				Start-Finish Date : 27-28.02.2018 Trend/Plunge : Vertical Coordinate.X : 318777 Coordinate.Y : 4708309 Core Diameter : 89,00 mm. Elevation.Z (m) : 376,81 m. D.Rig. Rotary : Hydraulic / Rotary Boring Depth : 30.00 m. Casing Depth : 30.00 m. Groundwater : 4.00 m.				BOREHOLE NO: BH-HSK-1 (Page 1 / 2)								
				Undisturbed Sample : UD Core Sample : K Standart Penetration Test : SPT Pressuremeter Test : PMT Permeabilite Deneyi (Permeability Test) : PRB Packer Test : BST												
SİSTEM ZEMİN MÜH. İNŞ. TİC.LTD.ŞTİ. GEORGIA NAMA KHVANI HPP CASCADE PROJECT																
Boring Depth (m)	Sample Type	Lugeon	Strength (R)	S (Spacing)	UCS (Mpa)	E(Gpa)	N30 Graph	TCR %	SCR %	RQD %	Weathering	Groundwater level	Z (m)	Profile	Prepared by Dilara BAŞOĞUL Geological Engineer	Approved by Emre YILMAZ Geological Eng. M. Sc.
															DESCRIPTION:	
0	K														0.00-18.10 m.	
1	K														TALUS SLOPE	
2	K														Dark grey to beige,	
3	K														LIMESTONE Blocks,	
4	K														interbedded with angular,	
5	K														sub-angular gravels	
6	K															
7	K															
8	K															
9	K															
10	K															
11	K															
12	K															
13	K															
14	K															
15	K															
Spacing S1 Ext.close spacing S2 Very close spacing S3 Close spacing S4 Moderately spacing S5 Widely spacing S6 Very Widely spacing S7 Ext. Widely spacing		Strength Classification (R0)<1 Mpa Ext. Weak Rock (R1)1-5 Mpa Very Weak Rock (R2)5-25 Mpa Weak Rock (R3)25-50 Mpa Medium Rock (R4)50-100 Mpa Strong Rock (R5)100-250 Mpa Very Strong Rock (R6)>250 Mpa Ext.Strong Rock		Lugeon (Conductivity) <1 Low 1-5 Moderate 5-25 High >25 Very High		Rock Quality Designation 0-25 Very Poor 25-50 Poor 50-75 Fair 75-90 Good 90-100 Excellent		Weathering (W) W1 Fresh W2 Slightly Weathered W3 Mod. Weathered W4 Highly Weathered W5 Comp. Weathered								



SİSTEM ZEMİN MÜH. İNŞ
TİC.LTD.ŞTİ.



GEORGIA NAMAKHVANI
HPP CASCADE PROJECT

Start-Finish Date : 27-28.02.2018
Trend/Plunge : Vertical
Coordinate.X : 318777
Coordinate.Y : 4708309
Core Diameter : 89,00 mm.
Elevation.Z (m) : 376,81 m.
D.Rig. Rotary : Hydraulic / Rotary
Boring Depth : 30,00 m.
Casing Depth : 30,00 m.
Groundwater : 4,00 m.

BOREHOLE NO: BH-HSK-1

(Page 2 / 2)

Undisturbed Sample : UD
Core Sample : K
Standart Penetration Test : SPT
Pressuremeter Test : PMT
Permeability Test : PRB
Packer Test : BST

Boring Depth (m)	Sample Type	Lugeon	Strength (R)	S (Spacing)	UCS (Mpa)	E(Gpa)	N30 Graph 25 50	TCR %	SCR %	RQD %	W	Weathering	Groundwater level	Z (m)	Profile	Prepared by Dilara BAŞOĞUL Geological Engineer	Approved by Emre YILMAZ Geological Eng. M. Sc.
DESCRIPTION:																	
15	κ															0.00-18.10 m. TALUS SLOPE	
16																Dark grey to beige, LIMESTONE Blocks, interbedded with angular, sub-angular gravels	
17																	κ
18	κ			S3				67	60	50	W3					18.10-30.00 m.	
19																ANDESITE	
20	κ			S3				65	60	60	W3					Light grey to dark grey , consisting of calcium carbonate	
21	κ			S4				100	100	100	W1					With FeO concretion	
22																Slightly to Moderately Weathered (W2-W3)	
23	κ			S4				100	100	100	W1					Fair to Good Rock Quality	
24	κ			S3				100	80	66	W3					Close spaced to Moderately spaced (S3-S4))	
25																*Highly Weathering Zone 25.50-25.75	
26	κ			S3				100	66	55	W3						
27	κ			S3				100	70	55	W3						
28																	
29	κ			S2				100	40	15	W4						
30																	

Spacing
S1 Ext.close spacing
S2 Very dose spacing
S3 Close spacing
S4 Moderately spacing
S5 Widely spacing
S6 Very Widely spacing
S7 Ext. Widely spacing

Strength Classification
(R0)<1 Mpa Ext. Weak Rock
(R1)1-5 Mpa Very Weak Rock
(R2)5-25 Mpa Weak Rock
(R3)25-50 Mpa Medium Rock
(R4)50-100 Mpa Strong Rock
(R5)100-250 Mpa Very Strong Rock
(R6)>250 Mpa Ext.Strong Rock

Lugeon (Conductivity)
<1 Low
1-5 Moderate
5-25 High
>25 Very High

Rock Quality Designation
0-25 Very Poor
25-50 Poor
50-75 Fair
75-90 Good
90-100 Good

Weathering (W)
W1 Fresh
W2 Slightly Weathered
W3 Mod. Weathered
W4 Highly Weathered
W5 Comp. Weathered



SİSTEM ZEMİN MÜH. İNŞ
TİC.LTD.ŞTİ.

GEORGIA NAMAKHVANI
HPP CASCADE PROJECT

Start-Finish Date : 26-27.02.2018
Trend/Plunge : Vertical
Coordinate.X : 318813
Coordinate.Y : 4708315
Core Diameter : 89,00 mm.
Elevation.Z (m) : 372,58 m.
D.Rig. Rotary : Hydraulic / Rotary
Boring Depth : 10,00 m.
Casing Depth : 10,00 m.
Groundwater : 4,00m.

BOREHOLE NO: BH-DSK-8

(Page 1 / 1)

Undisturbed Sample : UD
Core Sample : K
Standart Penetration Test : SPT
Pressuremeter Test : PMT
Permeability Test : PRB
Packer Test : BST

Boring Depth (m)	Sample Type	Lugeon	Strength (R)	S (Spacing)	UCS (Mpa)	E(Gpa)	N30 Graph	TCR %	SCR %	RQD %	Weathering W	Groundwater level	Z (m)	Profile	Prepared by Dilara BAŞOĞUL Geological Engineer	Approved by Emre YILMAZ Geological Eng. M. Sc.
															DESCRIPTION:	
0															0.00-10.00 m. TALUS SLOPE Dark grey to beige, LIMESTONE Blocks, interbedded with angular, sub-angular gravels	
1	K															
2	K															
3																
4	K															
5	K															
6																
7	K															
8	K															
9	K															
10															End of Borehole: 10.00 m.	
11																
12																
13																
14																
15																


Spacing
S1 Ext.close spacing
S2 Very close spacing
S3 Close spacing
S4 Moderately spacing
S5 Widely spacing
S6 Very Widely spacing
S7 Ext. Widely spacing

Strength Classification
(R0)<1 Mpa Ext. Weak Rock
(R1)1-5 Mpa Very Weak Rock
(R2)5-25 Mpa Weak Rock
(R3)25-50 Mpa Medium Rock
(R4)50-100 Mpa Strong Rock
(R5)100-250 Mpa Very Strong Rock
(R6)>250 Mpa Ext.Strong Rock

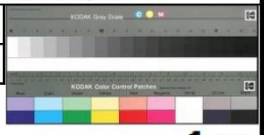
Lugeon (Conductivity)
<1 Low
1-5 Moderate
5-25 High
>25 Very High

Rock Quality Designation
0-25 Very Poor
25-50 Poor
50-75 Fair
75-90 Good
90-100 Good



Weathering (W)
W1 Fresh
W2 Slightly Weathered
W3 Mod. Weathered
W4 Highly Weathered
W5 Comp. Weathered

PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA		SUBCONTRACTOR
	ENKA İNŞAAT SANAYİ A.Ş.		
			sistemzemin
			SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	BH-HSK-1	COREBOX NO	1-5
DATE DRILLED	27-28.02.2018	DEPTH (M)	0.00-8.00
			
			0 1 m.





PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA		SUBCONTRACTOR
	ENKA İNŞAAT SANAYİ A.Ş.		
			sistemzemin
			SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	BH-HSK-1	COREBOX NO	2-5
DATE DRILLED	27-28.02.2018	DEPTH (M)	8.00-18.00
			
			0 1 m.





PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA	SUBCONTRACTOR	
	ENKA İNŞAAT SANAYİ A.Ş.		SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	BH-HSK-1	COREBOX NO	3-5
DATE DRILLED	27-28.02.2018	DEPTH (M)	18.00-23.00
			
			0 1 m.





PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA	SUBCONTRACTOR	
	ENKA İNŞAAT SANAYİ A.Ş.		SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	BH-HSK-1	COREBOX NO	4-5
DATE DRILLED	27-28.02.2018	DEPTH (M)	23.00-27.00
			
			0 1 m.



PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA	SUBCONTRACTOR	
	ENKA İNŞAAT SANAYİ A.Ş.		SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	BH-HSK-1	COREBOX NO	5-5
DATE DRILLED	27-28.02.2018	DEPTH (M)	27.00-30.00
			
0			1 m.



PROJECT NAME	GEORGIA NAMAKHVANI HPP CASCADE PROJECT		
CONTRACTOR	ENKA	SUBCONTRACTOR	
	ENKA İNŞAAT SANAYİ A.Ş.		SİSTEM ZEMİN MÜH. İNŞ. TIC.LTD.ŞTİ.
BOREHOLE NO	DSK-8	COREBOX NO	1-1
DATE DRILLED	26.02-27.02.2018	DEPTH (M)	0.00-10.00
			
0			1 m.
