START DATE: 23.06.2011 END DATE: 03.07.2011	CASING DIAMETER (M): 146-127-108	BOREHOLE No. BH-SB1-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB 50 M DRILLING CONTRACTOR: GeoEng. DRILLER: DJ. Chokheli	DRILLING DIAMETER (M): 152-93	Coordinates: X(m): 38T 286400.94 Y(m): 4671103.29 Z(m): 26.46

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.3							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots, with a little rounded gravel content (TOPSOIL)					
1.0	2.0							Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
2.0													
3.0		D	1 / 3.0-3.3										
4.0													
5.0		D	2 / 5.7-6.0										
6.0													
7.0													
8.0		D	3 / 8.0-8.4					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
9.0													
10.0													
11.0													
12.0		D	4 / 11.7-12.0										
		D	5 / 12.5-12.8										
13.0													
14.0													
15.0		D	6 / 14.8-15.0										

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL (m) - 4.3 GROUND WATER STANDING LEVEL (m) - 4.3	Logged by: Sh. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No. GC 1128 PAGE 1 / 2

START DATE: 23.06.2011 END DATE: 03.07.2011	CASING DIAMETER (M): 146-127-108	BOREHOLE No. BH-SB1-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB 50 M DRILLING CONTRACTOR: GeoEng. DRILLER: DJ. Chokheli	DRILLING DIAMETER (M): 152-93	Coordinates: X(m): 38T 286400.94 Y(m): 4671103.29 Z(m): 26.46

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0 – 23.0	23.0	D	7 / 17.2-17.5					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					0 10 20 30 40 50
23.0 – 30.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 4.3 GROUND WATER STANDING LEVEL (m) - 4.3	Logged by: Sh. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No. GC1128 PAGE 2 / 2

START DATE: 02.07.2011 END DATE: 08.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB1-2
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 286297.13 Y(m): 4671083.37 Z(m): 23.98

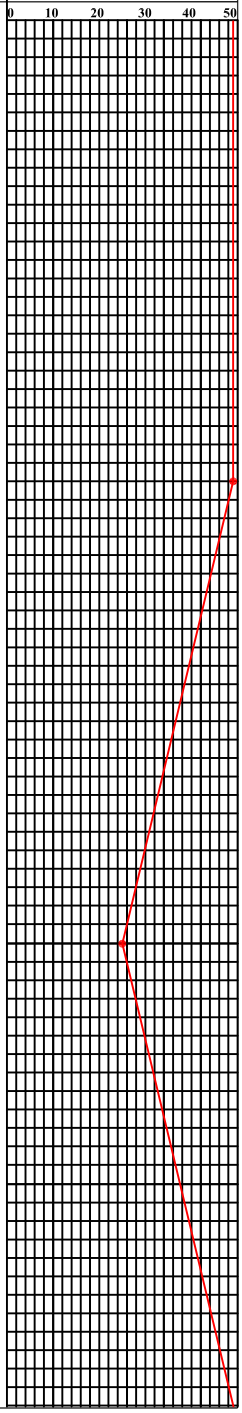
Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.4							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0		D	1 / 0.4-2.0					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
2.0	2.0									35	38	40	
3.0													
4.0		D	2 / 4.0-5.0										
5.0													
6.0													
7.0		D	3 / 7.0-8.0										
8.0													
9.0								Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
10.0		D	4 / 10.0-11.0							26	27	35	
11.0													
12.0													
13.0		D	5 / 13.0-14.0										
14.0													
15.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.0 GROUND WATER STANDING LEVEL (m) - 28.0 Pressured water observed from 28.0 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 3

START DATE: 02.07.2011 END DATE: 08.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB1-2
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 286297.13 Y(m): 4671083.37 Z(m): 23.98

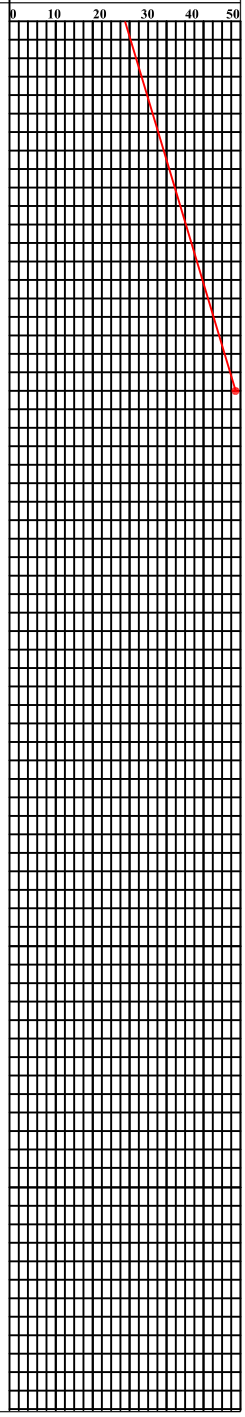
Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0–30.0		D	6 / 16.0-17.0										
		D	7 / 19.0-20.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		39	50 / 6sm	-	
	24.2	U	8 / 24.2-24.5										
		U	9 / 25.2-25.4					Moist, bluish-graish, stiff, intermediately plastic silty CLAY with a little rounded gravel content and with organic content		8	10	15	
		U	10 / 27.0-27.3										
	28.0												
		D	11 / 29.0-30.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					



REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.0 GROUND WATER STANDING LEVEL (m) - 28.0 Pressured water observed from 28.0 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 3

START DATE: 02.07.2011 END DATE: 08.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB1-2
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 286297.13 Y(m): 4671083.37 Z(m): 23.98

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
30.0 – 35.0	35.0	D	12 / 33.0-34.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		30	40	38	



REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.0 GROUND WATER STANDING LEVEL (m) - 28.0 Pressured water observed from 28.0 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 3 / 3

START DATE: 20.06.2011 END DATE : 05.07.2011	CASING DIAMETER (M): 146-127	BOREHOLE No. BH-SB1-3
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT :UGB -50M DRILLING CONTRACTOR :GeoEng. DRILLER :V .Chigogidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 286199.21 Y(m): 4671069.13 Z(m): 23.13

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.4		CBR 0.4-2.0					Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots, with a little rounded gravel content (TOPSOIL)					
1.0													
2.0		disturbed	2 2.0-2.4						21	29	37		
3.0													
4.0								Saturated, grayish brown, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
5.0		disturbed	3 5.0-5.5						31	50/ 12cm			
6.0													
7.0		disturbed	4 6.7-7.0						27	34	53		
8.0													
9.0	9.3												
	9.8							Saturated, grayish, silty SAND with a little rounded gravel content	24	33	50/ 9cm		
10.0													
11.0		disturbed	5 11.7-12.0										
12.0								Saturated, grayish brown, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
13.0													
14.0													
15.0		disturbed	6 14.5-14.9						28	19	33		

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - (I-Level-1.02) (II-Level-23.3- ARTESIAN WATER)	Logged by: Sh. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 /2

START DATE: 20.06.2011 END DATE : 05.07.2011	CASING DIAMETER (M): 146-127	BOREHOLE No. BH-SB1-3
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT :UGB -50M DRILLING CONTRACTOR :GeoEng. DRILLER :V .Chigogidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 286199.21 Y(m): 4671069.13 Z(m): 23.13

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0													
16.0		disturbed	7 / 16.3-16.9					Saturated, grayish brown, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions	38	50/ 13cm			
17.0													
18.0		disturbed	8 / 17.7-18.0						31	50/ 7cm			
19.0													
20.0													
21.0													
22.0													
23.0	23.3	disturbed	9 / 23.4-23.7										
24.0		disturbed	10 / 24.15-24.45					Moist, graysh blue, stiff, intermediately plastic silty CLAY with a little rounded gravel content	7	11	13		
25.0													
26.0													
27.0									8	10	11		
28.0													
29.0	28.7								47	50/ 6cm			
30.0	30.0							Saturated, grayish brown, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - (I-Level-1.02) (II-Level-23.3- ARTESIAN WATER)	Logged by: Sh. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 /2

START DATE: 06.05.2011 END DATE : 16.05.2011	CASING DIAMETER (M): 146-127	BOREHOLE No. BH-SB1-4
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT :UGB-50 DRILLING CONTRACTOR :GeoEng. DRILLER :G. Lomidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(∂): 38T 286098.05 Y(∂): 4671062.06 Z(m): 22.58

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.1							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0		disturbed.	CBR 0.1-2.0										
2.0										14	17	24	
3.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
4.0		disturbed.	1 4.0-4.3							11	18	31	
5.0													
6.0		disturbed.	2 5.7-6.0							20	37	50/9	
	6.4	disturbed.	3 6.5-7.0							24	50/11		
7.0													
8.0													
9.0		disturbed.	4 9.3-9.8					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		16	44	50/9	
10.0													
11.0													
		disturbed.	5 11.5-12.0							21	40	50/12	
12.0													
	12.8	disturbed.	6 12.8-13.0										
13.0		disturbed.	7					Moist, graish-bluish, stiff, intermediately plastic CLAY with a little rounded gravel content	2.3	24	37	50/8	
	13.5		13.1-13.3										
14.0								Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions			50/12cm		
		disturbed.	8 14.7-15.0										
15.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - (I-Level-0.10) (II-Level-26.2- ARTESIAN WATER)	Logged by: D. Sirbiladze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 /2

START DATE: 06.05.2011 END DATE : 16.05.2011	CASING DIAMETER (M): 146-127	BOREHOLE No. BH-SB1-4
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT :UGB-50 DRILLING CONTRACTOR :GeoEng. DRILLER :G. Lomidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(∂): 38T 286098.05 Y(∂): 4671062.06 Z(m): 22.58

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0													
16.0										31	50/11		
17.0													
		disturbed.	9 17.6-18.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
18.0										29	50/11		
19.0		disturbed.	10 19.0-19.3										
20.0										26	50/9		
21.0	21.3												
		disturbed.	11 21.7-22.0					Very moist, gray, dens, silty SAND with a little rounded gravel content					
22.0	22.2	disturbed.	12 22.6-22.8					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions	2.1	39	41	25	
23.0	23.0								2.4	9	11	13	
24.0		Undisturbed	13 24.1-24.3					Moist, graish-bluish, stiff, intermediately plastic CLAY with a little rounded gravel content					
25.0		Undisturbed	14 25.3-25.6										
26.0	26.2									12	22	36	
27.0													
		Distarbed	15 27.5-28.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
28.0										38	50/12		
29.0		Distarbed	16 29.0-29.5										
30.0	30.0												

SPT N-blows scale: 0 10 20 30 40 50 60

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - (I-Level-0.10) (II-Level-26.2- ARTESIAN WATER)	Logged by: D. Sirbiladze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 /2

START DATE: 06.06.2011 END DATE: 19.06.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB1-5
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB50 DRILLING CONTRACTOR: GeoEng. DRILLER: V .Chigogidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(∂): 38T 286011.95 Y(∂): 4671043.91 Z(∂): 22.69

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.3	U	1 / 0.4-0.6					Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0	1.0	D	2 / 1.0-2.0					Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content		10	15	16	
2.0													
3.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		13	18	20	
4.0		D	3 / 4.0-5.0										
5.0													
6.0	6.0	D	4 / 6.0-6.5							22	44	50 / 6cm	
7.0													
8.0										28	50 / 4cm		
9.0								Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
10.0													
11.0		D	5 / 11.3-11.7							27	50 / 9cm		
12.0													
13.0													
14.0	13.8	D	6 / 13.5-13.8					Very moist, brown, firm, low plastic sandy clayey SILT with a little rounded gravel content		32	50 / 7cm		
15.0	14.8	D	7 / 14.5-14.8										

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 0.15 GROUND WATER STANDING LEVEL (m) - 0.10	Logged by: D. Sirbiladze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 /2

START DATE: 06.06.2011 END DATE: 19.06.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB1-5
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB50 DRILLING CONTRACTOR: GeoEng. DRILLER: V .Chigogidze	DRILLING DIAMETER (M): 152-92	Coordinates: X(∂): 38T 286011.95 Y(∂): 4671043.91 Z(∂): 22.69

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0													
16.0		D	8 / 16.0-17.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		39	50 / 5cm		
17.0													
18.0										48	50 / 6cm		
19.0		D	9 / 19.0-20.0										
20.0													
21.0	21.0												
22.0													
23.0													
24.0													
25.0													
26.0													
27.0													
28.0													
29.0													
30.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 0.15 GROUND WATER STANDING LEVEL (m) - 0.10	Logged by: D. Sirbiladze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 /2

START DATE: 16.06.2011 END DATE: 24.06.2011	CASING DIAMETER (M): 146	BOREHOLE No. BH-SB1-6
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152	Coordinates: X(m):285901.48 Y(m): 4671031.10 Z(m): 23.17

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.3	D	1 / 0.3-1.0					Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0	1.5	D	2 / 1.0-1.3					Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
2.0	2.0							Very moist, gray, firm, low plastic sandy clayey SILT CLAY with a little rounded gravel content		14	21	24	
3.0													
4.0		D	3 / 3.5-4.0							19	17	20	
5.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
6.0		D	4 / 6.0-6.5							22	25	23	
7.0													
8.0	8.0									36	32	37	
9.0		D	5 / 8.5-9.0										
10.0													
11.0		D	6 / 10.5-11.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		29	30	35	
12.0													
13.0													
14.0		D	7 / 13.0-14.0							35	39	42	
15.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 27.5 Pressured water observed from 27.5 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 3

START DATE: 16.06.2011 END DATE: 24.06.2011	CASING DIAMETER (M): 146	BOREHOLE No. BH-SB1-6
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152	Coordinates: X(m):285901.48 Y(m): 4671031.10 Z(m): 23.17

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0													
16.0		D	8 / 16.0-17.0								50 / 12cm		
17.0													
18.0													
19.0										38	50 / 0sm	-	
		D	9 / 19.0-20.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
20.0													
21.0													
22.0													
23.0													
24.0													
25.0	24.9	U	10 / 25.0-25.2							50 / 9sm	-	-	
26.0		U	11 / 26.0-26.2					Moist, gray, stiff, intermediately plastic silty CLAY with little rounded gravel content (with organic content)		9	10	12	
27.0		U	12 / 27.0-27.2										
28.0	27.5							Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
29.0	28.7	D	13 / 29.0-30.0					Saturated, grayish, dense, silty SAND with a little rounded gravel content		45	50 / 8sm	-	
30.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 27.5 Pressured water observed from 27.5 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 3

START DATE: 16.06.2011 END DATE: 24.06.2011	CASING DIAMETER (M): 146	BOREHOLE No. BH-SB1-6
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152	Coordinates: X(m):285901.48 Y(m): 4671031.10 Z(m): 23.17

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
30.0													0 10 20 30 40 50
31.0													
32.0								Saturated, grayish, dense, silty SAND with a little rounded gravel content					
33.0		D	14 / 32.0-35.0										
34.0													
35.0	35.0												
36.0													
37.0													
38.0													
39.0													
40.0													
41.0													
42.0													
43.0													
44.0													
45.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 27.5 Pressured water observed from 27.5 m depth	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 3 / 3

START DATE: 20.06.2011 END DATE: 20.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-12
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 285234.32 Y(m): 4670975.68 Z(m): 24.99

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.3	D	1 / 0.4-2.0					Moist, Brownish-graysh, angular GRAVEL with silty sand matrix-FILL					
1.0													
2.0		D	2 / 2.0-2.3					Molst, brown, stlff, Intermedlately plastlc sllty CLAY with a little rounded gravel content					
	2.5												
3.0													
4.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
5.0		D	3 / 4.0-4.3										
6.0		D	4 / 5.7-6.0										
7.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.8 GROUND WATER STANDING LEVEL (m) - 2.8	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 1

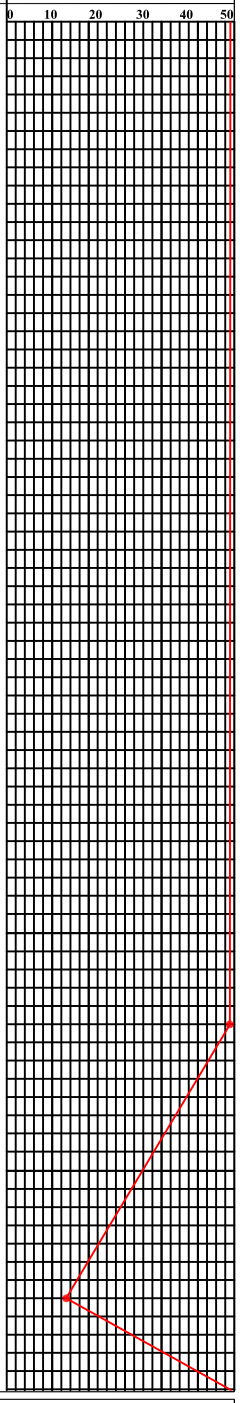
START DATE: 02.08.2011 END DATE: 05.08.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB6-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 285234.59 Y(m): 4670978.53 Z(m): 25.28

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.3	D	1 / 0.0-2.0					Moist, grayish-brownish, angular GRAVEL with silty sand matrix (MADE GROUND)					
1.0								Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
2.0													
2.8													
3.0													
4.0													
5.0										30	38	50 / 8sm	
6.0													
7.0		D	2 / 7.0-8.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
8.0													
9.0													
10.0										25	32	34	
11.0													
12.0													
13.0													
14.0													
15.0		D	3 / 14.0-15.0										

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.5 GROUND WATER STANDING LEVEL (m) - 2.5	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 3

START DATE: 02.08.2011 END DATE: 05.08.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB6-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 285234.59 Y(m): 4670978.53 Z(m): 25.28

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0 – 30.0	26.0	D	4 / 25.0-26.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions		36	50 / 10sm		
		U	5 / 26.0-26.2										
		U	6 / 27.1-27.3					Moist, gray-bluish, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
		U	7 / 28.7-28.9							6	6	7	
		U	8 / 29.7-29.9										



REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.5 GROUND WATER STANDING LEVEL (m) - 2.5	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 3

START DATE: 02.08.2011 END DATE: 05.08.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB6-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 285234.59 Y(m): 4670978.53 Z(m): 25.28

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
30.0													
	31.0	U	9 / 30.5-30.7					Moist, gray-bluish, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
31.0													
32.0										34	40	45	
33.0		D	10 / 32.0-34.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
34.0													
	35.0												
35.0													
36.0													
37.0													
38.0													
39.0													
40.0													
41.0													
42.0													
43.0													
44.0													
45.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.5 GROUND WATER STANDING LEVEL (m) - 2.5	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 3 / 3

START DATE: 07.07.2011 END DATE: 07.07.2011	CASING DIAMETER (M): 146	BOREHOLE No. BH-SE-12-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB 50 M DRILLING CONTRACTOR: GeoEng. DRILLER:A. Bagiashvili	DRILLING DIAMETER (M): 152	Coordinates: X(m): 38T 284802.60 Y(m): 4670960.51 Z(m): 23.61

Depth Scale	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.4	D	CBR 0.0-1.8					Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots, with a little rounded gravel content (TOPSOIL)					
1.0													
2.0	1.9							Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
3.0													
4.0		D	CBR 4.0-5.0					Saturated, grayish-brownish, very dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
5.0													
6.0	6.0												
7.0		D	CBR 5.0-6.0										
8.0													
9.0													
10.0													
11.0													
12.0													
13.0													
14.0													
15.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.3 GROUND WATER STANDING LEVEL (m) - 2.3	Logged by: Sh. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC 1128 PAGE 1 / 1

START DATE: 14.07.2011 END DATE: 19.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB3-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 284470.59 Y(m): 4670953.80 Z(m): 27.04

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.6	D	1 / 0.4-2.0					Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0													
2.0	2.2							Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
3.0								Saturated, grayish, silty SAND with a little rounded gravel content and with thin clay lanses		3	3	4	
4.0		D	2 / 4.0-5.0										
5.0	5.0												
6.0										18	27	30	
7.0		D	3 / 7.0-8.0					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
8.0													
9.0													
10.0													
11.0													
12.0													
13.0		D	4 / 12.0-14.0										
14.0													
15.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.9 GROUND WATER STANDING LEVEL (m) - 2.9	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 3

START DATE: 14.07.2011 END DATE: 19.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB3-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 284470.59 Y(m): 4670953.80 Z(m): 27.04

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0													
	15.9							Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
16.0													
	16.9							Saturated, grayish, silty SAND with a little rounded gravel content					
17.0		D	5 / 17.0-18.0										
18.0													
19.0										35	40	50 / 5sm	
20.0													
21.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
22.0		D	6 / 22.0-23.0										
23.0													
24.0													
25.0	25.2												
26.0													
27.0		U	7 / 27.0-27.2					Moist, gray, stiff, intermediately plastic silty CLAY with a little rounded gravel content		15	15	18	
28.0		U	8 / 28.3-28.5										
29.0		U	9 / 29.0-29.2										
30.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.9 GROUND WATER STANDING LEVEL (m) - 2.9	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 3

START DATE: 14.07.2011 END DATE: 19.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SB3-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 284470.59 Y(m): 4670953.80 Z(m): 27.04

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
30.0		U	10 / 30.0-30.2					Moist, gray, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
31.0	31.2												
32.0								Saturated, grayish, silty SAND with a little rounded gravel content and with thin clay lenses					
33.0		D	11 / 33.0-34.0										
34.0													
35.0	35.0												
36.0													
37.0													
38.0													
39.0													
40.0													
41.0													
42.0													
43.0													
44.0													
45.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.9 GROUND WATER STANDING LEVEL (m) - 2.9	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 3 / 3

START DATE: 20.06.2011 END DATE: 20.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-14
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 284145.79 Y(m): 4670927.95 Z(m): 20.65

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.2							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0		D	1 / 1.2-2.3					Saturated from 0.8m, grayish, silty SAND with a little rounded gravel content					
2.0	2.3							Saturated, grayish-brownish, dense, rounded GRAVEL with sandy clay matrix, with rounded cobbles inclusions					
3.0	3.0	D	2 / 2.7-3.0					Saturated , grayish, silty SAND with a little rounded gravel content					
	3.4	D	3 / 3.2-3.4					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
4.0													
5.0													
		D	4 / 5.8-6.0										
6.0	6.0												
7.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 0.8 GROUND WATER STANDING LEVEL (m) - 0.8	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 1

START DATE: 04.07.2011 END DATE: 04.07.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-15
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB-50 DRILLING CONTRACTOR: GeoEng. DRILLER: J. Chokheli	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 283994.18 Y(m): 4670943.63 Z(m): 20.46

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.2							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots, with a little rounded gravel content (TOPSOIL)					
1.0		D	1 / 0.0-2.4					Saturated, grayish, luuse, silty-clayey SAND with a little rounded gravel content					
2.0	2.4												
3.0								Saturated, bluish-graish, rounded GRAVEL with intermediately plastic sandy clay matrix, with rounded cobbles inclusions and with organic content					
4.0		D	2 / 4.0-5.0										
5.0													
6.0	6.4												
7.0								Saturated, brownish, medium dans, silty SAND with a little rounded gravel content					
		D	3 / 7.0-8.0										

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.4 GROUND WATER STANDING LEVEL (m) - 2.4	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 2

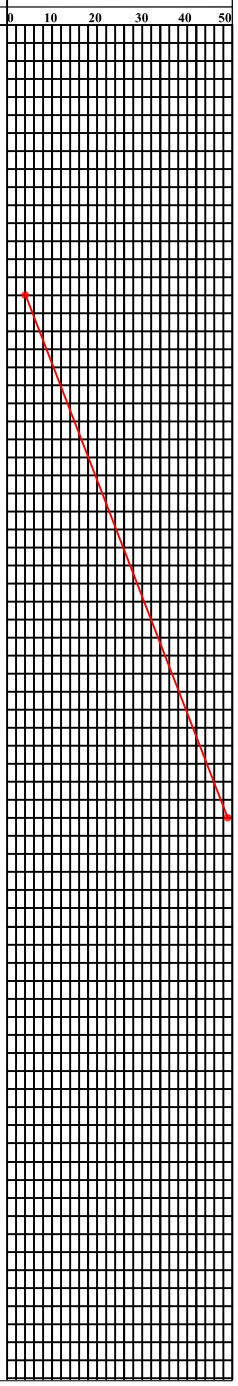
START DATE: 04.07.2011 END DATE: 04.07.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-15
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: UGB-50 DRILLING CONTRACTOR: GeoEng. DRILLER: J. Chokheli	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 283994.18 Y(m): 4670943.63 Z(m): 20.46

Depth Scale m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0 – 15.0	15.0	D	4 / 9.0-10.0					Saturated, brownish, medium dans, silty SAND with a little rounded gravel content					0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 2.4 GROUND WATER STANDING LEVEL (m) - 2.4	Logged by: N. Duluzauri
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 2

START DATE: 22.07.2011 END DATE: 24.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SI2-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 283704.10 Y(m): 4670949.02 Z(m): 22.77

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0	0.1							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
	0.8	U	1 / 0.8-1.0					Moist, grayish-brownish, angular GRAVEL with silty sand matrix (MADE GROUND)					
2.0		U	2 / 2.25-2.55					Moist, brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content		3	2	2	
3.0	3.6	U	3 / 3.6-3.85					Very moist, brown, firm, low plastic sandy clayey SILT with a little rounded gravel content					
4.0	4.2	U	4 / 4.65-4.9					Moist, grayish brown, stiff, intermediately plastic silty CLAY with a little rounded gravel content					
5.0	5.3	D	5 / 5.75-6.0										
6.0													
7.0													
8.0													
9.0		D	6 / 8.8-9.0					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions and with silty clay leanses		15	28	23	
10.0		D	7 / 10.2-10.5										
11.0													
12.0													
13.0													
14.0		D	8 / 13.7-14.0										
15.0													



REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 3.2 GROUND WATER STANDING LEVEL (m) - 3.2	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 2

START DATE: 22.07.2011 END DATE: 24.07.2011	CASING DIAMETER (M): 146-108	BOREHOLE No. BH-SI2-1
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: УГБ-50 DRILLING CONTRACTOR: GeoEng. DRILLER: M. Duluzauri	DRILLING DIAMETER (M): 152-92	Coordinates: X(m): 38T 283704.10 Y(m): 4670949.02 Z(m): 22.77

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
15.0	15.7							Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions and with silty clay leanses					
16.0		D	9 / 16.5-16.9					Saturated, grayish, silty SAND with a little rounded gravel content					
17.0	17.3												
18.0		D	10 / 18.3-18.5					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions and with silty clay leanses					
19.0													
20.0													
21.0													
22.0													
23.0													
24.0		D	11 / 24.0-24.5										
25.0	25.0												
26.0													
27.0													
28.0													
29.0													
30.0													

SPT N-blows scale: 0 10 20 30 40 50

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 3.2 GROUND WATER STANDING LEVEL (m) - 3.2	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 2

START DATE: 21.06.2011 END DATE: 21.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-16
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 283403.71 Y(m): 4670925.58 Z(m): 22.38

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0													0 10 20 30 40 50
								Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
	0.5												
1.0		D	1 / 0.5-2.0										
		D	2 / 1.5-1.7					Saturated from 1.4m, grayish, silty SAND with a little rounded gravel content					
2.0													
3.0		D	3 / 3.1-3.3										
	3.8												
4.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
5.0													
		D	4 / 5.8-6.0										
6.0	6.0												
7.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.4 GROUND WATER STANDING LEVEL (m) - 1.4	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 1

START DATE: 21.06.2011 END DATE: 21.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-17
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 282938.39 Y(m): 4670827.10 Z(m): 24.84

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0													0 10 20 30 40 50
								Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
	0.8												
1.0		D	1 / 0.8-2.0					Saturated from 1.2m, grayish, silty SAND with a little rounded gravel content					
2.0		D	2 / 2.3-2.5										
3.0	3.0	D	3 / 3.3-3.5										
4.0								Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
5.0													
6.0	6.0												
7.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 1.2	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 1

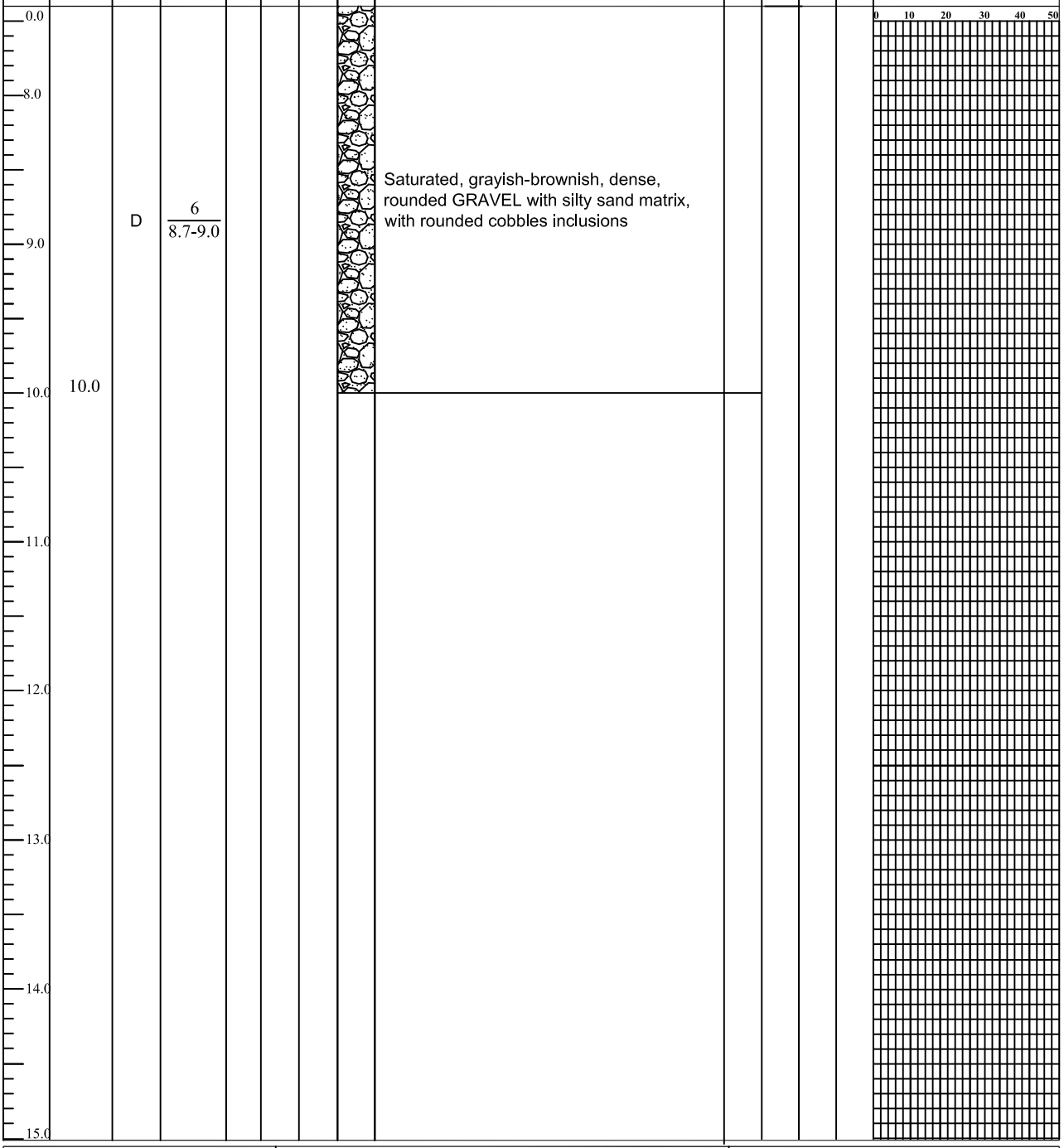
START DATE: 22.06.2011 END DATE: 22.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-18
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 282420.59 Y(m): 4670608.29 Z(m): 20.76

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0													0 10 20 30 40 50
	0.4							Moist, brown, stiff, intermediately plastic sandy CLAY with plant roots and with a little rounded gravel content (TOPSOIL)					
1.0		D	1 / 0.4-2.0					Very moist, brown, firm, low plastic sandy clayey SILT with a little rounded gravel content					
2.0	2.1												
	2.5	D	2 / 2.3-2.5					Saturated, grayish, silty SAND with a little rounded gravel content					
3.0		D	3 / 2.8-3.0					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
	3.5												
4.0		D	4 / 3.8-4.0					Saturated, grayish, silty SAND with a little rounded gravel content					
	4.5												
5.0													
6.0		D	5 / 6.0-6.2					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					
7.0													

REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 1.2	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 1 / 2

START DATE: 22.06.2011 END DATE: 22.06.2011	CASING DIAMETER (M): 127	BOREHOLE No. BH-SE-18
DRILLING METHOD: Dry rotary (single-tube) DRILLING EQUIPMENT: BGM1 DRILLING CONTRACTOR: GeoEng. DRILLER: A. Bagiashvili	DRILLING DIAMETER (M): 132; 112	Coordinates: X(m): 38T 282420.59 Y(m): 4670608.29 Z(m): 20.76

Depth, m	SAMPLE/CORE RECOVERY: Depth of base of layer, m	TYPE: U - undisturbed D - Disturbed	Sample No / Sample section	TCR %	SCR %	RQD %	LITHOLOGIC SYMBOL	DESCRIPTION OF STRATA	PP kg/cm² (pocket Penetrometer)	Standard Penetration Test: 0-15cm	15-30cm	30-45cm	SPT N-blows
0.0 – 10.0	10.0	D	6 / 8.7-9.0					Saturated, grayish-brownish, dense, rounded GRAVEL with silty sand matrix, with rounded cobbles inclusions					



REMARKS: SPT not performed TCR - total core recovery SCR - solid core recovery	GROUND WATER INFLOW LEVEL AT (m) - 1.2 GROUND WATER STANDING LEVEL (m) - 1.2	Logged by: S. Lomidze
GEOENGINEERING	***Project Name:*** ***Geotechnical Investigation for New Kutaisi Bypass-Samtredia Road Section of the Preparation of Detail Design and Construction Supervision of Zestafoni-Kutaisi-Samtredia Road Section of the E-60 Highway in Georgia***	Contract No.GC-1128 PAGE 2 / 2