,202	16,4	420,4	2458,66	170,97
Sketch of					Maximum axial stress		172,71	kPa
					Axial strain at failure		19,37	%
					Unconfined compressive strength q_u		172,71	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils																																	
Project Name: GC-1128		Location	Imereti Region, Georgia																														
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SI2-1																														
		Sample no:																															
Soil description Intermediately plastic silty sandy CLAY		Depth, m	4,65-4,9																														
		Date	12.08.2011																														
Test method		BS 1377 : Part 7 : 1990 : 7.2																															
The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 190) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.22). The data points form a smooth curve that rises steeply from the origin, reaching a peak stress of about 170 mpa at a relative deformation of 0.20 mm, after which the stress slightly decreases. <table border="1"> <caption>Approximate data points from the graph</caption> <thead> <tr> <th>Relative deformation (ϵ, mm)</th> <th>Axial stress (σ_1, mpa)</th> </tr> </thead> <tbody> <tr><td>0.00</td><td>0</td></tr> <tr><td>0.01</td><td>50</td></tr> <tr><td>0.02</td><td>100</td></tr> <tr><td>0.03</td><td>120</td></tr> <tr><td>0.04</td><td>130</td></tr> <tr><td>0.05</td><td>140</td></tr> <tr><td>0.06</td><td>145</td></tr> <tr><td>0.08</td><td>150</td></tr> <tr><td>0.10</td><td>160</td></tr> <tr><td>0.12</td><td>165</td></tr> <tr><td>0.14</td><td>168</td></tr> <tr><td>0.16</td><td>170</td></tr> <tr><td>0.18</td><td>170</td></tr> <tr><td>0.20</td><td>170</td></tr> </tbody> </table>				Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)	0.00	0	0.01	50	0.02	100	0.03	120	0.04	130	0.05	140	0.06	145	0.08	150	0.10	160	0.12	165	0.14	168	0.16	170	0.18	170	0.20	170
Relative deformation (ϵ , mm)	Axial stress (σ_1 , mpa)																																
0.00	0																																
0.01	50																																
0.02	100																																
0.03	120																																
0.04	130																																
0.05	140																																
0.06	145																																
0.08	150																																
0.10	160																																
0.12	165																																
0.14	168																																
0.16	170																																
0.18	170																																
0.20	170																																
		Operator	Checked	Approved																													
		T. Jajanidze	T. Gorgidze	R. Kavelashvili																													

Unconfined Compression Test, Soils		Location		Imereti Region, Georgia	
Project Name: GC-1128					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole		BH-SB6-1	
Soil description		Sample no:			
Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m		29,7-29,9	
		Date		12.08.2011	
Test method		BS 1377 : Part 7 : 1990 : 7.2			
Type of specimen Undisturbed /compacted*				Nominal diameter	mm
Preparation procedure					
Specimen details	Initially	After test		Sketch showing specimen location in original sample	
Diameter D mm	77,0	Mass g	65,8		
Area A_0 , mm ²	4654	Dry mass g	51,85		
Length L_0 , mm	154,0	Moisture content %	26,9		
Volume cm ³	716,76				
Mass g	1375				
Density Mg/m ³	1,92				
		Operator		Checked	Approved
		T. Jajanidze		T. Gorgidze	R. Kavelashvili

Unconfined Compression Test, Soils												
Project Name: GC-1128					Location		Imereti Region, Georgia					
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia												
					Borehole		BH-SB6-1					
Soil description					Sample no:							
Intermediately plastic silty sandy CLAY with a little rounded gravel content					Depth, m		29,7-29,9					
					Date		12.08.2011					
Test method			BS 1377 : Part 7 : 1990 : 7.2									
Compression test												
Machine no.		24-9160				Rate of deformation		1	mm/min			
Force device no.		"1155-16-19694"					Mean calibration	25,632		Stress		
							N/division			kPa/division		
Time H:Min:Seg		Compression of specimen		Relative deformation	Strain		Force gauge reading	Axial force		Corrected area		Axial stress
		ΔL mm	ΔL %	ϵ	$\epsilon = \frac{\Delta L}{L_0}$	P, N		$A = \frac{A_0}{1 - \epsilon}$ mm ²	$\sigma_1 = \frac{1000 P}{A}$ kPa			
0:00:00		0,00	0,00	0,0000	0,000	0,0	0,0	4654,27	0,00			
0:00:15		0,20	0,13	0,0013	0,001	1,3	33,3	4660,32	7,15			
0:00:30		0,40	0,26	0,0026	0,003	2,3	60,0	4666,39	12,85			
0:00:45		0,62	0,40	0,0040	0,004	3,0	76,6	4673,08	16,40			
0:01:00		0,84	0,55	0,0055	0,005	4,0	103,3	4679,79	22,07			
0:01:15		1,09	0,71	0,0071	0,007	4,8	123,3	4687,44	26,30			
0:01:30		1,33	0,86	0,0086	0,009	5,9	149,9	4694,81	31,94			
0:01:45		1,58	1,03	0,0103	0,010	6,5	166,6	4702,51	35,43			
0:02:00		1,83	1,19	0,0119	0,012	7,2	183,3	4710,24	38,91			
0:02:15		2,10	1,36	0,0136	0,014	7,8	199,9	4718,61	42,37			
0:02:30		2,36	1,53	0,0153	0,015	8,5	216,6	4726,70	45,82			
0:02:45		2,62	1,70	0,0170	0,017	9,0	229,9	4734,82	48,56			
0:03:00		2,86	1,86	0,0186	0,019	9,5	243,2	4742,34	51,29			
0:03:15		3,12	2,03	0,0203	0,020	10,3	263,2	4750,51	55,41			
0:03:30		3,40	2,21	0,0221	0,022	10,8	276,6	4759,34	58,11			
0:03:45		3,65	2,37	0,0237	0,024	11,4	293,2	4767,26	61,51			
0:04:00		3,90	2,53	0,0253	0,025	12,0	306,6	4775,20	64,20			
0:04:15		4,18	2,71	0,0271	0,027	12,6	323,2	4784,12	67,56			
0:04:30		4,43	2,88	0,0288	0,029	13,1	336,5	4792,12	70,23			
0:04:45		4,69	3,05	0,0305	0,030	13,7	349,9	4800,46	72,88			
0:05:00		4,95	3,21	0,0321	0,032	14,3	366,5	4808,83	76,22			
0:05:15		5,21	3,38	0,0338	0,034	15,0	383,2	4817,24	79,55			
0:05:30		5,48	3,56	0,0356	0,036	15,6	399,9	4826,00	82,86			
0:05:45		5,73	3,72	0,0372	0,037	16,1	413,2	4834,13	85,47			
0:06:00		6,00	3,90	0,0390	0,039	16,6	426,5	4842,95	88,07			
0:06:15		6,26	4,06	0,0406	0,041	17,2	439,8	4851,47	90,66			
0:06:30		6,51	4,23	0,0423	0,042	17,7	453,2	4859,70	93,25			
0:06:45		6,74	4,38	0,0438	0,044	18,2	466,5	4867,29	95,84			
0:07:00		7,01	4,55	0,0455	0,046	19,0	486,5	4876,23	99,77			
0:07:15		7,30	4,74	0,0474	0,047	19,4	496,5	4885,87	101,62			
0:07:30		7,54	4,90	0,0490	0,049	20,0	513,2	4893,87	104,86			
0:07:45		7,82	5,08	0,0508	0,051	20,7	529,8	4903,25	108,05			
0:08:00		8,06	5,23	0,0523	0,052	21,2	543,1	4911,31	110,59			
0:08:15		8,33	5,41	0,0541	0,054	21,8	559,8	4920,41	113,77			
0:08:30		8,59	5,58	0,0558	0,056	22,5	576,5	4929,21	116,95			
0:08:45		8,84	5,74	0,0574	0,057	23,0	589,8	4937,70	119,45			
0:09:00		9,11	5,92	0,0592	0,059	23,7	606,5	4946,90	122,59			
0:09:15		9,37	6,08	0,0608	0,061	24,2	619,8	4955,80	125,06			
0:09:30		9,62	6,25	0,0625	0,062	24,8	636,4	4964,38	128,20			
0:09:45		9,89	6,42	0,0642	0,064	25,5	653,1	4973,68	131,31			
0:10:00		10,13	6,58	0,0658	0,066	26,1	669,8	4981,98	134,44			
0:10:15		10,41	6,76	0,0676	0,068	26,7	683,1	4991,69	136,85			
0:10:30		10,65	6,92	0,0692	0,069	27,2	696,4	5000,05	139,28			
0:10:45		10,93	7,10	0,0710	0,071	27,8	713,1	5009,83	142,34			
0:11:00		11,19	7,27	0,0727	0,073	28,3	726,4	5018,95	144,73			
0:11:15		11,44	7,43	0,0743	0,074	29,0	743,1	5027,76	147,79			
0:11:30		11,69	7,59	0,0759	0,076	29,5	756,4	5036,59	150,18			
0:11:45		11,96	7,77	0,0777	0,078	30,2	773,1	5046,16	153,20			
0:12:00		12,24	7,95	0,0795	0,079	30,7	786,4	5056,13	155,53			
0:12:15		12,48	8,10	0,0810	0,081	31,2	799,7	5064,70	157,90			
0:12:30		12,74	8,27	0,0827	0,083	31,9	816,4	5074,03	160,89			
0:12:45		13,00	8,44	0,0844	0,084	32,5	833,0	5083,38	163,88			

0:13:00	13,26	8,61	0,0861	0,086	32,9	843,0	5092,77	165,54
0:13:15	13,52	8,78	0,0878	0,088	33,3	853,0	5102,20	167,19
0:13:30	13,77	8,94	0,0894	0,089	33,8	866,4	5111,29	169,50
0:13:45	14,03	9,11	0,0911	0,091	34,3	879,7	5120,79	171,79
0:14:00	14,30	9,29	0,0929	0,093	34,8	893,0	5130,69	174,05
0:14:15	14,56	9,45	0,0945	0,095	35,5	909,7	5140,25	176,97
0:14:30	14,81	9,62	0,0962	0,096	35,9	919,7	5149,48	178,60
0:14:45	15,08	9,79	0,0979	0,098	36,3	929,7	5159,49	180,19
0:15:00	15,35	9,97	0,0997	0,100	36,8	943,0	5169,54	182,41
0:15:15	15,60	10,13	0,1013	0,101	37,2	953,0	5178,88	184,02
0:15:30	15,86	10,30	0,1030	0,103	37,6	963,0	5188,63	185,60
0:15:45	16,12	10,47	0,1047	0,105	38,0	973,0	5198,41	187,17
0:16:00	16,38	10,64	0,1064	0,106	38,4	983,0	5208,23	188,74
0:16:15	16,64	10,81	0,1081	0,108	38,7	993,0	5218,09	190,30
0:16:30	16,89	10,97	0,1097	0,110	39,0	999,6	5227,60	191,22
0:16:45	17,17	11,15	0,1115	0,111	39,4	1009,6	5238,30	192,74
0:17:00	17,42	11,31	0,1131	0,113	39,8	1019,6	5247,89	194,30
0:17:15	17,68	11,48	0,1148	0,115	40,0	1026,3	5257,90	195,19
0:17:30	17,95	11,66	0,1166	0,117	40,4	1036,3	5268,33	196,70
0:17:45	18,22	11,83	0,1183	0,118	40,7	1043,0	5278,81	197,58
0:18:00	18,50	12,01	0,1201	0,120	41,0	1049,6	5289,72	198,43
0:18:15	18,75	12,18	0,1218	0,122	41,3	1059,6	5299,50	199,95
0:18:30	19,00	12,34	0,1234	0,123	41,6	1066,3	5309,31	200,83
0:18:45	19,28	12,52	0,1252	0,125	41,7	1069,6	5320,34	201,04
0:19:00	19,54	12,69	0,1269	0,127	41,9	1073,0	5330,63	201,28
0:19:15	19,78	12,84	0,1284	0,128	42,3	1083,0	5340,16	202,79
0:19:30	20,05	13,02	0,1302	0,130	42,6	1092,9	5350,93	204,25
0:19:45	20,33	13,20	0,1320	0,132	42,8	1096,3	5362,14	204,45
0:20:00	20,59	13,37	0,1337	0,134	42,9	1099,6	5372,59	204,67
0:20:15	20,83	13,53	0,1353	0,135	42,9	1099,6	5382,27	204,30
0:20:30	21,11	13,71	0,1371	0,137	43,0	1102,9	5393,61	204,49
0:20:45	21,38	13,88	0,1388	0,139	43,0	1102,9	5404,59	204,08
0:21:00	21,65	14,06	0,1406	0,141	43,2	1106,3	5415,62	204,28
0:21:15	21,90	14,22	0,1422	0,142	43,6	1116,3	5425,87	205,73
0:21:30	22,15	14,38	0,1438	0,144	43,6	1116,3	5436,15	205,34
0:21:45	22,43	14,56	0,1456	0,146	43,2	1106,3	5447,72	203,07
0:22:00	22,70	14,74	0,1474	0,147	43,2	1106,3	5458,92	202,65
0:22:15	22,96	14,91	0,1491	0,149	43,2	1106,3	5469,76	202,25
0:22:30	23,21	15,07	0,1507	0,151	43,0	1102,9	5480,21	201,26
0:22:45	23,48	15,25	0,1525	0,152	42,9	1099,6	5491,55	200,24
Sketch of					Maximum axial stress		205,73	kPa
					Axial strain at failure		14,22	%
					Unconfined compressive strength q_u		205,73	kPa
Inclination of shear surface					Operator	Checked	Approved	
					T. Jajanidze	T. Gorgidze	R. Kavelashvili	

Unconfined Compression Test, Soils			
Project Name: GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		Borehole / pit	BH-SB6-1
		Sample no:	
Soil description Intermediately plastic silty sandy CLAY with a little rounded gravel content		Depth, m	29,7-29,9
		Date	12.08.2011
Test method		BS 1377 : Part 7 : 1990 : 7.2	
The graph plots Axial stress (σ_1, mpa) on the y-axis (0 to 220) against Relative deformation (ϵ, mm) on the x-axis (0.00 to 0.17). The data points form a smooth curve that rises steeply from the origin, reaches a peak of about 205 mpa at 0.13 mm deformation, and then slightly declines to approximately 200 mpa at 0.15 mm deformation.			
		Operator	Checked
		T. Jajanidze	T. Gorgidze
		Approved	
		R. Kavelashvili	

ANNEX 1 .7
Calculating Mechanical (Shear)
Properties Based on Physical Properties

Calculation of mechanical properties values (Angle of internal friction φ and cohesion C_n)

Project Name GC-1128	Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia		
Location	Imereti Region, Georgia	Layer #	8
Soil Description	Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions		

Values Received from Laboratory Testing

Plasticity Index	Liquidity Index	Soil Density, gr/cm ³	Less than 2 mm Fraction Percentage	More than 2 mm Fraction Percentage	Strength of Gravel Inclusions, MPa
I _p	I _L	ρ	P ₁	P ₂	σ
0.142	0.29	2.03	25.9	74.1	115.0

Calculated Data Received from Standard Tables (according to the USSR DaNIIS Gosstroï - ДальНИИС Госстроя СССР)

Soil Normative Density	Rounding Coefficient of Large Fragments for Angle of Internal Friction	Rounding Coefficient of Large Fragments for Cohesion	Soil Physical Equivalent	Coefficient, in case of M_r value	Coefficient Depending on Soil Density	Coefficient for M_r Equivalent Value
ρ_n	K ₁	K ₂	M _r	K _{φ}	K _{ρ}	K _E
2.24	0.877	0.9	0.064	0.964	0.8	K _L
						1.0
						0.9

Calculation

For Consolidated Soil (compacted)	For Non-consolidated Soil (Natural condition)
$M_r = P_1 / P_2 * I_p (1+I_L) = 0.06$	
$\varphi_n = k_1 k_\varphi 46(0.3)^{M_r} = 36.0$ degree	$\varphi_n = k_1 k_\varphi 37(0.234)^{M_r} = 28.5$ degree
$c_n = k_2 k_\rho 79 M_r^{0.32} / (1+I_L)^{3.62} = 9.4$ kPa	$c_n = k_2 k_\rho 87 M_r^{0.51} / (1+I_L)^{3.85} = 5.8$ kPa

Operator	Checked	Approved
T. Jajandze	T. Gorgidze	R. Kavelashvil

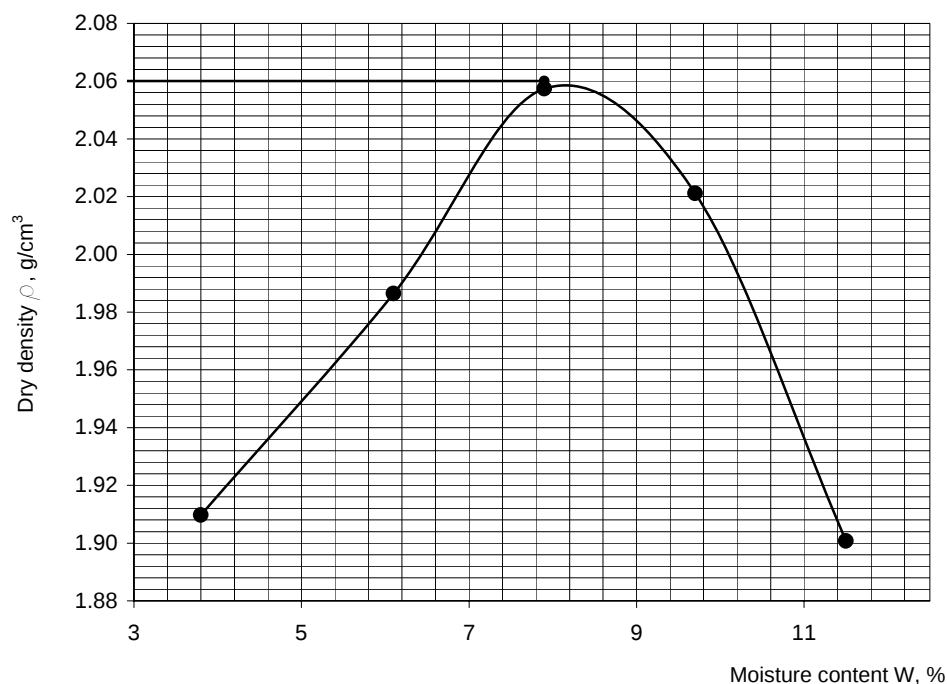
ANNEX 1 .8
Standard Compaction Tests
(Proctor)

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128			Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia				
Soil Description:			Borehole/ <u>Pit no.</u>	TP-SE-1
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions			Sample no.	
			Depth	1,0-2,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*			Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer*						
<u>5</u> layer		<u>62</u> blows per layer				
One litre/ <u>CBR* mould</u>		Volume of mould 2313 cm ³				
Single sample/separate batches*						
Initial sample mass, g		Particle density 2.74 g/cm ³				
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g		0.0 %				
Test number		1	2	3	4	5
Mass of mould+base+compacted specimen (m ₂)	g	10243	10532	10791	10785	10560
Mass of mould+base (m ₁)	g	5680	5680	5680	5680	5680
Mass of compacted specimen (m ₂ -m ₁)	g	4563	4852	5111	5105	4880
Bulk density	$\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	1.97	2.10	2.21	2.21	2.11
Moisture content container N ₀		32	39	37	40	41
Moisture content (w)	%	3.30	5.60	7.40	9.20	11.00
Dry density	$\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.91	1.99	2.06	2.02	1.90
*Delete as appropriate						

Maximum dry density 2,06g/cm³
Optimum moisture content 7,4 %



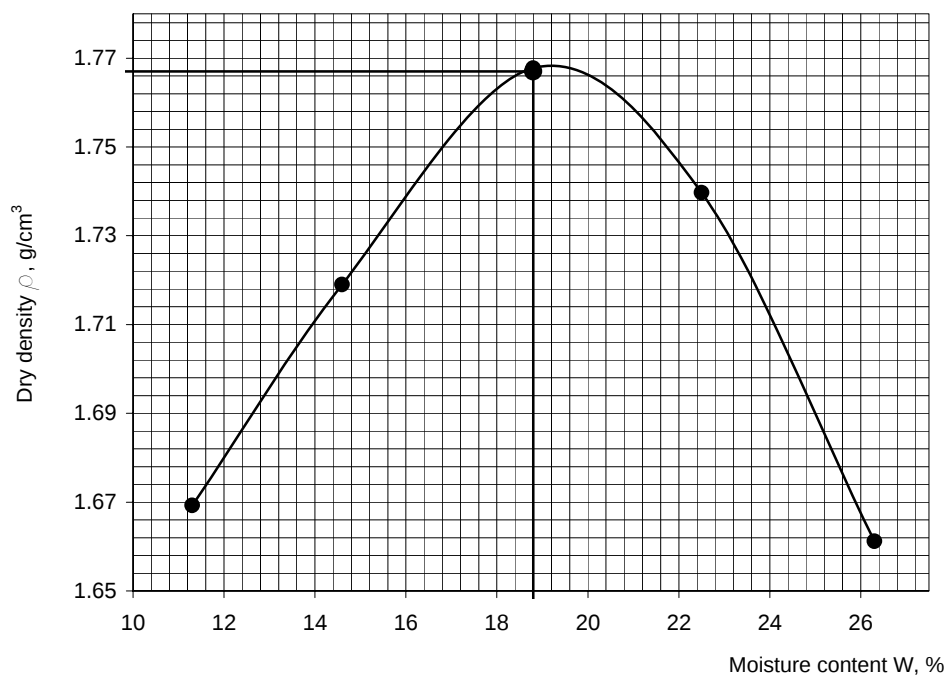
sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/ <u>Pit no.</u>	TP-SE-5
Low plastic silty sandy CLAY		Sample no.	
		Depth	1,5-1,6
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer*						
<u>5</u> layer		<u>27</u> blows per layer				
One litre/ <u>CBR* mould</u>		Volume of mould 999 cm ³				
Single sample/separate batches*						
Initial sample mass, g		Particle density 2.74 g/cm ³				
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g		0.0 %				
Test number		1	2	3	4	5
Mass of mould+base+compacted specimen (m ₂)	g	6790	6902	7032	7063	7030
Mass of mould+base (m ₁)	g	4934	4934	4934	4934	4934
Mass of compacted specimen (m ₂ -m ₁)	g	1856	1968	2098	2129	2096
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$	g/cm ³	1.86	1.97	2.10	2.13	2.10
Moisture content container N ₀		4	28	25	22	23
Moisture content (w)	%	11.30	14.60	18.80	22.50	26.30
Dry density $\rho_d = \frac{100\rho}{100 + W}$	g/cm ³	1.67	1.72	1.77	1.74	1.66
*Delete as appropriate						

Maximum dry density 1.77 g/cm³
Optimum moisture content 18.80 %



sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

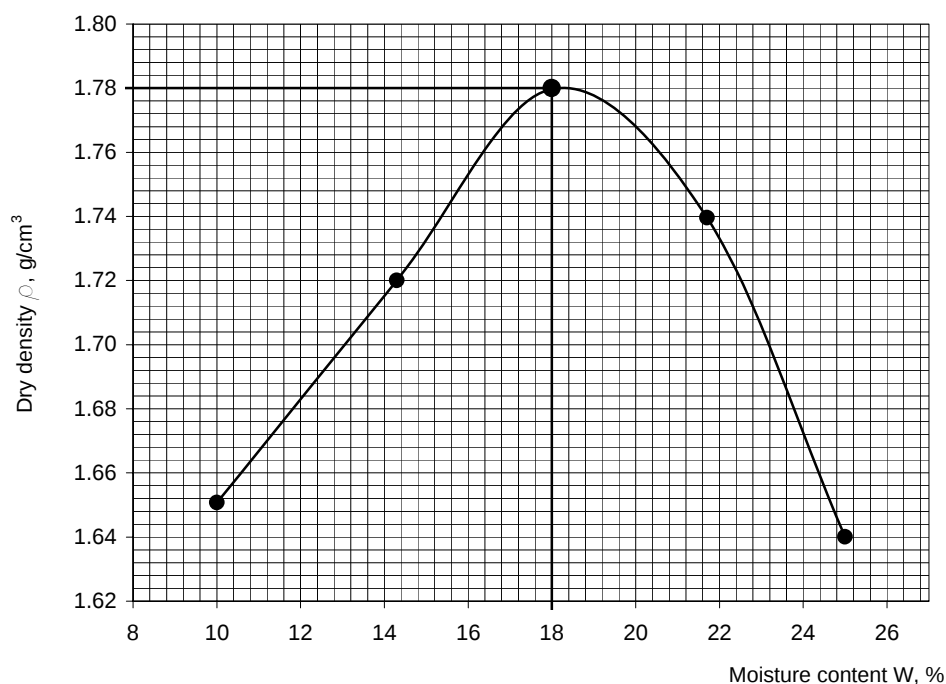
Project Name: GC-1128			
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Location	Imereti Region, Georgia	
Soil Description:	Borehole/ <u>Pit no.</u>	TP-SE-6	
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions	Sample no.		
	Depth	1,5-1,7	
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*	Date	19.06.2011	

Procedure 2.5/4.5 kg* hand/mechanical rammer*5 layer27 blows per layerOne litre/CBR* mouldVolume of mould **999** cm³

Single sample/separate batches*

Initial sample mass, g	Particle density 2.74 g/cm ³					
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g	0.0 %					
Test number	1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂) g	6748	6898	7032	7049	6982	
Mass of mould+base (m ₁) g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁) g	1814	1964	2098	2115	2048	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	1.82	1.97	2.10	2.12	2.05	
Moisture content container N _o	33	32	35	40	42	
Moisture content (w) %	10.00	14.30	18.00	21.70	25.00	
Dry density $\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.65	1.72	1.78	1.74	1.64	

*Delete as appropriate

Maximum dry density **1.78 g/cm³**Optimum moisture content **18.0 %**

sheet 1 of 1	Operator	Checked	Approved
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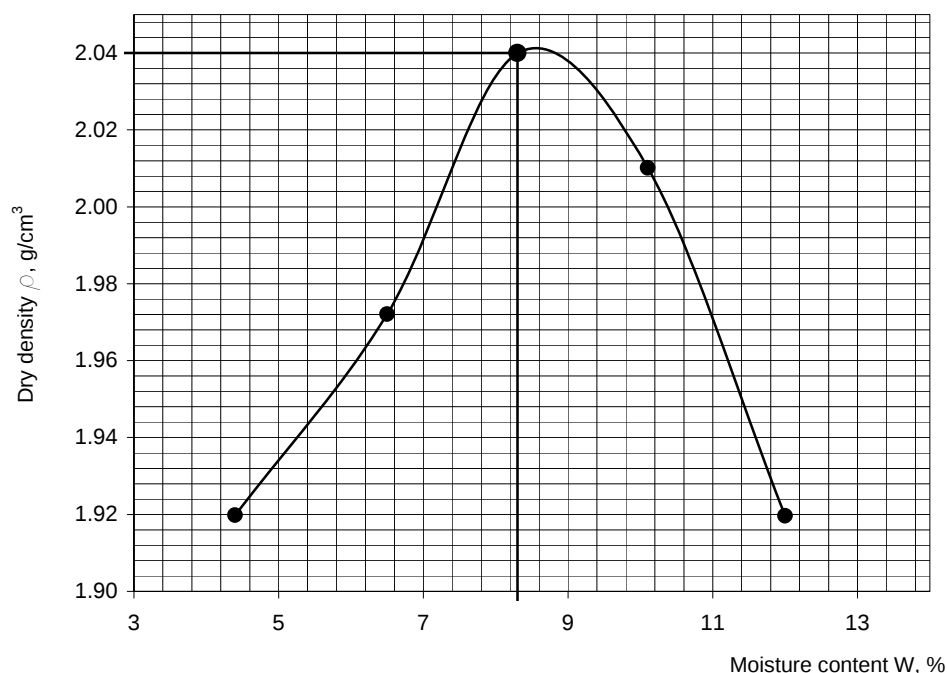
Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/ <u>Pit no.</u>	TP-SE-7
Rounded GRAVEL with low plastic sandy clay matrix, with rounded cobbles and boulders inclusions	Sample no.		
	Depth		1,3-2,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5/4.5 kg*</u> hand/mechanical rammer* <u>5</u> layer <u>62</u> blows per layer One litre/ <u>CBR* mould</u> Volume of mould 2313 cm ³ Single sample/separate batches*						
Initial sample mass, g	Particle density 2.74 g/cm ³					
Retained on 20 mm/ <u>37.5 mm*</u> sieve, g	0.0 %					
Test number	1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂) g	10316	10538	10790	10799	10653	
Mass of mould+base (m ₁) g	5680	5680	5680	5680	5680	
Mass of compacted specimen (m ₂ -m ₁) g	4636	4858	5110	5119	4973	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	2.00	2.10	2.21	2.21	2.15	
Moisture content container N ₀	30	29	33	41	37	
Moisture content (w) %	4.40	6.50	8.30	10.10	12.00	
Dry density $\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.92	1.97	2.04	2.01	1.92	

*Delete as appropriate

Maximum dry density 2,04 g/cm³
 Optimum moisture content 8,30 %



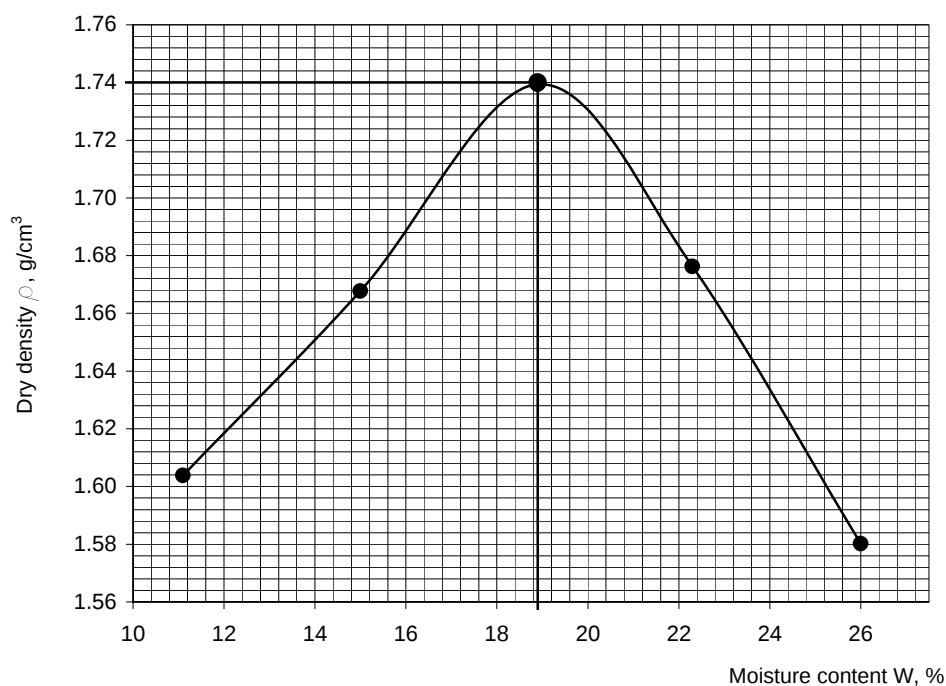
sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/ <u>Pit no.</u>	TP-SE-8
Intermediately plastic silty sandy CLAY with little rounded gravel inclusions		Sample no.	
		Depth	0,5-1,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer*							
<u>5</u> layer		<u>27</u> blows per layer					
One litre/ <u>CBR* mould</u>		Volume of mould 999 cm ³					
Single sample/separate batches*							
Initial sample mass, g		Particle density 2.74 g/cm ³					
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g		0.0 %					
Test number		1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂)	g	6714	6850	7000	6982	6923	
Mass of mould+base (m ₁)	g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁)	g	1780	1916	2066	2048	1989	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$	g/cm ³	1.78	1.92	2.07	2.05	1.99	
Moisture content container N ₀		2	5	12	45	432	
Moisture content (w)	%	11.10	15.00	18.90	22.30	26.00	
Dry density $\rho_d = \frac{100\rho}{100 + W}$	g/cm ³	1.60	1.67	1.74	1.68	1.58	
*Delete as appropriate							

Maximum dry density 1.74 g/cm³
Optimum moisture content 18.90 %



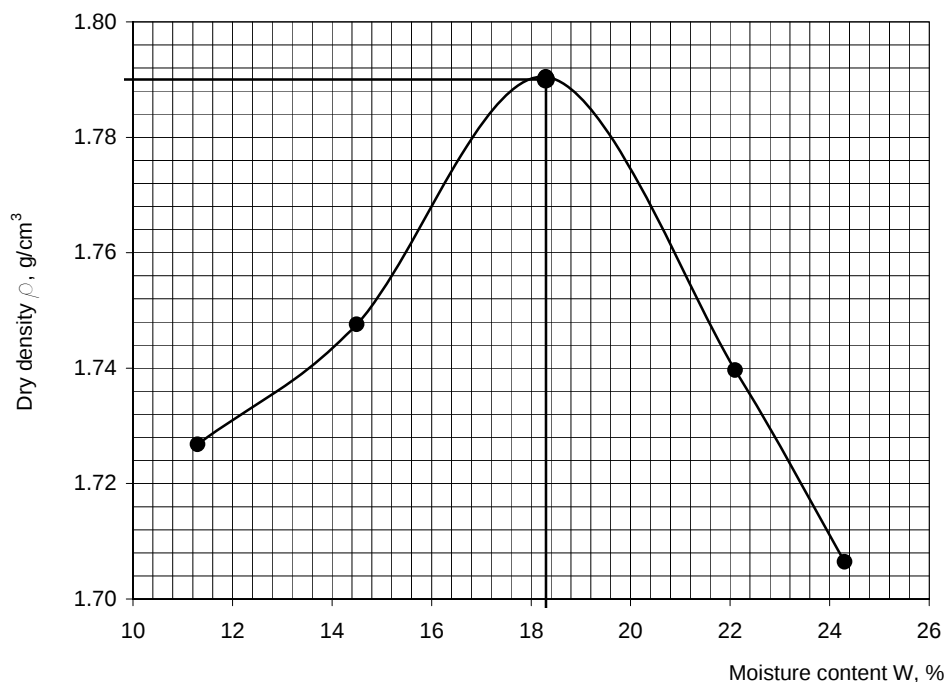
sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/Pit no.	BH-SE-12
Intermediately plastic silty sandy CLAY		Sample no.	
		Depth	0,4-2,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer* <u>5</u> layer <u>27</u> blows per layer One litre/ <u>CBR* mould</u> Volume of mould 999 cm ³ Single sample/separate batches*						
Initial sample mass, g			Particle density 2.74 g/cm ³			
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g			0.0 %			
Test number		1	2	3	4	5
Mass of mould+base+compacted specimen (m ₂)	g	6854	6933	7050	7056	7053
Mass of mould+base (m ₁)	g	4934	4934	4934	4934	4934
Mass of compacted specimen (m ₂ -m ₁)	g	1920	1999	2116	2122	2119
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$	g/cm ³	1.92	2.00	2.12	2.12	2.12
Moisture content container N _o		070	079	076	238	300
Moisture content (w)	%	11.30	14.50	18.30	22.10	24.30
Dry density $\rho_d = \frac{100\rho}{100 + W}$	g/cm ³	1.73	1.75	1.79	1.74	1.71
*Delete as appropriate						

Maximum dry density 1.79 g/cm³
 Optimum moisture content 18.30 %



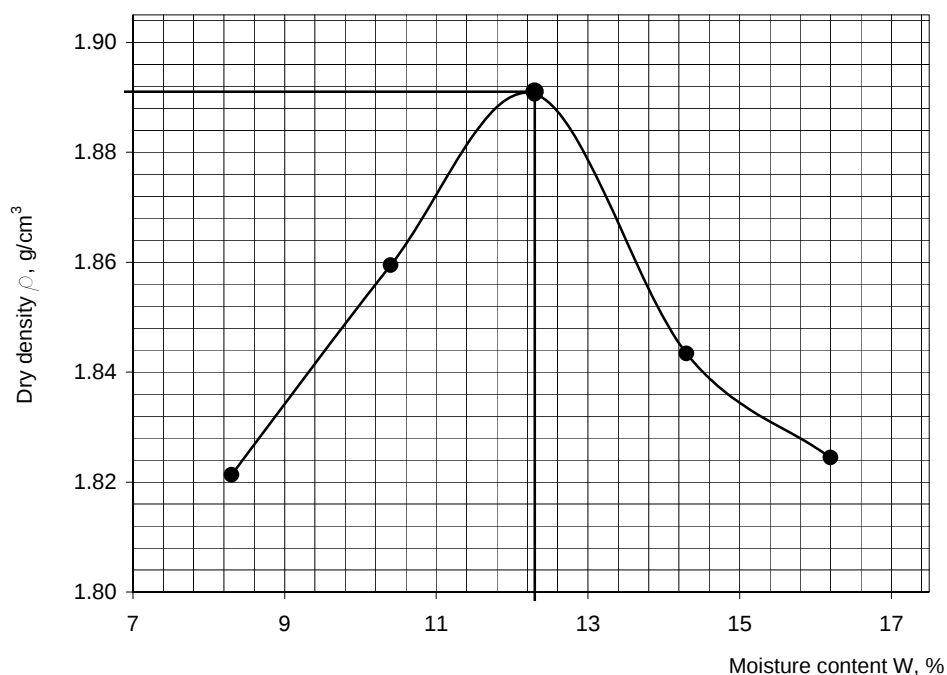
sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/Pit no.	BH-SE-14
Rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions	Sample no.		
	Depth		1,2-2,3
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer* <u>5</u> layer <u>27</u> blows per layer One litre/ <u>CBR* mould</u> Volume of mould 999 cm ³ Single sample/separate batches*						
Initial sample mass, g	Particle density 2.74 g/cm ³					
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g	0.0 %					
Test number	1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂) g	6890	6970	7040	7024	7037	
Mass of mould+base (m ₁) g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁) g	1956	2036	2106	2090	2103	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	1.96	2.04	2.11	2.09	2.11	
Moisture content container N _o	070	079	076	238	300	
Moisture content (w) %	7.80	9.90	11.80	13.80	15.70	
Dry density $\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.82	1.85	1.89	1.84	1.82	
*Delete as appropriate						

Maximum dry density 1.89 g/cm³
 Optimum moisture content 11.80 %



sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/Pit no.	BH-SE-16
Silty SAND with a little rounded gravel content		Sample no.	
		Depth	0,5-2,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure 2.5/4.5 kg* hand/mechanical rammer*5

layer

27

blows per layer

One litre/**CBR* mould**Volume of mould **999** cm³

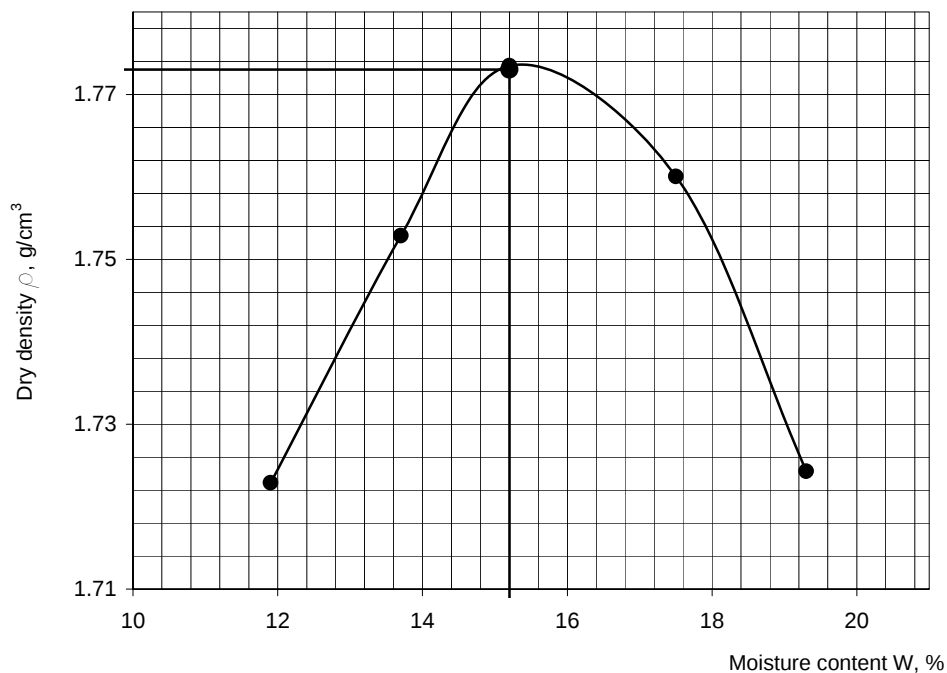
Single sample/separate batches*

Initial sample mass, g		Particle density 2.74 g/cm ³					
Retained on 20 mm/ 37.5 mm * sieve, g		0.0 %					
Test number		1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂)	g	6860	6925	6975	7000	6989	
Mass of mould+base (m ₁)	g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁)	g	1926	1991	2041	2066	2055	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$	g/cm ³	1.93	1.99	2.04	2.07	2.06	
Moisture content container N ₀		25	80	22	3	28	
Moisture content (w)	%	11.90	13.70	15.20	17.50	19.30	
Dry density $\rho_d = \frac{100\rho}{100 + W}$	g/cm ³	1.72	1.75	1.77	1.76	1.72	

*Delete as appropriate

Maximum dry density 1.77 g/cm³

Optimum moisture content 15,20 %



sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

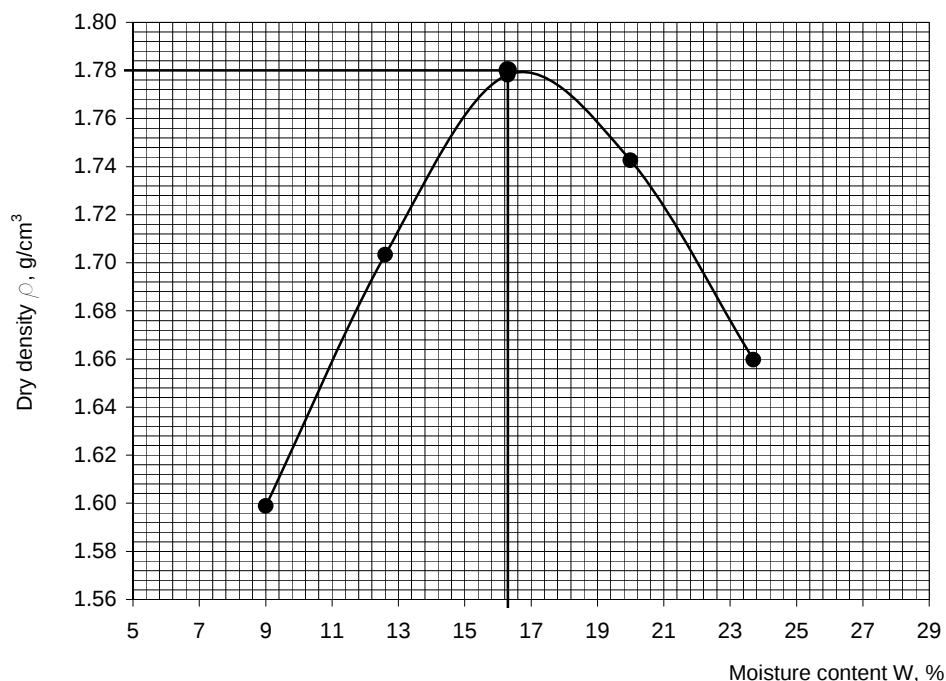
Dry Density/Moisture Content Relationship (Rammer)

Project Name:GC-1128		Location	Imereti Region, Georgia
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia			
Soil Description:		Borehole/Pit no.	BH-SE-18
Low plastic sandy clayey SILT with a little rounded gravel inclusions		Sample no.	
		Depth	0,4-2,0
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*		Date	19.06.2011

Procedure <u>2.5</u> /4.5 kg* hand/mechanical rammer*							
<u>5</u> layer		<u>27</u> blows per layer					
One litre/ <u>CBR* mould</u>		Volume of mould				999 cm ³	
Single sample/separate batches*							
Initial sample mass, g		Particle density 2.74 g/cm ³					
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g		0.0 %					
Test number		1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂)	g	6675	6850	7000	7023	6985	
Mass of mould+base (m ₁)	g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁)	g	1741	1916	2066	2089	2051	
Bulk density	$\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	1.74	1.92	2.07	2.09	2.05	
Moisture content container N _o		006	045	388	005	015	
Moisture content (w)	%	9.00	12.60	16.30	20.00	23.70	
Dry density	$\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.60	1.70	1.78	1.74	1.66	

*Delete as appropriate

Maximum dry density 1.78 g/cm³
Optimum moisture content 16.3 %



sheet 1 of 1	Operator	Checked	Approved
	Artem Lomidze	Tatia Jajanidze	Roin Kavelashvili

Dry Density/Moisture Content Relationship (Rammer)

Project Name: GC-1128			
Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia	Location	Imereti Region, Georgia	
Soil Description:	Borehole/Pit no.	BH-SE-19	
Intermediately plastic silty CLAY	Sample no.		
	Depth	0,5-1,3	
Test Method BS 1377 : Part 4 : 1990 : 3.3/3.4/3.5/3.6*	Date	19.06.2011	

Procedure 2.5/4.5 kg* hand/mechanical rammer*5

layer

27

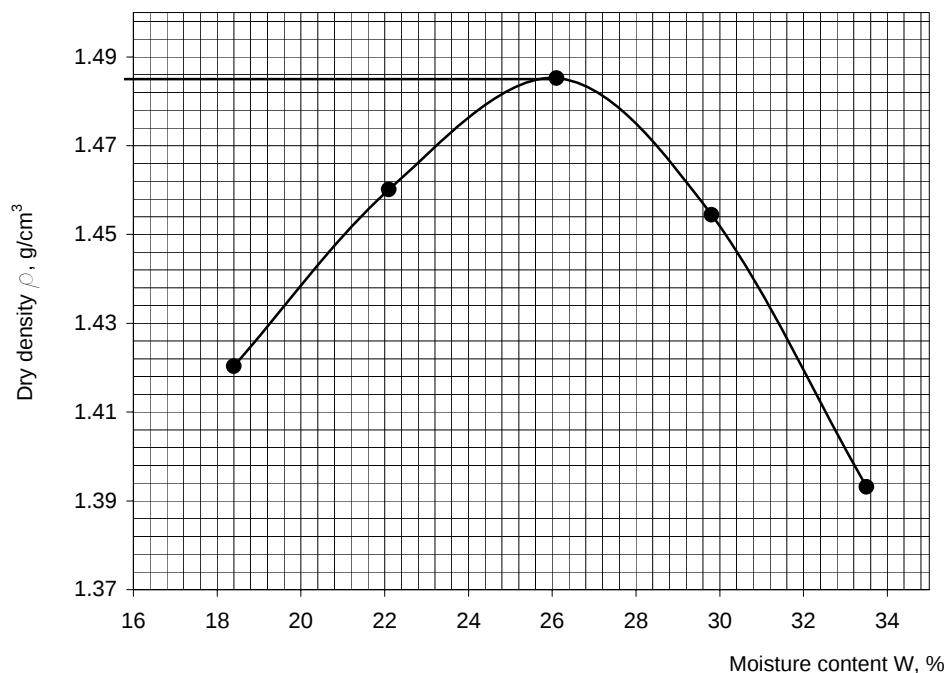
blows per layer

One litre/**CBR* mould**Volume of mould **999** cm³

Single sample/separate batches*

Initial sample mass, g	Particle density 2.74 g/cm ³					
Retained on 20 mm/ 37.5 mm * sieve, g	0.0 %					
Test number	1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂) g	6614	6715	6805	6820	6792	
Mass of mould+base (m ₁) g	4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁) g	1680	1781	1871	1886	1858	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$ g/cm ³	1.68	1.78	1.87	1.89	1.86	
Moisture content container N _o	388	070	370	290	215	
Moisture content (w) %	18.40	22.10	26.10	29.80	33.50	
Dry density $\rho_d = \frac{100\rho}{100 + W}$ g/cm ³	1.42	1.46	1.49	1.45	1.39	

*Delete as appropriate

Maximum dry density **1.49 g/cm³**Optimum moisture content **26.10 %**

sheet 1 of 1	Operator	Checked	Approved
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Annex 1.8, Page 11/11

Procedure <u>2.5/4.5 kg* hand/mechanical rammer*</u>							
<u>5</u> layer		<u>27</u> blows per layer					
One litre/ <u>CBR* mould</u>				Volume of mould 999 cm ³			
Single sample/separate batches*							
Initial sample mass, g			Particle density 2.74 g/cm ³				
Retained on 20 mm/ <u>37.5 mm</u> * sieve, g			0.0 %				
Test number		1	2	3	4	5	6
Mass of mould+base+compacted specimen (m ₂)		g 6593	6770	6910	6870	6835	
Mass of mould+base (m ₁)		g 4934	4934	4934	4934	4934	
Mass of compacted specimen (m ₂ -m ₁)		g 1659	1836	1976	1936	1901	
Bulk density $\rho = \frac{m_2 - m_1}{18.15h}$		g/cm ³ 1.66	1.84	1.98	1.94	1.90	
Moisture content container N _o		200	297	015	313	213	
Moisture content (w)		% 13.00	16.90	20.50	24.60	28.40	
Dry density $\rho_d = \frac{100\rho}{100 + W}$		g/cm ³ 1.47	1.57	1.64	1.56	1.48	

Maximum dry density 1.64 g/cm³
Optimum moisture content 20.5 %

