Table 13 – Summary of laboratory tests – Borehole A.

#	Depth (m)		Layer	w	γ_d	σ_{UCS}	Es	ν	$Is_{(50)}$	T	LL/PI
	From	To		(%)	kN/m^3	(MPa)	(GPa)	-	(MPa)	(MPa)	(%)
1	8	10	Clay								71/ 47
2	22	24	Marl								60/ 33
3	30.0	30.3	Basalt	1	27.9	44	78.7	0.21		10.94	
4	34.6	34.9	Basalt	1	27.4	48.31				8.59	
5	36.0	36.3	Basalt	1	27.8	111.77				7.69	
6	42.0	42.6	Basalt	1	27.7	104	71.6	0.21			
7	48.3	48.5	Conglomerate	5	21.0	7.81				2.36	
8	56.8	57.2	Conglomerate	8	18.7	9.01				1.17	
9	65.2	65.5	Conglomerate	6	19.5	7.6	1.1	0.21		1.26	
10	65.6	65.9	Conglomerate	6	19.9	6.19				0.86	
11	74.5	74.9	Conglomerate	6	20.0	9.8	3.1	0.21		2.89	
12	75.3	75.5	Conglomerate	5	22.9	20.41				3.05	
13	83.2	83.5	Conglomerate	6	21.9	13.56				1.96	
14	85.8	86.1	Conglomerate	6	19.8	9.86				1.79	
15	90.3	90.5	Conglomerate	5	20.6	16.7	5			3.31	
16	95.0	95.2	Conglomerate	8	16.9				0.16	0.44	
17	103.4	103.8	Conglomerate	7	19.5	5.52				0.78	
18	107.0	107.2	Conglomerate	5	21.7	6.69				1.11	
19	110.6	110.9	Conglomerate	4	23.0	12.6	5.6	0.22		1.52	
20	119.3	119.5	Conglomerate	6	20.3	9.99				1	
21	126.5	126.8	Pyroclastics	4	21.9	11.05				4.14	
22	127.1	127.8	Basalt	2	26.7	86.6	57.6	0.23			
23	134.8	135.0	Basalt	4	21.8	27.15				8.64	
24	139.5	139.8	Pyroclastics (Conglomerate)	13	16.4				0.42	0.46	52/ 16
25	147.4	147.6	Basalt	3	24.0	15.46					
26	149.3	149.5	Pyroclastics	5	19.2	7.4				5.51	
27	157.3	157.5	Pyroclastics	1	28.1	74.81				1.58	
28	161.6	162.0	Pyroclastics	6	19.9	10	8.5	0.35		3.17	
29	168.6	168.9	Basalt	2	26.3	76.85					
30	169.5	169.7	Pyroclastics	3	21.1	15.8	9.6	0.23		2.73	
31	176.2	176.5	Basalt	1	28.2	87.8	61.1	0.24		11.12	
32	178.6	178.8	Pyroclastics	6	20.7	10					
33	185.6	185.9	Pyroclastics	5	17.4	12.73				1.54	
34	187.9	188.2	Pyroclastics	4	20.0	22.00	6.40	0.11		2.04	
35	191.1	191.5	Basalt	2	26.7	37.50				3.53	
36	197.8	198.0	Basalt	0	28.7	195.90				11.75	
37	205.9	206.3	Basalt	0	28.5	101.33				16.21	

#	Depth (m)		Layer	w	γ_d	σ_{UCS}	Es	ν	$Is_{(50)}$	T	LL/PI
	From	To		(%)	kN/m^3	(MPa)	(GPa)	-	(MPa)	(MPa)	(%)
38	208.1	208.3	Basalt	1	28.2	115.30	80.20	0.27		16.75	
39	211.9	212.3	Pyroclastics	8	17.8	9.46				1.61	
40	216.2	216.4	Basalt	2	27.0	34.20	14.20	0.10		18.15	
41	217.4	217.6	Basalt highly weathered to clay	15	13.7				0.07	1.09	
42	220.5	220.8	Basalt	3	21.0	19.73				1.61	
43	228.3	228.5	Basalt	1	27.0	54.13					
44	230.7	230.9	Basalt	0	28.4	98.00					
45	236.2	236.4	Basalt	3	25.4	64.20	29.80	0.10		12.36	
46	240.2	240.5	Basalt	0	27.9	117.28				13.13	
47	242.5	242.8									65/ 31
48	247.5	247.8	Clay with Basalt gravel	17					0.10		
49	248.5	248.7	Basalt	11	17.9				0.24	3.93	
50	252.5	252.7	Pyroclastics	7	19.9	9.5	9.10	not acceptable		2.54	
51	259.9	260.1	Basalt	1	27.5	60.9					
52	262.2	262.4	Pyroclastics	6	19.6	2.6					
53	269.3	269.5	Basalt	1	26.8				5.33	14.96	
54	273.1	273.3	Pyroclastics	5	19.2				0.19	0.38	
55	280.0	280.3	Basalt	6	18.4	8.0	12.60	0.41		1.08	
56	286.1	286.4	Pyroclastics	5	20.5	10.2				1.97	
57	289.5	289.7	Basalt	2	26.3	22.6					
58	297.1	297.2	Basalt	0	28.3	61.7					
59	301.6	301.8	Pyroclastics	8	18.9				0.52	1.09	
60	305.9	306.0	Pyroclastics highly weathered	8					0.13		
61	311.2	311.4	Basalt	2	26.7	92.9				10.51	
62	317.4	317.6	Basalt	4	25.6	62.7	54.70	0.24			
63	321.7	322.0	Pyroclastics	6	20.0	5.9				0.93	
64	327.0	327.3	Basalt	8	30.1	45.7				4.42	
65	331.0	331.2	Pyroclastics	8	17.1	8.9					
66	335.9	336.2	Basalt	4	23.0	29.8	26.00	0.16		7.55	
67	343.2	343.6	Basalt	1	27.2	41.1				12.53	
68	346.5	346.8	Breccia	7	19.8	12.3	7.80	0.21		2.71	
69	350.9	351.2	Basalt	4	24.1				0.35	5.69	
70	352.9	353.2	Basalt	2	26.7	62.4				8.67	
71	356.2	356.4	Clay with Basalt gravel	15					0.06		40/ 13
72	361.4	361.6	Basalt	2	26.7	59.7				8.88	
73	`363.9	364.1	Basalt	1	27.7	158.9				15.71	
74	368.1	368.3	Pyroclastics	5	18.1	10.7	4.90	0.22			

#	Depth (m)		Layer	w	γ_d	σ_{UCS}	Es	ν	$Is_{(50)}$	T	LL/PI
	From	To		(%)	kN/m^3	(MPa)	(GPa)	-	(MPa)	(MPa)	(%)
75	370.2	370.4	Basalt	3	25.2	65.7					
76	373.0	373.2	Basalt	1	27.6	74.7	70.50	0.22			
77	373.9	374.2	Pyroclastics	5	21.6	19.0				0.42	
78	376.5	376.7	Basalt	2	25.9	40.8					
79	380.3	380.6	Basalt	1	28.5	147.0				12.48	
80	383.6	383.9	Basalt	1	28.1	91.4	61.60	0.20		16.17	
81	386.1	386.4	Basalt	1	28.0	44.0				7.69	
82	390.3	390.4	Basalt	1	28.3	88.6					
83	392.7	392.9	Pyroclastics	9					0.05		
84	394.4	394.6	Basalt	1	27.2				1.06	10.03	
85	397.8	398.1	Basalt	11	17.9	3.8				0.94	
86	401.8	402.1	Basalt	5	23.0	7.2	24.60			4.72	
87	405.5	405.7	Basalt	1					7.57		
88	408.5	408.8	Pyroclastics	7	16.5	8.1	5.60			1.23	
89	412.8	413.0	Basalt	4	25.6	58.8				4.11	
90	415.0	415.2	Basalt	4	22.7	42.4	28.80	0.25		4.12	
91	418.7	418.9	Basalt	3	26.0	72.5					
92	422.2	422.4	Basalt	1	27.8	47.2				17.12	
93	424.4	424.6	Basalt	1	27.8	115.3				18.03	
94	428.0	428.2	Basalt	1	27.7	130.1					
95	430.0	430.2	Basalt	1	27.9	113.6	67.20	0.27		19.65	
96	433.4	433.5	Basalt	1	27.4				0.69	5.66	
97	439.0	439.1	Basalt	0	28.1	92.0					
98	439.9	440.1	Basalt	1	27.3					4.28	
99	442.0	442.2	Basalt highly weathered	6	21.7	5.3	9.10	0.10			
100	444.3	444.5	Basalt	5	22.8	25.8				5.00	
101	447.0	447.1	Basalt	5	21.2				1.84	4.46	
102	449.9	450.1	Basalt	7	21.2	25.8				3.10	
103	454.9	455.1	Basalt	5	21.9	10.0					
104	458.2	458.4	Basalt	2	26.0	44.0	45.50	0.20		8.81	
105	460.1	460.3	Basalt	6	21.8	14.5				1.65	
106	464.9	465.2	Basalt	6	22.8	21.0	10.50	0.15			
107	467.5	467.7	Basalt	2	26.3	30.1					
108	471.3	471.5	Basalt	1	28.2	44.0					
109	474.5	474.7	Pyroclastics highly weathered	7	19.7					1.56	
110	476.0	476.2	Basalt	4	21.0	31.6					
111	480.1	480.3	Basalt highly weathered	11	19.3				0.28	1.22	
112	483.2	483.4	Basalt	1	28.0	135.4	65.40	0.25		20.40	

#	Depth (m)		Layer	w	γ_d	σ_{UCS}	Es	ν	$Is_{(50)}$	T	LL/PI
	From	To		(%)	kN/m^3	(MPa)	(GPa)	-	(MPa)	(MPa)	(%)
113	486.5	486.6	Basalt	0	28.6				1.90	15.26	
114	488.3	488.5	Basalt	0	28.9	173.4				16.46	
115	492.8	493.1	Clay	34	13.7	0.134					42/ 17
116	493.2	493.5	Clay	30	15.4	0.090					39/ 14
117	494.6	494.9	Basalt	0	28.5	71.1				13.76	
118	500.3	500.6	Pyroclastics highly weathered	8	19.3	14.3	4.10	0.10		2.75	
119	500.9	501.1	Pyroclastics highly weathered	9	19.5	11.4				1.89	
120	506.8	507.0	Basalt	4	24.7	46.4	24.20	0.23			
121	509.0	509.2	Basalt	1	28.1	124.6				11.36	
122	513.3	513.5	Basalt	3					5.18		
123	514.9	515.1	Breccia	5	20.8	13.2	6.50	0.18		2.63	
124	518.4	518.6	Breccia	5	21.2	14.1				2.94	
125	523.3	523.5	Basalt	1	27.7	40.5					
126	525.8	526.2	Basalt	0	28.2	43.6				15.36	
127	529.0	529.2	Basalt	0	28.5	185.6	86.30				
128	530.9	531.1	Basalt	1	27.3	22.3				10.87	
129	531.5	531.6	Basalt	1	27.7				7.36	14.06	
130	536.5	536.8	Clay with Basalt Gravel	21					0.04		50/ 18
131	539.8	540.0	Conglomerate	13					0.05		
132	540.9	541.3	Clay with Basalt Gravel	10	20.3				0.09	0.55	49/ 21
133	543.3	543.5	Basalt	3	25.9				1.64	2.05	
134	545.1	545.3	Basalt	1	26.9	34.7	45.60	0.17		11.64	
135	548.1	548.3	Basalt	1	27.6	63.0					
136	549.5	549.7	Pyroclastics	8	21.8				0.2	1.84	
137	549.7	550.0	Basalt	4	24.8	31.7				6.24	
139	551.1	551.3	Basalt	4	24.2	51.6	16.90	0.21		6.76	
140	551.9	552.1	Basalt	4		53.0					

Where:

w – Water content; γ_d – Dry density; LL – Liquid Limit; PI – Plasticity Index.

σ_{UCS} – Unconfined compressive strength; Es – Elasticity modulus; ν – Poisson's Ratio;

Is – Point load strength index. T – Splitting Tensile Strength.