4) Bảng kết quả thí nghiệm phân tích đất và Biểu đồ tính chất cơ lý của đất theo độ sâu

a) Bãi tôn tạo (Khu vực bến, Khu vực đường dẫn) và Khu quản lý hành chính cảng

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From	Depth GL-(m) To	Depth DL(m) From	Depth DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Initial Void ratio eo
1	8425	1b	T3	-1.50	D1	1.00	1.45	-2.50	-2.95		100.0	99.9	99.8	99.62	99.42	85.38	18.70	30.35	75.63	22.30	53.33			2.71				
2	8426	1b	T3	-1.50	U3	3.10	4.00	-4.60	-5.50			100.0	99.8	99.40	98.11	80.25	14.64	40.28	47.85	23.06	24.79	1.80	1.28	2.69	52.43	98.32	1.10	0.990
3	8427	1b	T3	-1.50	D4	5.00	5.45	-6.50	-6.95			100.0	99.8	97.58	94.57	77.57	14.92	50.99	43.51	27.55	15.96			2.69				
4	8428	3a	T3	-1.50	D6	7.00	7.45	-8.50	-8.95		100.0	99.9	99.7	89.30	72.36	4.56								2.64				
5	8429	3b	T3	-1.50	D8	9.00	9.45	-10.50	-10.95		100.0	99.4	98.8	97.79	93.12	63.30	26.11	30.53	35.42	16.19	19.23			2.68				
6	8430	4	T3	-1.50	U10	11.00	11.50	-12.50	-13.00			100.0	99.6	98.78	97.00	86.78	44.50	35.62	67.06	20.25	46.81	1.84	1.36	2.71	49.82	97.21	0.99	1.045
7	8431	4	T3	-1.50	D12	13.00	13.45	-14.50	-14.95		100.0	99.1	98.5	98.08	97.77	96.09	48.62		58.32	19.92	38.40			2.70				
8	8432	4	T3	-1.50	U13	14.00	14.50	-15.50	-16.00				100.0	99.96	99.84	96.90	50.62	36.90	77.45	21.01	56.44	1.84	1.34	2.71	50.54	97.85	1.02	
9	8433	5	T3	-1.50	D15	16.00	16.45	-17.50	-17.95					100.0	99.98	98.08	47.35		61.16	22.67	38.49			2.72				
10	8434	5	T3	-1.50	U16	17.10	18.00	-18.60	-19.50				100.0	99.90	99.70	96.37	43.81	49.72	67.38	22.12	45.26	1.71	1.14	2.69	57.63	98.34	1.36	1.168
11	8435	5	T3	-1.50	D18	19.00	19.45	-20.50	-20.95					100.0	99.98	98.18	46.92		67.41	22.14	45.27			2.70				
12	8436	5	T3	-1.50	U20	21.10	22.00	-22.60	-23.50				100.0	99.94	99.70	94.95	43.28	50.25	70.49	22.10	48.39	1.72	1.14	2.70	57.77	99.18	1.37	1.268
13	8437	5	T3	-1.50	D22	23.00	23.45	-24.50	-24.95			100.0	100.0	99.92	99.74	96.09	44.67	37.64	59.47	20.57	38.90			2.70				
14	8200	2	T5	-0.72	D1	1.00	1.45	-1.72	-2.17		100.0	99.85	99.5	99.27	99.13	96.75	33.30	46.12	54.26	23.79	30.47			2.71				
15	8201	2	T5	-0.72	D2	2.00	2.45	-2.72	-3.17		100.0	99.90	99.6	99.44	99.24	97.06	33.62		59.06	22.15	36.91			2.70				
16	8202	2	T5	-0.72	U3	3.00	3.90	-3.72	-4.62		100.0	99.72	99.5	99.32	99.08	96.84	32.55	47.27	64.25	24.74	39.51	1.73	1.17	2.71	56.82	97.34	0.71	1.851
17	8203	2	T5	-0.72	D5	5.00	5.45	-5.72	-6.17		100.0	99.87	99.6	99.39	99.21	96.63	32.64		55.07	22.76	32.31			2.71				
18	8204	2	T5	-0.72	U6	6.00	6.60	-6.72	-7.32			100.0	99.94	99.84	99.56	98.11	54.84	71.06	93.49	34.30	59.19	1.57	0.92	2.71	66.06	98.96	0.50	1.871
19	8205	2	T5	-0.72	D8	8.00	8.45	-8.72	-9.17			100.0	99.84	99.74	99.54	98.15	56.09		55.48	19.63	35.85			2.70				
20	8206	3b	T5	-0.72	U9	9.00	9.95	-9.72	-10.67			100.0	99.88	99.68	97.29	83.38	27.21	24.95	29.16	15.43	13.73	1.98	1.58	2.68	41.04	96.07	1.34	0.660
21	8207	3b	T5	-0.72	D11	11.00	11.45	-11.72	-12.17			100.0	99.9	99.84	99.34	93.18	29.18	30.75	38.05	17.88	20.17			2.68				
22	8208	3b	T5	-0.72	U12	12.00	12.85	-12.72	-13.57		100.0	99.9	99.7	97.73	83.50	43.19	13.76	25.04	26.92	13.88	13.04	1.99	1.59	2.67	40.44	98.46	1.44	
23	8209	4	T5	-0.72	D13	13.00	13.45	-13.72	-14.17			100.0	97.7	94.98	93.31	88.55	42.61		53.82	24.39	29.43			2.72				
24	8210	4	T5	-0.72	U15	15.00	15.70	-15.72	-16.42					100.0	99.96	99.12	48.45	38.57	56.61	23.55	33.06	1.83	1.32	2.72	51.48	98.88	0.92	1.069
25	8211	5	T5	-0.72	D17	17.00	17.45	-17.72	-18.17					100.0	99.86	95.87	45.33		68.02	26.71	41.31			2.71				
26	8212	5	T5	-0.72	U18	18.00	18.75	-18.72	-19.47					100.0	99.90	96.30	44.29	48.98	66.70	25.65	41.05	1.70	1.14	2.70	57.77	96.67	0.67	1.429
27	8213	5	T5	-0.72	D20	20.00	20.45	-20.72	-21.17					100.0	99.92	96.14	45.16		67.98	25.01	42.97			2.72				
28	8214	5	T5	-0.72	U21	21.00	21.60	-21.72	-22.32				100.0	99.96	99.72	92.98	44.52	42.50	64.49	26.72	37.77	1.76	1.24	2.71	54.23	97.19	0.79	1.119
29	8215	5	T5	-0.72	D23	23.00	23.45	-23.72	-24.17				100.0	99.90	99.60	92.83	44.15	32.30	47.94	20.00	27.94			2.71				
30	8216	2	T9	-1.50	D1	1.00	1.45	-2.50	-2.95			100.0	99.8	99.70	99.54	99.04	51.15	44.63	58.83	26.18	32.65			2.70				
31	8217	2	T9	-1.50	D2	2.00	2.45	-3.50	-3.95			100.0	99.9	99.74	99.32	94.67	40.84		53.68	23.45	30.23			2.70				
32	8218	2	T9	-1.50	U3	3.10	4.00	-4.60	-5.50			100.0	99.8	99.74	99.60	99.14	52.10	59.80	74.69	28.27	46.42	1.63	1.02	2.71	62.36	97.80	1.66	1.606
33	8219	2	T9	-1.50	D5	5.00	5.45	-6.50	-6.95			100.0	99.9	99.76	99.08	91.95		47.41	61.39	26.66	34.73			2.70				
34	8220	4	T9	-1.50	U7	7.50	8.00	-9.00	-9.50			100.0	99.9	99.64	97.71	69.78	28.64	33.44	32.77	14.48	18.29	1.87	1.4	2.69	47.94	97.67	0.92	1.178
35	8221	4	T9	-1.50	D8	8.00	8.45	-9.50	-9.95		100.0	95.8	95.3	94.00	89.71	53.45	20.08		55.63	21.32	34.31			2.69				
36	8222	4	T9	-1.50	D9	9.00	9.45	-10.50	-10.95		100.0	95.5	94.9	93.70	89.48	53.24	20.06		56.10	20.87	35.23			2.70				
37	8223	4	T9	-1.50	U10	10.40	11.00	-11.90	-12.50			100.0	99.8	98.92	90.10	59.93	29.69	22.71	58.35	24.90	33.45			2.69				
38	8224	4	T9	-1.50	D12	12.00	12.45	-13.50	-13.95		100.0	99.8	99.8	98.65	92.47	42.15	11.84	33.58	54.57	23.56	31.01			2.67				
39	8225	4	T9	-1.50	U13	13.00	13.50	-14.50	-15.00				100.0	99.86	99.66	94.26	48.04	38.83	56.54	25.18	31.36	1.81	1.3	2.71	52.04	96.99	1.09	1.177
40	8226	4	T9	-1.50	D15	15.00	15.45	-16.50	-16.95		100.0	99.8	99.3	95.60	75.49	52.04	20.61		53.33	22.97	30.36			2.70				
41	8227	4	T9	-1.50	U16	16.30	17.00	-17.80	-18.50				100.0	99.98	99.92	96.14	46.44	39.17	58.47	24.62	33.85	1.80	1.29	2.72	52.58	96.07	1.11	
42	8228	5	T9	-1.50	D18	18.00	18.45	-19.50	-19.95		100.0	100.0	100.0	99.90	99.78	97.09	42.48	46.27	61.56	28.59	32.97			2.71				
43	8229	5	T9	-1.50	D20	20.00	20.45	-21.50	-21.95			100.0	100.0	99.88	99.80	97.01	41.05		59.81	26.43	33.38			2.71				
44	8230	5	T9	-1.50	U22	22.40	23.00	-23.90	-24.50			100.0	99.9	99.76	99.72	93.44	46.59	50.25	70.58	27.35	43.23	1.70	1.13	2.70	58.14	97.68	1.39	1.187
45	8231	5	T9	-1.50	D24	24.00	24.45	-25.50	-25.95			100.0	99.9	99.82	99.72	93.32	47.22	47.23	65.38	24.31	41.07			2.71				
46	8232	5	T9	-1.50	D26	26.00	26.45	-27.50	-27.95			100.0	99.9	99.86	99.70	93.52	46.95		73.10	26.64	46.46			2.72				
47	8233	5	T9	-1.50	U27	27.00	27.80	-28.50	-29.30			100.0	99.8	99.68	99.58	93.63	45.86	51.05	70.07	27.80	42.27	1.71	1.13	2.71	58.30	98.96	1.40	
48	8234	2	T11	-1.97	D1	1.00	1.45	-2.97	-3.42			100.0	99.9	99.62	99.22	95.33	32.09	48.21	66.48	25.77	40.71			2.70				
49	8235	2	T11	-1.97	D2	2.00	2.45	-3.97	-4.42			100.0	99.9	99.74	99.36	95.17	28.02	47.23	71.55	28.09	43.46			2.70				
50	8236	2	T11	-1.97	U3	3.00	3.90	-4.97	-5.87			100.0	99.9	99.86	99.68	99.12	64.89	69.83	84.60	28.30	56.30	1.56	0.92	2.71	66.06	97.25	1.95	1.912
51	8237	3a	T11	-1.97	U5	6.00	6.80	-7.97	-8.77		100.0	99.9	99.9	99.65	93.62	6.41						1.83		2.66				
52	8238	3a	T11	-1.97	D6	7.00	7.45	-8.97	-9.42		100.0	99.9	99.9	99.73	93.83	6.95								2.66				
53	8239	4	T11	-1.97	U8	9.00	9.90	-10.97	-11.87			100.0	99.9	99.86	99.68	99.12	64.89	44.01	55.85	23.82	32.03	1.76	1.22	2.67	54.32	98.83	1.19	1.139
54	8240	4	T11	-1.97	D9	10.00	10.45	-11.97	-12.42				100.0	99.84	99.04	90.82	39.72	46.01	54.06	21.36	32.70			2.71				
55	8241	4	T11	-1.97	D10	11.00	11.45	-12.97	-13.42				100.0	99.80	98.80	90.90	38.45	45.87	58.34	26.72	31.62			2.70				
56	8242	4	T11	-1.97	U11	12.00	12.50	-13.97	-14.47				100.0	99.74	98.70	95.28	52.45	31.23	56.40	22.94	33.46	1.90	1.45	2.71	46.50	97.39	0.87	
57	8243	5	T11	-1.97	D13	14.00	14.45	-15.97	-16.42				100.0	99.88	99.30	92.33	33.75	35.24	53.34	21.06	32.28			2.70				
58	8244	5	T11	-1.97	U14	15.00	15.85	-16.97	-17.82			100.0	99.6	99.04	97.55	78.04		41.81	63.28	23.51	39.77	1.77	1.25	2.67	53.18	98.27	1.14	1.089
59	8245	5	T11	-1.97	D16	17.00	17.45	-18.97	-19.42				100.0	99.62	99.32	89.23		39.72	66.76	24.11	42.65			2.67				
60	8246	5	T11	-1.97	U17	18.00	18.90	-19.97	-20.87			100.0	99.6	98.86	97.28	78.37		43.54	63.36	23.97	39.39	1.75	1.22	2.66	54.13	98.15	1.18	1.140
61	8247	5	T11	-1.97	D19	20.00	20.45	-21.97	-22.42			100.0	100.0	99.94	99.80	93.27	41.53	47.56	65.40	23.19	42.21			2.71				
62	8249	5	T11	-1.97	D22	23.00	23.45	-24.97	-25.42			100.0	99.5	98.98	98.82	95.10	42.76	49.00	63.17	21.07	42.10			2.71				
63	8250	2	T14	-2.17	D1	1.00	1.45	-3.17	-3.62			100.0	99.4	98.86	98.52	96.96	37.53	56.81	78.42	28.46	49.96			2.70				
64	8251	2	T14	-2.17	D2	2.00	2.45	-4.17	-4.62			100.0	99.5	99.00	98.70	97.02	37.90		69.88	25.85	44.03			2.71				
65	8252	2	T14	-2.17	U3	3.00	3.90	-5.17	-6.07			100.0	100.0	99.90	99.84	99.62	63.56	69.63	85.99	30.97	55.02	1.57	0.93	2.71	65.68	98.59	1.91	1.875
66	8253	2	T14	-2.17	D5	5.00	5.45	-7.17	-7.62			100.0	99.9	99.80	99.68	99.46	62.61		79.87	29.92	49.95			2.70				
67	8254	2	T14	-2.17	U6	6.00	6.80	-8.17	-8.97			100.0	99.9	99.68	97.09	83.19	35.52	40.95	38.85	15.90	22.95	1.78	1.26	2.70	53.34	96.73	1.14	1.036
68	8255	2	T14	-2.17	D8	8.00	8.45	-10.17	-10.62			100.0	100.0	99.90	99.42	93.30	32.95		29.46	13.76	15.70			2.71				
69	8256	3b	T14	-2.17	U9	9.00	9.70	-11.17	-11.87		100.0	99.9	99.9	98.85	84.83	51.61	23.70	18.62	26.38	13.96	12.42	2.09	1.76	2.69	34.55	94.86	0.53	0.529
70	8257	3b	T14	-2.17	D11	11.00	11.45	-13.17	-13.62		100.0	100.0	99.8	98.93	84.88	51.95	23.00		26.71	12.01	14.70			2.68				
71	8258	4	T14	-2.17	U12	12.00	12.50	-14.17	-14.67				100.0	99.98	99.92	96.22	44.43	30.95	55.59	22.41	33.18	1.91	1.46	2.71	46.12	97.98	0.86	
72	8259	5	T14	-2.17	D14	14.00	14.45	-16.17	-16.62				100.0	99.92	99.86	95.07	43.40		57.67	21.11	36.56			2.70				
73	8260	5	T14	-2.17	U15	15.00	15.70	-17.17	-17.87				100.0	99.96	99.90	94.98	43.92	42.30	51.50	20.26	31.24	1.80	1.26	2.71	53.51	99.59	1.15	1.156
74	8261	5	T14	-2.17	D17	17.00	17.45	-19.17	-19.62				100.0	99.88	99.80	95.11	42.96		53.53	20.35	33.18			2.71				
75	8262	5	T14	-2.17	U18	18.00	18.85	-20.17	-21.02					100.0	99.92	98.20		47.70	72.22	22.01	50.21	1.74	1.18	2.71	56.46	99.67	1.30	1.323
76	8263	5	T14	-2.17	D20	20.00	20.45	-22.17	-22.62				100.0	99.96	99.86	94.89	43.19		64.78	22.56	42.22			2.70				
77	8264	5	T14	-2.17	U21	21.00	21.90	-23.17	-24.07				100.0	99.80	99.40	84.03		38.12	53.23	22.11	31.12	1.81	1.31	2.71	51.67	96.64	1.07	1.187
78	8265	5	T14	-2.17	D24	24.00	24.45	-26.17	-26.62				100.0	99.80	99.40	82.04		41.33	57.64	21.79	35.85			2.71				
79	8266	2	T17	-1.75	D1	1.00	1.45	-2.75	-3.20		100.0	100.0	99.9	99.77	99.37	88.80	23.74	44.02	42.87	22.26	20.61			2.69				
80	8267	2	T17	-1.75	D2	2.00	2.45	-3.75	-4.20				100.0	99.92	99.82	99.42	30.83		54.48	23.13	31.35			2.70				
81	8268	2	T17	-1.75	U3	3.00	3.90	-4.75	-5.65			100.0	99.9	99.82	99.50	97.31	30.32	44.38	64.76	24.48	40.28	1.75	1.21	2.71	55.36	96.99	1.24	1.128
82	8269	2	T17	-1.75	D5	5.00	5.45	-6.75	-7.20			100.0	99.9	99.84	99.44	97.45	30.40		61.01	22.06	38.95			2.71				
83	8270	2	T17	-1.75	U6	6.00	6.90	-7.75	-8.65		100.0	98.8	98.0	96.41	85.69	60.72	30.94	41.85	46.40	16.96	29.44	1.76	1.24	2.69	53.90	96.30	1.17	1.243
84	8271	3b	T17	-1.75	D7	7.00	7.45	-8.75	-9.20		100.0	99.9	99.7	98.23	90.43	53.41	23.00		40.21	18.73	21.48			2.69				
85	8272	3b	T17	-1.75	U9	9.00	9.70	-10.75	-11.45			100.0	99.6	98.11	91.09	53.94	23.94	22.05	32.35	17.26	15.09	2.03	1.66	2.68	38.04	96.24	0.61	1.087
86	8273	4	T17	-1.75	D10	10.00	10.45	-11.75	-12.20			100.0	99.8	99.24	96.56	62.38	29.94		45.16	18.35	26.81			2.67				
87	8274	4	T17	-1.75	U12	12.00	12.80	-13.75	-14.55				100.0	99.95	99.89	97.47	49.94	35.68	59.29	21.70	37.59	1.83	1.35	2.71	50.17	96.02	1.01	1.135
88	8275	5	T17	-1.75	D13	13.00	13.45	-14.75	-15.20				100.0	99.94	99.84	95.85	51.43		60.09	23.45	36.64			2.72				
89	8276	5	T17	-1.75	U15	15.00	15.90	-16.75	-17.65				100.0	99.96	99.92	95.94	50.32	42.11	59.18	21.01	38.17	1.76	1.24	2.70	54.07	96.60	1.18	1.085
90	8277	5	T17	-1.75	D17	17.00	17.45	-18.75	-19.20				100.0	99.98	99.84	95.95	51.38	51.84	64.80	24.18	40.62			2.71				
91	8278	5	T17	-1.75	D19	19.00	19.45	-20.75	-21.20				100.0	99.88	99.80	96.01	50.11	48.57	67.01	26.81	40.20			2.71				
92	8292	1b	T19	-0.85	D1	1.00	1.45	-1.85	-2.30		100.0	97.31	96.10	95.00	92.83	78.50	16.52	41.74	38.10	20.54	17.56			2.68				
93	8293	1b	T19	-0.85	D2	2.00	2.45	-2.85	-3.30		100.0	97.50	96.14	94.99	92.90	78.59	16.78		45.64	21.38	24.26			2.69				
94	8294	1b	T19	-0.85	U3	3.00	3.60	-3.85	-4.45		100.0	99.74	99.52	99.30	98.82	92.73	21.02	37.61	42.48	20.47	22.01	1.81	1.32	2.69	50.93	97.47	1.04	1.086
95	8295	1b	T19	-0.85	D5	5.00	5.45	-5.85	-6.30			100.0	99.8	99.52	98.25	91.82	27.88		45.68	20.62	25.06			2.70				
96	8297	1b	T19	-0.85	D8	8.00	8.45	-8.85	-9.30			100.0	99.8	99.46	98.17	93.30	29.90	43.26	46.32	22.53	23.79			2.68				
97	8296	3b	T19	-0.85	U9	9.00	9.60	-9.85	-10.45			100.0	99.7	99.08	96.44	62.53	29.61	21.91	38.46	18.02	20.44	2.03	1.67	2.67	37.46	97.66	0.60	0.640
98	8299	3b	T19	-0.85	D11	11.00	11.45	-11.85	-12.30			100.0	99.7	99.10	96.42	62.29	29.06		33.14	15.56	17.58			2.69				
99	8300	4	T19	-0.85	U12	12.00	12.60	-12.85	-13.45		100.0	99.83	98.99	97.09	90.33	68.85	28.82	27.36	43.42	17.37	26.05	1.95	1.53	2.70	43.34	96.56	0.77	0.806
100	8301	4	T19	-0.85	U15	15.00	15.85	-15.85	-16.70		100.0	99.80	99.00	97.02	90.23	68.57	29.10	25.63	40.70	15.34	25.36			2.70				
101	8302	4	T19	-0.85	D17	17.00	17.45	-17.85	-18.30		100.0	99.82	98.98	97.02	90.71	69.14	29.23		34.82	13.93	20.89			2.69				
102	8303	5	T19	-0.85	U18	18.00	18.90	-18.85	-19.75					100.0	99.86	97.20		44.64	62.21	21.61	40.60	1.76	1.22	2.72	55.16	98.72	1.23	1.293
103	8304	5	T19	-0.85	D20	20.00	20.45	-20.85	-21.30					100.0	99.80	97.11			59.15	24.59	34.56			2.71				
104	8305	5	T19	-0.85	U21	21.00	21.50	-21.85	-22.35					100.0	99.82	97.16		49.27	60.93	23.44	37.49	1.70	1.14	2.71	57.93	96.97	1.38	
105	8306	5	T19	-0.85	D23	23.00	23.45	-23.85	-24.30					100.0	99.74	97.15			58.12	22.29	35.83			2.70				

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √(Pi-1 x Pi) KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600
2		0.960	0.929	0.885	0.821	0.736	0.656	0.558		1.710	1.510	1.860	2.100	2.120	1.920	1.950		0.610	0.630	0.461	0.344	0.241	0.117	0.076
6		1.035	1.022	1.005	0.962	0.890	0.800	0.685		2.130	1.850	1.590	1.180	0.810	0.730	0.550		0.190	0.244	0.170	0.217	0.187	0.122	0.082
10		1.153	1.138	1.116	1.073	0.917	0.722	0.566		3.060	2.930	3.450	3.350	0.620	0.570	0.610		0.290	0.279	0.207	0.203	0.390	0.268	0.119
12		1.254	1.239	1.220	1.186	1.039	0.820	0.645		3.380	3.060	6.150	5.470	0.980	0.700	0.710		0.240	0.275	0.169	0.153	0.348	0.283	0.127
16	1.815	1.792	1.757	1.650	1.483	1.313	1.143		0.851	0.885	0.426	0.318	0.558	0.760	0.344		0.806	0.666	0.405	0.606	0.478	0.241	0.121	
18	1.752	1.657	1.530	1.378	1.209	1.034	0.863		0.186	0.166	0.208	0.305	0.296	0.347	0.182		2.730	2.457	1.467	0.872	0.483	0.252	0.122	
20	0.642	0.633	0.620	0.601	0.571	0.526	0.473		0.750	0.476	0.442	0.481	0.451	0.481	0.356		0.243	0.182	0.088	0.062	0.050	0.038	0.022	
24		1.014	0.984	0.942	0.885	0.803	0.688	0.512		0.398	0.337	0.384	0.453	0.384	0.368	0.658		0.456	0.355	0.173	0.117	0.086	0.059	0.046
26		1.388	1.364	1.329	1.281	1.128	0.887	0.625		1.789	0.747	0.901	1.094	0.536	0.460	0.401		0.400	0.307	0.166	0.113	0.174	0.128	0.062
28		1.084	1.065	1.039	1.002	0.908	0.730	0.547		2.008	1.496	0.903	1.193	0.418	0.939	0.687		0.297	0.229	0.108	0.079	0.100	0.094	0.049
32	1.583	1.557	1.516	1.440	1.262	1.050	0.830		0.814	0.499	0.740	0.396	0.309	0.398	0.336		0.492	0.516	0.420	0.400	0.463	0.276	0.144	
34		1.147	1.127	1.096	1.034	0.921	0.812	0.699		0.644	0.478	0.733	0.469	0.663	0.712	0.358		0.275	0.223	0.133	0.135	0.123	0.059	0.031
39		1.124	1.101	1.066	1.017	0.934	0.797	0.636		2.428	0.856	1.067	1.592	0.957	0.781	0.284		0.465	0.332	0.152	0.106	0.090	0.075	0.044
41		1.072	1.047	1.016	0.978	0.915	0.773			0.640	0.457	0.530	0.770	0.494	0.335			0.386	0.296	0.132	0.082	0.066	0.075	
44		1.147	1.126	1.091	1.033	0.902	0.740	0.570		1.687	0.803	0.610	0.858	0.634	1.211	0.880		0.346	0.268	0.151	0.126	0.144	0.089	0.046
50	1.857	1.821	1.757	1.618	1.390	1.139	0.883		0.945	0.601	0.430	0.587	0.241	0.361	0.211		1.289	1.065	0.748	0.807	0.666	0.365	0.187	
53		1.102	1.082	1.053	0.999	0.842	0.673	0.502		1.339	0.951	1.333	0.738	0.387	0.511	0.359		0.320	0.247	0.124	0.115	0.168	0.090	0.046
58		1.049	1.029	1.001	0.958	0.849	0.679	0.497		1.521	1.357	1.170	1.338	0.719	1.248	0.422		0.340	0.253	0.118	0.090	0.114	0.089	0.047
60		1.091	1.073	1.043	0.981	0.852	0.683	0.506		1.876	0.545	0.747	0.846	0.575	0.902	0.572		0.413	0.288	0.125	0.134	0.138	0.090	0.047
65	1.737	1.681	1.607	1.487	1.343	1.156	0.876		0.611	0.365	0.295	0.359	0.188	0.201	0.179		3.174	2.223	0.851	0.694	0.413	0.269	0.201	
67	1.004	0.978	0.938	0.878	0.800	0.709	0.616		1.609	0.369	0.723	1.070	0.993	1.293	0.663		0.514	0.468	0.327	0.245	0.160	0.092	0.047	
69		0.505	0.491	0.470	0.441	0.404	0.361	0.317		1.107	0.733	0.931	0.929	0.888	1.495	0.968		0.145	0.115	0.065	0.043	0.028	0.017	0.008
73		1.114	1.095	1.067	1.027	0.960	0.768	0.558		0.604	0.548	0.953	1.342	0.851	0.424	0.444		0.363	0.265	0.121	0.086	0.073	0.103	0.057
75		1.286	1.267	1.238	1.183	1.056	0.834	0.598		0.821	1.125	0.995	1.342	0.926	1.179	0.871		0.345	0.259	0.135	0.127	0.148	0.129	0.068
77		1.136	1.113	1.082	1.040	0.921	0.710	0.496		0.396	0.476	0.912	0.745	0.565	1.372	0.996		0.448	0.323	0.136	0.092	0.130	0.115	0.059
81	1.115	1.098	1.070	1.026	0.938	0.829	0.718		1.209	0.232	0.197	0.323	0.547	0.923	0.541		0.217	0.254	0.235	0.190	0.187	0.116	0.059	
83	1.205	1.171	1.119	1.041	0.925	0.790	0.654		0.847	0.386	0.326	0.321	0.396	0.454	0.437		0.684	0.644	0.473	0.348	0.261	0.151	0.076	
85		1.043	1.019	0.982	0.932	0.878	0.819	0.753		1.323	1.072	1.590	1.695	1.301	2.150	1.845								
87		1.094	1.074	1.049	1.011	0.953	0.849	0.715		1.386	0.479	1.388	0.866	0.969	1.632	0.759								
89		1.054	1.037	1.015	0.985	0.919	0.715	0.496		2.144	0.362	1.630	1.203	0.960	1.223	0.905		0.261	0.200	0.094	0.062	0.068	0.107	0.057
94	1.059	1.040	1.011	0.957	0.879	0.789	0.691		1.293	0.446	0.687	0.325	0.444	0.905	0.298		0.435	0.383	0.239	0.224	0.163	0.094	0.051	
97		0.597	0.575	0.545	0.503	0.442	0.366	0.274		0.554	0.431	0.721	0.328	0.611	0.614	0.492		0.283	0.214	0.100	0.069	0.050	0.031	0.019
99		0.776	0.760	0.735	0.699	0.646	0.572	0.488		1.069	0.468	0.901	0.686	1.162	1.131	1.064		0.212	0.166	0.088	0.066	0.048	0.033	0.019
102		1.228	1.197	1.157	1.104	0.961	0.685	0.410		0.462	0.359	0.685	0.310	0.276	0.809	0.533		0.600	0.442	0.184	0.121	0.164	0.159	0.079

No.	Log Average in Over consolidated Cv(o) ($10^{-3}cm^2/s$)	Log Average in Nomal consolidated Cv(n) ($10^{-3}cm^2/s$)	Log Average at Load increment 1 - 2 KG/cm² mv (cm^2/KG)	k ($10^{-7}cm/s$)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm^2)	Unconfined compression test Specimen 1 q_u (KG/cm^2)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm^2)	Specimen 2 Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m^2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m^2)	fcu (deg.)	Soil group	Description
1																				CH	Brownish grey, grey, fat clay
2	1.687	2.021	0.398	0.607	0.330	0.166	0.081	0.041	0.051	0.026	1.445	0.59	7.82	0.32	9.83	23.39	0o32'	28.36	20o19'	CL	Grey, lean clay
3																				CL	Grey, lean clay
4																				SP	Yellowish grey, poorly graded sand
5																				CL	Yellowish grey, light grey, sandy lean clay
6	1.844	0.787	0.192	0.196	0.380	0.186	0.036	0.018	0.089	0.044	1.638	1.09	1.71	1.20	2.32	79.60				CH	Yellowish grey, light grey, fat clay
7																				CH	Yellowish grey, fat clay
8												1.09	4.53	0.65	4.65					CH	Yellowish grey, light grey, fat clay
9																				CH	Grey, fat clay
10	3.191	0.600	0.205	0.402	0.520	0.240	0.053	0.024	0.100	0.046	2.057	1.19	2.08	1.04	2.46	75.53		23.89	15o03'	CH	Grey, fat clay
11																				CH	Grey, fat clay
12	4.319	0.787	0.161	0.528	0.580	0.256	0.042	0.019	0.116	0.051	2.299	1.52	2.70	1.40	2.36	54.60	1o38'	27.21	15o38'	CH	Grey, fat clay
13																				CH	Grey, yellowish grey, fat clay
14																				CH	Grey, fat clay
15																				CH	Grey, fat clay
16	0.684	0.464	0.464	0.203	0.566	0.198	0.139	0.049	0.163	0.058	0.740	0.42	3.33			11.88	1o06'	22.80	22o27'	CH	Brownish grey, fat clay
17																				CH	Brownish grey, fat clay
18	0.176	0.260	0.275	0.166	0.565	0.197	0.460	0.160	0.200	0.075	0.460	0.11	14.76							CH	Brownish grey, fat clay
19																				CH	Brownish grey, fat clay
20	0.525	0.426	0.439	0.077	0.174	0.105	0.030	0.018	0.017	0.010	1.370	0.27	2.45	0.55	1.35	42.56	2o57'	36.50	24o45'	CL	Reddish brown, yellowish brown, lean clay
21																				CL	Reddish brown, yellowish brown, lean clay
22																				SC	Yellowish grey, light grey, clayey sand
23																				CL	Yellowish grey, yellowish brown, lean clay
24	0.391	0.453	0.396	0.113	0.584	0.282	0.061	0.029	0.091	0.045	3.520	0.10	1.74	0.11	4.40			11.01	22o41'	CL	Yellowish grey, yellowish brown, lean clay
25																				CH	Grey, fat clay
26	1.071	0.462	0.702	0.190	0.869	0.358	0.047	0.019	0.055	0.023	2.570	0.46	4.31	0.58	3.19			7.26	21o15'	CH	Grey, fat clay
27																				CH	Grey, fat clay
28	1.341	0.646	0.806	0.166	0.609	0.287	0.042	0.020	0.068	0.033	2.700	0.26	2.56	0.46	14.34			15.21	22o21'	CH	Grey, fat clay
29																				CL	Yellowish grey, lean clay
30																				CH	Brownish grey, fat clay
31																				CH	Brownish grey, fat clay
32	0.587	0.346	0.358	0.213	0.734	0.282	0.107	0.041	0.113	0.044	1.030	0.35	10.95	0.34	13.39	11.6	0o54'	30.30	18o05'	CH	Brownish grey, fat clay
33																				CH	Brownish grey, fat clay
34	0.609	0.531	0.635	0.220	0.376	0.173	0.067	0.031	0.070	0.033	1.660	0.31	5.38	0.26	2.41	18.91				CL	Yellowish grey, light grey, sandy lean clay
35																				CH	Yellowish grey, sandy fat clay
36																				CH	Yellowish grey, sandy fat clay
37																				CH	Yellowish grey, sandy fat clay
38																				CH	Yellowish grey, sandy fat clay
39	1.371	0.596	1.062	0.256	0.535	0.246	0.055	0.025	0.111	0.052	2.970	1.00	3.28			52.88				CH	Yellowish grey, fat clay
40																				CH	Yellowish grey, sandy fat clay
41	#VALUE!	0.520	0.510	0.113	0.471	0.471	0.050	0.050	0.095	0.046		1.02	4.93			44.37		8.67	22o21'	CH	Yellowish grey, grey, fat clay
42																				CH	Grey, fat clay
43																				CH	Grey, fat clay
44	0.917	0.878	0.796	0.171	0.563	0.257	0.044	0.020	0.177	0.083	2.770	0.58	3.55	0.52	8.76					CH	Grey, fat clay
45																				CH	Grey, fat clay
46																				CH	Grey, fat clay
47																				CH	Grey, fat clay
48																				CH	Grey, fat clay
49																				CH	Grey, fat clay
50	0.625	0.322	0.322	0.268	0.851	0.292	0.209	0.072	0.176	0.062	0.910	0.15	6.92	0.25	13.48	16.19	0o04'	22.60	17o07'	CH	Grey, fat clay
51																				SP	Yellowish grey, poorly graded sand with clay (or silty clay)
52																				SP	Yellowish grey, poorly graded sand with clay (or silty clay)
53	1.193	0.478	0.664	0.353	0.569	0.266	0.056	0.026	0.104	0.049	1.890	0.72	3.36			26.86	0o38'	13.45	21o33'	CH	Grey, fat clay
54																				CH	Yellowish grey, fat clay
55																				CH	Yellowish grey, fat clay
56																				CH	Blueish grey, fat clay
57																				CH	Grey, fat clay
58	1.341	0.723	1.088	0.253	0.604	0.289	0.039	0.019	0.137	0.067	3.120	0.48	3.55	0.45	6.39	30.44	2o23'	5.29	21o39'	CH	Grey, fat clay with sand
59																				CH	Grey, fat clay
60	0.897	0.667	0.757	0.233	0.587	0.274	0.050	0.023	0.097	0.047	2.220	0.75	4.62	0.58	4.47	48.53	1o09'	7.28	21o50'	CH	Grey, fat clay with sand
61																				CH	Grey, fat clay
62																				CH	Grey, fat clay
63																				CH	Brownish grey, fat clay
64																				CH	Brownish grey, fat clay
65	0.392	0.189	0.222	0.129	0.931	0.324	0.168	0.059	0.199	0.074	1.720	0.14	15.00	0.15	15.00	8.31	0o06'	31.20	18o23'	CH	Brownish grey, fat clay
66																				CH	Brownish grey, fat clay
67	0.755	0.977	0.977	0.342	0.309	0.152	0.116	0.057	0.066	0.034	0.900	0.40	7.97	0.23	4.38	14.01	1o00'	22.50	19o29'	CL	Yellowish grey, lean clay
68																				CL	Yellowish grey, lean clay
69	0.911	1.045	1.035	0.181	0.146	0.096	0.036	0.024	0.029	0.019	1.370	0.37	5.91	0.30	6.98	26.71		5.91	30o53'	CL	Grey, sandy lean clay
70																				CL	Grey, sandy lean clay
71												0.90	2.18	1.03	3.09					CH	Grey, fat clay
72																				CH	Grey, fat clay
73	0.807	0.543	0.824	0.186	0.698	0.324	0.043	0.020	0.088	0.042	3.410	1.06	5.36	0.94	4.60	59.08	0o43'	8.10	22o10'	CH	Grey, fat clay
74																				CH	Grey, fat clay
75	1.054	0.984	1.099	0.246	0.783	0.337	0.039	0.017	0.184	0.081	3.190	1.11	3.82	1.00	4.01	47.93	0o00'	7.88	20o17'	CH	Grey, fat clay
76																				CH	Grey, fat clay
77	0.598	0.917	0.852	0.186	0.712	0.326	0.038	0.017	0.178	0.084	3.200	1.01	4.67	0.97	4.42	53.94	0o44'	7.62	23o19'	CH	Grey, fat clay with sand
78																				CH	Grey, fat clay with sand
79																				CL	Grey, lean clay
80																				CH	Grey, fat clay
81	0.365	0.649	0.545	0.151	0.368	0.173	0.073	0.034	0.071	0.034	1.010	0.29	15.00	0.25	13.36	20.96	0o27'	19.30	21o45'	CH	Grey, fat clay
82																				CH	Grey, fat clay
83	0.474	0.398	0.398	0.164	0.451	0.201	0.153	0.068	0.104	0.048	0.920	0.09	13.27			9.27		31.70	17o01'	CL	Grey, sandy lean clay
84																				CL	Yellowish grey, light grey, sandy lean clay
85	1.311	1.720	1.657	0.407	0.218	0.105	0.063	0.030	0.056	0.027	1.300	0.64	14.97	0.66	12.16	26.52		26.34	24o13'	CL	Yellowish grey, light grey, sandy lean clay
86																				CL	Yellowish grey, light grey, sandy lean clay
87	0.945	1.063	1.174	0.263	0.445	0.208	0.039	0.018	0.065	0.031	3.480	1.04	2.29	0.96	3.34	64.18	0o45'	28.20	17o37'	CH	Yellowish grey, light grey, fat clay
88																				CH	Grey, fat clay
89	1.111	1.021	1.232	0.241	0.727	0.349	0.041	0.020	0.058	0.028	3.650	0.90	4.05	1.19	4.02	50.08		78.25		CH	Grey, fat clay
90																				CH	Grey, fat clay
91																				CH	Grey, fat clay
92																				CL	Brownish grey, lean clay with sand
93																				CL	Brownish grey, lean clay with sand
94	0.599	0.493	0.444	0.120	0.325	0.156	0.085	0.041	0.056	0.027	1.030	0.34	8.99	0.26	13.53			17.15	25o40'	CL	Brownish grey, lean clay
95																				CL	Brownish grey, lean clay
96																				CL	Grey, brownish grey, lean clay
97	0.487	0.569	0.546	0.200	0.305	0.186	0.051	0.031	0.068	0.043	2.550	0.99	11.74	0.75	6.72			9.83	23o40'	CL	Yellowish grey, sandy lean clay
98																				CL	Yellowish grey, light grey, sandy lean clay
99	0.746	1.118	0.949	0.191	0.280	0.155	0.039	0.022	0.071	0.040	2.610	0.40	4.25							CL	Yellowish grey, light grey, sandy lean clay
100																				CL	Yellowish grey, light grey, sandy lean clay
101																				CL	Yellowish grey, light grey, sandy lean clay
102	0.433	0.492	0.466	0.170	0.911	0.397	0.051	0.022	0.165	0.074	3.050	0.59	2.17	0.78	2.85	56.59	0o04'			CH	Grey, fat clay
103																				CH	Grey, fat clay
104												0.44	3.80	0.20	10.95					CH	Grey, fat clay
105																				CH	Grey, fat clay

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm^3) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5) Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817) — Initial Void ratio eo	Void ratio e at load P KN/m^2 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load $\sqrt{Pi\text{-}1 \times Pi}$ KN/m^2 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m^2 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) ($10^{-3}cm^2/s$)	Log Average in Nomal consolidated Cv(n) ($10^{-3}cm^2/s$)	Log Average at Load increment 1 - 2 KG/cm^2 mv (cm^2/KG)	k ($10^{-7}cm/s$)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm^2)	Unconfined compression test Specimen 1 q_u (KG/cm^2)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm^2)	Specimen 2 Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m^2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m^2)	fcu (deg.)	Soil group	Description
106	8308	5	T19	-0.85	D26	25.60 - 25.62	-26.45 - -26.47					100.0	99.78	97.29			55.62	21.37	34.25			2.71																																																CH	Grey, fat clay
107	8309	2	T21	-0.47	D1	1.00 - 1.45	-1.47 - -1.92				100.0	99.72	99.54	97.81	47.07	37.54	58.00	20.18	37.82			2.71																																																				CH	Grey, brownish grey, fat clay
108	8310	2	T21	-0.47	D2	2.00 - 2.45	-2.47 - -2.92		100.0	99.60	98.60	96.96	86.97	60.88	31.32		55.88	23.72	32.16			2.70																																																				CH	Grey, brownish grey, fat clay
109	8311	2	T21	-0.47	U3	3.00 - 3.80	-3.47 - -4.27			100.0	100.0	99.76	99.56	97.77	46.91	68.97	72.23	28.97	43.26	1.57	0.93	2.71	65.68	97.65	1.91	1.548	1.522	1.503	1.480	1.420	1.230	1.031	0.835		0.925	0.202	0.571	0.176	0.322	0.657	0.692		0.540	0.465	0.230	0.308	0.484	0.253	0.125		0.474	0.401	0.401	0.147	0.652	0.256	0.071	0.028	0.060	0.024	0.860	0.15	7.42	0.16	9.35			20.10	19o08'	CH	Grey, brownish grey, fat clay
110	8312	2	T21	-0.47	U5	6.00 - 6.50	-6.47 - -6.97		100.0	99.65	98.57	96.74	86.91	60.89	30.78	40.52	50.79	17.89	32.90	1.79	1.27	2.71	53.14	96.83	1.13	1.331	1.283	1.247	1.194	1.105	0.974	0.836	0.696		1.145	0.307	0.574	0.538	0.451	0.715	0.230		0.891	0.780	0.497	0.416	0.304	0.162	0.081		0.587	0.447	0.447	0.238	0.465	0.199	0.165	0.071	0.110	0.049	0.760	0.20	13.04	0.27	12.94					CH	Grey, brownish grey, fat clay
111	8313	3a	T21	-0.47	D6	7.00 - 7.45	-7.47 - -7.92		100.0	98.14	97.48	96.52	79.16	5.74								2.66																																																			SP	Yellowish grey, poorly graded sand with clay
112	8314	3b	T21	-0.47	U8	9.00 - 9.70	-9.47 - -10.17			100.0	99.8	99.12	94.86	59.67	21.36	33.92	27.11	16.00	11.11	1.85	1.38	2.68	48.51	96.50	0.94																																													CL	Yellowish grey, sandy lean clay
113	8315	4	T21	-0.47	D9	10.00 - 10.45	-10.47 - -10.92			100.0	99.8	99.10	95.14	59.56	22.22		41.30	15.28	26.02			2.68																																																			CL	Yellowish grey, sandy lean clay
114	8316	4	T21	-0.47	U11	12.00 - 12.85	-12.47 - -13.32			100.0	100.0	99.92	99.86	98.24	47.11	30.90	58.84	20.25	38.59	1.91	1.46	2.71	46.12	97.83	0.86	1.168		1.132	1.118	1.097	1.068	1.026	0.954	0.835		0.559	0.584	0.525	0.496	0.574	0.566	0.325		0.314	0.213	0.088	0.061	0.044	0.036	0.029	0.540	0.473	0.539	0.073	0.396	0.183	0.019	0.009	0.034	0.016	3.630	0.69	2.16	0.66	3.42	38.46	0o46'	26.89	17o42'	CH	Yellowish grey, fat clay
115	8317	4	T21	-0.47	D13	14.00 - 14.45	-14.47 - -14.92			100.0	99.9	99.82	99.70	97.81	47.97	42.32	52.81	21.96	30.85			2.70																																																				CH	Yellowish grey, fat clay
116	8318	5	T21	-0.47	D15	16.00 - 16.45	-16.47 - -16.92				100.0	99.90	99.78	93.99	40.19	44.79	57.31	24.83	32.48			2.71																																																			CH	Grey, fat clay
117	8319	5	T21	-0.47	U17	18.00 - 18.50	-18.47 - -18.97				100.0	99.96	99.90	94.17	41.22	43.97	58.50	21.06	37.44	1.76	1.22	2.71	54.98	97.59	1.22	1.310		1.283	1.267	1.244	1.206	1.108	0.871	0.626		0.586	1.136	0.590	0.800	0.511	0.455	0.404		0.256	0.198	0.102	0.086	0.108	0.125	0.057	0.749	0.455	0.576	0.101	0.814	0.352	0.031	0.013	0.103	0.045	3.340									CH	Grey, fat clay
118	8320	5	T21	-0.47	D19	20.00 - 20.45	-20.47 - -20.92				100.0	99.92	99.78	94.21	43.73		55.38	21.36	34.02			2.70																																																			CH	Grey, fat clay
119	8321	5	T21	-0.47	U20	21.00 - 21.85	-21.47 - -22.32				100.0	99.96	99.88	99.12	52.34	45.65	63.05	24.57	38.48	1.75	1.2	2.71	55.71	98.34	1.26	1.074		1.046	1.032	1.009	0.976	0.903	0.688	0.464		0.595	0.576	0.565	0.775	0.305	0.497	0.439		0.236	0.173	0.091	0.066	0.072	0.102	0.047	0.622	0.405	0.508	0.093	0.745	0.359	0.035	0.017	0.081	0.039	3.480	1.17	2.96	1.13	2.93			21.58	20o26'	CH	Grey, fat clay
120	8322	5	T21	-0.47	D22	23.00 - 23.45	-23.47 - -23.92				100.0	99.90	99.76	99.16	56.29	45.92	64.32	23.40	40.92			2.70																																																			CH	Grey, fat clay
121	8490	1b	T23	-1.05	U1	0.80 - 1.40	-1.85 - -2.45			100.0	99.88	99.82	99.52	96.57	21.33	38.38	41.43	19.95	21.48	1.83	1.32	2.72	51.48	98.39	1.06	1.092	1.060	1.042	1.018	0.971	0.897	0.805	0.713		2.937	0.753	0.360	0.410	1.281	3.243	1.551		0.527	0.413	0.204	0.194	0.155	0.096	0.049		0.927	0.927	0.173	0.223	0.308	0.147	0.048	0.023	0.054	0.026	0.770	0.36	10.03	0.48	11.00					CL	Brownish grey, lean clay
122	8491	1b	T23	-1.05	D2	2.80 - 3.25	-3.85 - -4.30			100.0	99.90	99.78	99.46	94.55	23.28		41.68	18.80	22.88			2.70																																																			CL	Brownish grey, lean clay
123	8492	1b	T23	-1.05	D3	4.80 - 5.25	-5.85 - -6.30			100.0	99.82	99.62	99.20	94.22	25.57		42.11	18.50	23.61			2.70																																																			CL	Brownish grey, lean clay
124	8493	3a	T23	-1.05	U5	6.80 - 7.50	-7.85 - -8.55		100.0	99.89	99.63	98.36	82.35	5.90								2.65																																																			SP-SC	Yellowish grey, poorly graded sand with clay
125	8494	3b	T23	-1.05	D9	10.80 - 11.25	-11.85 - -12.30		100.0	99.89	99.69	98.94	89.62	46.68	15.70	35.26	31.15	14.25	16.90			2.69																																																			SC	Yellowish grey, clayey sand
126	8495	3b	T23	-1.05	D10	11.80 - 12.50	-12.85 - -13.55		100.0	99.87	99.33	98.34	88.64	50.12	18.79	37.58	31.50	14.30	17.20			2.69																																																			CL	Yellowish grey, sandy lean clay
127	8496	3c	T23	-1.05	D12	13.80 - 14.25	-14.85 - -15.30			100.0	100.0	94.85	48.27	5.12								2.66																																																			SP-SC	Yellowish grey, poorly graded sand with clay
128	8497	4	T23	-1.05	U14	15.80 - 16.60	-16.85 - -17.65			100.0	99.7	99.40	99.38	97.43	49.42	32.07	48.30	20.20	28.10	1.90	1.44	2.70	46.67	98.96	0.88	0.867		0.851	0.830	0.805	0.771	0.728	0.651	0.573		0.480	0.470	0.660	0.990	1.190	0.810	1.000		0.350	0.446	0.275	0.192	0.125	0.113	0.061	0.620	0.988	0.230	0.167	0.260	0.139	0.065	0.035	0.086	0.046	2.385	1.41	3.06	1.56	3.84	52.02	0o49'			CL	Yellowish grey, lean clay
129	8498	4	T23	-1.05	D15	16.80 - 17.25	-17.85 - -18.30			100.0	100.0	99.94	99.90	98.18	50.53		67.20	21.54	45.66			2.70																																																			CH	Light grey, yellowish grey, fat clay
130	8499	5	T23	-1.05	U17	18.80 - 19.40	-19.85 - -20.45				100.0	99.98	99.90	96.10	44.49	52.96	57.27	22.11	35.16	1.68	1.1	2.71	59.42	98.03	1.46	1.319		1.295	1.271	1.243	1.199	1.038	0.823	0.638		4.990	4.900	4.160	2.450	0.650	0.500	0.530		0.420	0.412	0.254	0.196	0.382	0.278	0.133	3.973	0.556	0.223	0.346	0.610	0.263	0.070	0.030	0.136	0.059	2.155	0.95	4.33	1.41	3.36					CH	Grey, fat clay
131	8500	5	T23	-1.05	U20	21.80 - 22.60	-22.85 - -23.65				100.0	99.96	99.86	94.17	44.76	42.81	50.80	20.71	30.09	1.77	1.24	2.71	54.23	97.90	1.19	1.142		1.126	1.112	1.092	1.062	0.959	0.761	0.609		2.790	2.720	3.390	4.760	1.090	0.780	0.920		0.300	0.269	0.191	0.143	0.256	0.266	0.113	3.327	0.921	0.165	0.438	0.500	0.233	0.053	0.025	0.102	0.048	2.702	0.96	2.79	1.18	3.98					CH	Grey, fat clay
132	8501	5	T23	-1.05	D22	23.80 - 24.25	-24.85 - -25.30			100.0	100.0	99.96	99.94	97.06	41.50	46.24	57.51	22.36	35.15			2.70																																																			CH	Grey, fat clay
133	8502	5	T23	-1.05	D24	25.80 26.25	-26.85 - -27.30				100.0	99.94	99.80	99.30	63.68	45.81	56.95	21.54	35.41			2.71																																																			CH	Grey, fat clay
134	8382	2	T25	-0.35	U3	3.00 - 3.90	-3.35 - -4.25			100.0	99.86	99.64	99.28	97.27	51.90	54.13	87.47	27.29	60.18	1.66	1.08	2.70	60.00	97.43	1.50	1.721		1.639	1.600	1.518	1.294	1.071	0.882	0.612		1.498	0.982	0.530	0.476	0.453	0.677	0.669		0.888	0.659	0.446	0.610	0.304	0.129	0.092	0.921	0.921	0.521	0.494	0.895	0.329	0.091	0.033	0.078	0.029	1.410	0.17	11.13	0.15	11.24	8.41	0o59'	24.80	10o49'	CH	Grey, browish grey, fat clay
135	8383	2	T25	-0.35	D4	4.00 - 4.45	-4.35 - -4.80		100.0	99.86	99.64	99.42	99.12	99.04	35.82	52.16	84.44	24.36	60.08			2.69																																																			CH	Grey, browish grey, fat clay
136	8384	2	T25	-0.35	U6	6.00 - 6.70	-6.35 - -7.05			100.0	99.66	98.82	94.93	81.28	43.84	64.10	84.29	25.73	58.56	1.60	0.98	2.70	63.70	98.62	1.76	1.805		1.711	1.647	1.510	1.308	1.109	0.930	0.733		1.129	0.835	0.318	0.381	0.372	1.380	0.164		1.049	0.883	0.769	0.567	0.279	0.126	0.069	0.971	0.971	0.661	0.267	0.652	0.233	0.284	0.101	0.183	0.068	0.700	0.22	8.77	0.29	1.69	14.20	0o00'	27.30	9o18'	CH	Grey, fat clay
137	8385	3b	T25	-0.35	D8	8.00 - 8.45	-8.35 - -8.80			100.0	100.0	99.72	97.77	86.29	23.62	29.16	31.57	18.69	12.88			2.68																																																			CL	Yellowish grey, lean clay
138	8386	3b	T25	-0.35	U9	9.00 - 9.60	-9.35 - -9.95				100.0	99.80	97.84	80.46	26.98	34.29	32.81	19.67	13.14	1.85	1.38	2.68	48.51	97.56	0.94																																						0.27	10.47	0.34	7.62	4.93	0o00'			CL	Yellowish grey, lean clay
139	8387	5	T25	-0.35	U12	12.00 - 12.60	-12.35 - -12.95			100.0	99.94	99.82	99.32	93.88	39.43	37.28	71.17	19.81	51.36	1.83	1.33	2.70	50.74	97.72	1.03	1.075		1.042	1.024	0.996	0.944	0.791	0.645	0.492		2.007	1.050	1.231	0.672	0.417	0.714	0.597		0.274	0.212	0.118	0.108	0.158	0.076	0.040	1.374	1.374	0.113	0.326	0.506	0.244	0.040	0.019	0.052	0.026	1.590	0.64	4.78	0.38	6.29			25.20	17º03'	CH	Grey, fat clay
140	8388	5	T25	-0.35	D14	14.00 - 14.45	-14.35 - -14.80			100.0	99.70	98.80	94.85	81.19	44.24	56.68	84.72	23.58	61.14			2.69																																																			CH	Grey, fat clay
141	8389	5	T25	-0.35	D16	16.00 - 16.45	-16.35 - -16.80			100.0	100.0	99.66	87.70	51.13	20.35	24.32	33.84	23.45	10.39			2.68																																																			CL	Yellowish grey, sandy lean clay
142	8390	5	T25	-0.35	U18	18.00 - 18.80	-18.35 - -19.15				100.0	99.98	99.88	96.52	46.69	45.82	60.11	22.62	37.49	1.73	1.19	2.71	56.08	97.24	1.28	1.344		1.293	1.268	1.232	1.180	1.050	0.819	0.591		1.326	1.478	1.161	1.457	0.585	0.493	0.471		0.484	0.357	0.169	0.121	0.153	0.135	0.067	1.349	1.349	0.143	0.273	0.757	0.323	0.057	0.024	0.068	0.030	2.430	0.80	5.18	1.09	6.14	59.35	2o2'	26.00	16o16'	CH	Grey, fat clay
143	8391	5	T25	-0.35	D20	20.00 - 20.45	-20.35 - -20.80				100.0	99.96	99.84	96.45	47.35	44.11	59.62	22.62	37.00			2.70																																																			CH	Grey, fat clay
144	8392	5	T25	-0.35	U21	21.00 - 21.80	-21.35 - -22.15				100.0	99.96	99.82	93.13	46.32	48.06	59.26	22.20	37.06	1.73	1.17	2.69	56.50	99.52	1.30	1.260		1.223	1.200	1.171	1.119	0.971	0.776	0.580		1.288	1.749	1.706	1.410	0.520	0.617	0.468		0.337	0.271	0.133	0.118	0.166	0.110	0.055	1.526	1.526	0.125	0.415	0.652	0.289	0.054	0.024	0.064	0.029	2.160	1.05	6.08	0.86	4.14			21.20	14o56'	CH	Grey, fat clay
145	8394	5	T25	-0.35	D23	23.00 - 23.45	-23.35 - -23.80				100.0	99.94	99.64	91.89	36.77	41.95	60.28	23.65	36.63			2.70																																																			CH	Grey, fat clay
146	8395	5	T25	-0.35	D25	25.00 - 25.45	-25.35 - -25.80				100.0	99.96	99.68	92.06	36.14		60.77	22.12	38.65			2.71																																																			CH	Grey, fat clay
147	8323	2	T27	-1.44	D1	1.00 - 1.45	-2.44 - -2.89			100.0	99.8	99.70	99.52	99.12	56.06	46.56	63.97	24.67	39.30			2.71																																																		CH	Grey, fat clay
148	8324	2	T27	-1.44	D2	2.00 - 2.45	-3.44 - -3.89		100.0	99.39	99.33	99.23	99.01	94.42	16.81		67.02	21.74	45.28			2.70																																																			CH	Grey, fat clay
149	8325	2	T27	-1.44	U3	3.00 - 3.90	-4.44 - -5.34		100.0	99.41	99.39	99.33	99.11	94.29	16.52	39.25	44.99	21.46	23.53	1.80	1.29	2.68	51.88	97.58	1.08	1.277	1.237	1.211	1.172	1.110	1.019	0.913	0.793		0.585	0.348	0.345	0.363	0.385	0.479	0.121		0.721	0.601	0.355	0.279	0.207	0.121	0.068		0.399	0.282	0.300	0.129	0.399	0.175	0.101	0.044	0.080	0.036	1.080	0.07	5.17	0.09	8.13	14.20	0o19'	18.80	22o16'	CL	Grey, lean clay
150	8326	3b	T27	-1.44	D5	5.00 - 5.20	-6.44 - -6.64		100.0	99.65	98.45	95.89	78.82	44.14	17.97		40.78	18.35	22.43			2.69																																																			CL	Grey, lean clay
151	8327	3b	T27	-1.44	U6	6.00 - 6.90	-7.44 - -8.34		100.0	99.67	98.47	96.09	79.06	44.02	17.43	28.13	39.66	15.11	24.55	1.95	1.52	2.68	43.28	98.81	0.76	1.796	1.718	1.701	1.681	1.656	1.627	1.592	1.550		0.276	0.233	0.284	0.489	0.374	0.395	0.174		1.751	1.066	0.220	0.138	0.082	0.048	0.030		0.307	0.295	0.335	0.037	0.140	0.050	0.050	0.018	0.032	0.012	1.210	0.10	13.76	0.10	10.03	15.89				CL	Grey, lean clay
152	8328	3b	T27	-1.44	D7	7.00 - 7.45	-8.44 - -8.89		100.0	99.85	99.73	97.95	83.65	43.16	13.74		23.73	12.73	11.00			2.67																																																			SC	Yellowish grey, clayey sand
153	8329	3b	T27	-1.44	D8	8.00 - 8.45	-9.44 - -9.89		100.0	99.82	99.32	97.59	90.76	68.43	29.09		37.67	19.55	18.12			2.68																																																			CL	Light grey, yellowish brown, sandy lean clay
154	8330	4	T27	-1.44	U10	10.00 - 10.80	-11.44 - -12.24		100.0	99.75	99.05	97.23	90.42	68.00	29.46	23.01	30.77	18.60	12.17	2.02	1.64	2.69	39.02	96.71	0.64	1.398		1.369	1.350	1.324	1.289	1.242	1.184	1.109		0.672	0.588	0.758	0.560	0.611	0.793	0.165		0.276	0.228	0.123	0.081	0.054	0.033	0.020	0.640	0.431	0.673	0.114	0.247	0.103	0.042	0.018	0.041	0.017	2.720	0.75	14.99	0.62	12.49	53.07	1o16'	26.87	23o34'	CL	Light grey, yellowish brown, sandy lean clay
155	8331	4	T27	-1.44	D12	12.00 - 12.45	-13.44 - -13.89		100.0	99.78	98.94	96.78	90.49	68.23	29.53	26.05	36.55	17.54	19.01			2.70																																																			CL	Light grey, yellowish brown, sandy lean clay
156	8332	5	T27	-1.44	U14	14.00 - 14.60	-15.44 - -16.04					100.0	99.96	96.08	45.79	44.57	69.66	24.10	45.56	1.76	1.22	2.71	54.98	98.92	1.22	1.156		1.126	1.109	1.074	0.985	0.847	0.708	0.566		0.563	0.480	0.406	0.350	0.337	0.234	0.153		0.260	0.202	0.149	0.184	0.137	0.064	0.030	0.479	0.255	0.325	0.178	0.473	0.219	0.065	0.030	0.118	0.056	1.510	0.83	6.73	0.66	9.84	39.28	0o15'	21.03	17o43'	CH	Grey, fat clay
157	8333	5	T27	-1.44	D16	16.00 - 16.45	-17.44 - -17.89				100.0	99.90	99.74	96.75	48.54	42.35	58.47	22.36	36.11			2.71																																																			CH	Grey, fat clay
158	8334	5	T27	-1.44	U18	18.00 - 18.80	-19.44 - -20.24				100.0	99.94	99.82	96.89	44.42	44.57	69.60	25.52	44.08	1.73	1.2	2.71	55.71	96.01	1.26	1.121		1.085	1.072	1.052	1.022	0.870	0.638	0.399		0.515	0.379	0.645	0.592	0.526	0.422	0.492		0.301	0.202	0.085	0.061	0.154	0.108	0.049	0.523	0.478	0.540	0.095	0.796	0.375	0.027	0.013	0.200	0.096	2.740	0.88	2.34	0.95	2.80	64.82		25.00	18o43'	CH	Grey, fat clay
159	8335	5	T27	-1.44	D20	20.00 - 20.45	-21.44 - -21.89				100.0	99.88	99.72	96.63	44.74		61.68	24.49	37.19			2.70																																																			CH	Grey, fat clay
160	8336	5	T27	-1.44	D22	22.00 - 22.45	-23.44 - -23.89				100.0	99.96	99.86	98.96	44.93	42.87	59.25	21.12	38.13			2.71																																																			CH	Grey, fat clay
161	8337	1a	T30	0.45	D1	1.00 - 1.45	-0.55 - -1.00		100.0	97.11	93.54	85.15	38.34	1.75								2.66																																																			SP	Grey, poorly graded sand
162	8338	1b	T30	0.45	D2	2.00 - 2.45	-1.55 - -2.00		100.0	99.54	99.12	98.23	95.97	59.69	14.06	40.76	36.48	23.67	12.81			2.67																																																			CL	Grey, brownish grey, sandy lean clay
163	8339	2	T30	0.45	U3	3.00 - 3.90	-2.55 - -3.45			100.0	99.6	99.44	99.02	93.65	24.72	45.07	51.98	25.31	26.67	1.72	1.19	2.68	55.60	96.48	1.25	0.642	0.625	0.610	0.595	0.564	0.498	0.415	0.327		1.080	0.370	0.521	0.295	0.558	0.386	0.148		0.220	0.212	0.095	0.103	0.108	0.068	0.036		0.498	0.317	0.312	0.142	0.295	0.179	0.046	0.028	0.042	0.026	1.110	0.35	6.50	0.32	10.53	12.95	1o23'	24.43	19o19'	CH	Brownish grey, fat clay
164	8340	2	T30	0.45	D5	5.00 - 5.45	-4.55 - -5.00		100.0	100.0	99.8	99.51	98.87	94.03	26.60	38.42	71.58	27.05	44.53			2.67																																																			CH	Brownish grey, fat clay
165	8341	3a	T30	0.45	U7	7.00 - 7.70	-6.55 - -7.25			100.0	99.9	99.36	81.72	2.25								2.65																																																			SP	Yellowish grey, poorly graded sand
166	8342	3b	T30	0.45	D9	9.00 - 9.45	-8.55 - -9.00			100.0	100.0	99.90	99.66	88.96	38.28	40.26	58.49	17.81	40.68			2.69																																																			CH	Yellowish grey, fat clay
167	8343	3b	T30	0.45	U11	11.00 - 11.90	-10.55 - -11.45		100.0	99.85	99.73	83.77	71.62	37.10	11.58	19.67	24.44	15.25	9.19	2.07	1.73	2.65	34.73	97.98	0.53																																									26.33	0o59'			SC	Grey, light grey, clayey sand
168	8344	3b	T30	0.45	D12	12.00 - 12.45	-11.55 - -12.00			100.0	99.88	99.72	99.50	95.48	43.72	41.27	59.83	25.63	34.20			2.70																																																			CH	Yellowish grey, brownish grey, fat clay
169	8345	4	T30	0.45	U14	14.00 - 14.60	-13.55 - -14.15				100.0	99.90	99.86	97.66	53.67	34.72	76.12	24.80	51.32	1.85	1.37	2.69	49.08	96.88	0.96	1.164		1.139	1.127	1.106	1.068	1.001	0.891	0.735		0.555	0.540	0.540	0.563	0.588	0.531	0.421									0.549	0.509	0.555	0.098	0.518	0.240	0.028	0.013	0.052	0.025	3.580					69.90	0o06'			CH	Brownish grey, greenish grey, fat clay
170	8346	4	T30	0.45	D16	16.00 - 16.45	-15.55 - -16.00			100.0	100.0	99.80	99.60	95.93	44.85	36.91	62.82	25.16	37.66			2.70																																																				CH	Yellowish grey, brownish grey, fat clay
171	8347	5	T30	0.45	U17	17.00 - 17.90	-16.55 - -17.45				100.0	99.96	99.84	96.13	43.73	44.47	61.19	26.12	35.07	1.74	1.2	2.71	55.71	95.80	1.26	1.109		1.091	1.080	1.062	1.034	0.925	0.691	0.443		0.790	0.668	0.854	0.773	0.468	0.402	0.632		0.158	0.124	0.077	0.060	0.115	0.123	0.065	0.768	0.492	0.594	0.118	0.824	0.391	0.014	0.007	0.045	0.022	3.340	1.41	3.26	1.27	3.27	59.35	0o26'	16.54	17o56'	CH	Grey, fat clay
172	8348	5	T30	0.45	D19	19.00 - 19.45	-18.55 - -19.00				100.0	99.80	99.68	97.45	41.64	49.60	64.65	19.77	44.88			2.69																																																			CH	Grey, fat clay
173	8349	5	T30	0.45	U21	21.00 - 21.90	-20.55 - -21.45				100.0	99.98	99.96	97.62	50.23	48.04	65.41	20.45	44.96	1.71	1.16	2.70	57.04	97.67	1.33																																					1.11	4.63			57.82	0o44'	17.43	16o50'	CH	Grey, fat clay
174	8350	5	T30	0.45	D23	23.00 - 23.45	-22.55 - -23.00		100.0	99.54	99.36	99.14	98.98	89.95	32.86	41.96	57.44	19.85	37.59			2.69																																																			CH	Grey, fat clay
175	8512	2	T33	-0.19	D1	1.00 - 1.45	-1.19 - -1.64	100.0	99.74	99.24	98.57	97.96	96.67	67.15	13.06		73.11	20.40	52.71			2.69																																																				CH	Brownish grey, fat clay
176	8513	2	T33	-0.19	U3	3.00 - 3.90	-3.19 - -4.09			100.0	99.94	99.86	99.48	91.94	21.70	48.14	73.78	26.66	47.12	1.74	1.17	2.70	56.67	99.37	1.31	1.290	1.239	1.221	1.179	1.117	1.036	0.956	0.864		0.697	0.445	0.572	1.158	1.427	1.667	0.877		0.936	0.636	0.382	0.286	0.186	0.091	0.053		0.562	1.247	0.230	0.358	0.305	0.133	0.079	0.035	0.054	0.024	0.670	0.34	7.77	0.16	5.71					CH	Brownish grey, fat clay
177	8514	2	T33	-0.19	U6	6.00 - 6.60	-6.19 - -6.79			100.0	99.94	99.90	99.84	98.82	52.00	67.37	76.47	23.50	52.97	1.59	0.95	2.71	64.95	98.53	1.85	1.673	1.637	1.611	1.561	1.450	1.211	0.994	0.708		2.017	0.931	0.905	0.527	0.280	0.451	0.131		0.786	0.670	0.533	0.595	0.638	0.291	0.191		0.973	0.255	0.305	0.280	0.950	0.355	0.126	0.047	0.130	0.050	1.160	0.19	7.10	0.19	12.18			20.77	17o40'	CH	Brownish grey, fat clay
178	8515	3b	T33	-0.19	U9	9.00 - 9.80	-9.19 - -9.99			100.0	99.92	99.22	93.68	58.94	31.23	21.23	31.35	14.43	16.92	2.06	1.7	2.72	37.50	96.24	0.60	0.537		0.526	0.517	0.505	0.485	0.455	0.419	0.375		3.840	3.120	3.670	4.450	4.640	4.550	4.540		0.280	0.238	0.160	0.135	0.102	0.062	0.040	3.530	4.545	0.147	0.529	0.150	0.098	0.032	0.021	0.028	0.018	1.696	0.63	6.39	0.55	12.32			39.10	21o52'	CL	Grey, sandy lean clay
179	8516	3c	T33	-0.19	U12	12.00 - 12.50	-12.19 - -12.69		100.0	98.85	94.75	85.65	39.80	3.82								2.65																																																			SP	Yellowish grey, poorly graded sand
180	8517	3c	T33	-0.19	D14	14.00 - 14.50	-14.19 - -14.69			100.0	97.94	96.29	94.34	49.75	9.62		22.42	11.24	11.18			2.68																																																			SC	Yellowish grey, clayey sand
181	8518	5	T33	-0.19	U16	16.00 - 16.50	-16.19 - -16.69				100.0	99.96	99.84	96.84	44.76	35.79	51.96	22.52	29.44	1.84	1.36	2.70	49.62	98.10	0.99	1.201		1.189	1.174	1.152	1.114	0.993	0.804	0.649		4.270	3.590	3.810	3.310	1.930	0.840	0.980		0.220	0.268	0.208	0.176	0.296	0.249	0.112	3.729	1.167	0.191	0.579	0.510	0.232	0.048	0.022	0.100	0.045	2.314	0.64	3.13	1.15	2.60					CH	Grey, fat clay
182	8519	5	T33	-0.19	U19	19.00 - 19.50	-19.19 - -19.69				100.0	99.94	99.84	96.82	45.19	40.27	52.55	22.14	30.41	1.71	1.22	2.72	55.16	89.05	1.23	1.362		1.327	1.297	1.268	1.225	1.073	0.866	0.698		1.410	1.740	2.460	3.570	1.450	0.650	0.850		0.588	0.527	0.251	0.193	0.353	0.263	0.118	2.154	0.929	0.220	0.589	0.560	0.237	0.080	0.034	0.125	0.053	2.202	0.87	2.86	0.88	3.40					CH	Grey, fat clay
183	8503	1a	T35	0.45	D1	1.00 - 1.45	-0.55 - -1.00		100.0	99.23	97.56	85.46	67.39	10.02								2.65																																																			SP-SC	Brownish grey, poorly graded sand with clay
184	8504	2	T35	0.45	D3	3.00 - 3.45	-2.55 - -3.00			100.00	100.0	99.84	99.68	97.79	54.59		72.55	17.56	54.99			2.70																																																			CH	Brownish grey, fat clay
185	8505	2	T35	0.45	U5	5.00 - 5.90	-4.55 - -5.45			100.00	99.94	99.84	99.76	97.76	55.31	68.23	75.75	18.25	57.50	1.58	0.94	2.70	65.18	98.41	1.87	1.884	1.841	1.811	1.749	1.601	1.336	1.112	0.875		1.401	1.578	0.443	0.339	0.383	0.554	0.754		1.005	0.845	0.715	0.850	0.765	0.323	0.171		0.993	0.482	0.482	0.265	0.790	0.274	0.119	0.041	0.082	0.029	0.570	0.23	4.31	0.41	2.88	13.84	0o25'	22.12	15o04'	CH	Grey, brownish grey, fat clay
186	8506	3b	T35	0.45	U9	11.00 - 11.00	-10.55 - -10.55			100.00	99.80	99.62	97.51	87.25	51.24	26.87	37.37	16.25	21.12	1.96	1.54	2.69	42.76	96.76	0.75	0.900		0.875	0.852	0.815	0.752	0.659	0.570	0.483		4.850	4.320	1.840	1.280	1.110	1.440	1.670		0.520	0.502	0.404	0.350	0.273	0.138	0.071	3.378	1.360	0.376	0.367	0.290	0.153	0.077	0.041	0.061	0.032	1.092	0.38	3.87	0.44	5.05			8.00	22o21'	CL	Grey, lean clay
187	8507	5	T35	0.45	U11	14.00 - 14.50	-13.55 - -14.05			100.0	99.18	98.35	95.79	88.85	47.42	38.90	55.06	21.73	33.33	1.82	1.31	2.70	51.48	98.99	1.06	0.991		0.971	0.953	0.930	0.897	0.839	0.729	0.599		2.350	2.260	2.160	1.810	1.610	0.940	0.860		0.400	0.365	0.240	0.174	0.155	0.154	0.098	2.135	1.092	0.204	0.278	0.430	0.216	0.065	0.033	0.094	0.047	2.646	1.45	4.01	1.51	4.26	63.68				CH	Yellowish grey, fat clay
188	8508	5	T35	0.45	U14	17.00 - 17.60	-16.55 - -17.15				100.0	99.98	99.92	96.60	41.88	40.20	54.11	20.35	33.76	1.80	1.28	2.68	52.24	98.48	1.09	1.049		1.026	1.002	0.976	0.938	0.836	0.609	0.442		2.320	2.160	2.550	2.540	1.570	0.640	0.640		0.440	0.474	0.270	0.190	0.270	0.330	0.137	2.387	0.863	0.226	0.449	0.550	0.268	0.076	0.037	0.110	0.054	2.862	1.14	3.49	1.22	2.56			10.24	20o14'	CH	Grey, fat clay
189	8509	5	T35	0.45	U17	20.00 - 20.80	-19.55 - -20.35			100.0	99.98	99.92	99.86	96.98	48.79	48.70	61.71	21.46	40.25	1.71	1.15	2.71	57.57	97.26	1.36	1.299		1.279	1.260	1.233	1.185	0.993	0.775	0.603		1.770	1.640	1.850	2.340	0.680	0.810	0.730		0.360	0.332	0.236	0.220	0.458	0.290	0.127	1.883	0.738	0.228	0.401	0.570	0.248	0.076	0.033	0.125	0.054	2.004	1.15	3.60	1.17	3.99	53.32	1o49'			CH	Grey, fat clay
190	8510	5	T35	0.45	U20	23.00 - 23.80	-22.55 - -23.35				100.0	99.96	99.90	88.37	39.86	41.25	59.96	22.78	37.18	1.79	1.27	2.71	53.14	98.58	1.13																																					0.98	5.70	0.94	5.81			7.96	22o17'	CH	Grey, fat clay
191	8511	5	T35	0.45	D23	26.00 - 26.45	-25.55 - -26.00				100.0	99.90	99.84	91.81	40.86		59.63	20.70	38.93			2.70																																																			CH	Grey, fat clay
192	8410	1a	T37	-1.37	D1	1.00 - 1.45	-2.37 - -2.82		100.0	97.53	95.61	88.56	74.43	4.59								2.66																																																			SP	Grey, brownish grey, poorly graded sand
193	8411	2	T37	-1.37	U3	3.00 - 3.80	-4.37 - -5.17			100.0	99.80	99.46	98.11	80.12	15.35	35.82	43.15	23.14	20.01	1.84	1.35	2.69	49.82	97.04	0.99	1.073	1.010	0.977	0.930	0.865	0.800	0.727	0.647		1.177	1.324	0.811	0.161	1.118	2.177	0.985		1.045	0.790	0.389	0.269	0.135	0.076	0.041		1.081	1.081	0.191	0.116	0.263	0.127	0.136	0.066	0.095	0.048	0.830	0.38	10.64	0.32	10.28	10.10	0o41'	19.63	23o9'	CL	Brownish grey, lean clay with sand
194	8412	2	T37	-1.37	D4	4.00 - 4.45	-5.37 - -5.82			100.0	99.92	99.52	99.22	98.82	50.98		80.76	24.01	56.75			2.68																																																			CH	Brownish grey, grey, fat clay
195	8413	2	T37	-1.37	U6	6.00 - 6.69	-7.37 - -8.06			100.0	100.0	99.48	87.73	11.53								2.65																																																			SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
196	8414	2	T37	-1.37	D7	7.00 - 7.45	-8.37 - -8.82			100.0	100.0	99.60	99.32	98.96	50.72		81.66	22.58	59.08			2.70																																																			CH	Brownish grey, fat clay
197	8415	3b	T37	-1.37	U9	9.00 - 9.80	-10.37 - -11.17			100.0	99.08	98.86	98.25	55.61	14.70	28.68	26.39	14.11	12.28	1.94	1.51	2.68	43.66	99.18	0.78	0.609		0.590	0.578	0.562	0.537	0.504	0.463	0.415		3.750	4.900	4.570	5.370	5.330	6.200	5.430		0.470	0.309	0.203	0.165	0.107	0.069	0.042	4.379	5.572	0.183	0.716	0.160	0.099	0.034	0.021	0.032	0.020	1.974	0.60	5.18	0.49	13.04	33.63		15.31	30o39'	CL	Light grey, yellowsh grey, sandy lean clay
198	8416	3b	T37	-1.37	D11	11.00 - 11.45	-12.37 - -12.82			100.0	100.0	99.88	99.72	96.13	44.49		59.64	22.37	37.27			2.70																																																			CH	Yellowish grey, fat clay
199	8417	5	T37	-1.37	D13	13.00 - 13.45	-14.37 - -14.82			100.0	100.0	99.88	99.70	96.07	44.24		59.59	22.69	36.90			2.71																																																			CH	Yellowish grey, fat clay
200	8418	5	T37	-1.37	U14	14.00 - 14.60	-15.37 - -15.97					100.0	99.98	97.88	48.68	46.60	53.00	20.21	32.79	1.73	1.18	2.70	56.29	97.69	1.29	1.106		1.082	1.061	1.025	0.969	0.832	0.667	0.528		1.870	1.030	1.500	1.480	0.640	0.480	0.560		0.460	0.401	0.348	0.285	0.359	0.237	0.109	1.424	0.710	0.315	0.310	0.460	0.218	0.071	0.034	0.159	0.075	1.808	0.66	4.12	0.39	5.32	50.12				CH	Grey, fat clay
201	8419	5	T37	-1.37	D16	16.00 - 16.45	-17.37 - -17.82					100.0	99.98	97.98	47.85		61.90	23.55	38.35			2.71																																																			CH	Grey, fat clay
202	8420	5	T37	-1.37	U17	17.00 - 17.90	-18.37 - -19.27					100.0	99.98	97.94	48.25	48.04	61.62	23.65	37.97	1.72	1.16	2.71	57.19	97.45	1.34	1.213		1.171	1.150	1.117	1.059	0.936	0.708	0.479		1.448	0.976	0.779	0.911	0.341	0.513	0.634		0.372	0.278	0.147	0.128	0.136	0.126	0.064	1.001	1.001	0.137	0.216	0.763	0.345	0.052	0.023	0.090	0.041	2.620	0.81	2.16	0.79	2.32					CH	Grey, fat clay
203	8421	5	T37	-1.37	D19	19.00 - 19.45	-20.37 - -20.82			100.0	100.0	99.92	99.64	97.63	44.67		64.00	22.97	41.03			2.70																																																			CH	Grey, fat clay
204	8422	5	T37	-1.37	U20	20.00 - 20.70	-21.37 - -22.07			100.0	100.0	99.90	99.58	97.55	44.17	49.88	64.76	22.79	41.97	1.71	1.14	2.71	57.93	98.17	1.38	1.163		1.109	1.097	1.077	1.041	0.903	0.709	0.335		0.654	0.207	1.273	0.824	0.757	0.722	0.633		0.464	0.283	0.085	0.079	0.149	0.105	0.101	0.640	0.640	0.082	0.256	1.242	0.574	0.024	0.011	0.047	0.022	4.250	0.95	2.95	1.09	2.57					CH	Grey, fat clay
205	8423	5	T37	-1.37	D22	22.00 - 22.45	-23.37 - -23.82			100.0	100.0	99.94	99.70	97.91	44.18		64.27	22.57	41.70			2.72																																																		CH	Grey, fat clay
206	8424	5	T37	-1.37	D24	24.00 - 24.45	-25.37 - -25.82			100.0	100.0	99.94	99.64	97.75	43.20		64.41	22.80	41.61			2.70																																																		CH	Grey, fat clay
207	8521	1b	T38	-1.77	U1	0.00 - 0.90	-1.77 - -2.67			100.0	99.38	98.94	98.03	71.48	17.01	41.77	33.66	15.24	18.42	1.77	1.25	2.69	53.53	97.54	1.15	1.123	1.064	1.036	0.985	0.927	0.855	0.772	0.686		2.458	1.535	1.094	1.036	1.244	2.198	1.145		1.008	0.742	0.430	0.248	0.153	0.088	0.046		1.604	1.342	0.195	0.335	0.286	0.135	0.105	0.050	0.061	0.030	0.590	0.28	10.50	0.18	6.88			26.30	16o22'	CL	Brownish grey, grey, lean clay with sand
208	8523	3b	T38	-1.77	D4	5.00 - 5.45	-6.77 - -7.22		100.0	99.15	98.56	97.28	87.16	37.15	9.53		24.09	12.14	11.95			2.68																																																			SC	Yellowish grey, clayey sand
209	8524	3b	T38	-1.77	D6	7.00 - 7.45	-8.77 - -9.22		100.0	99.03	98.36	96.85	87.18	33.18	8.99		25.34	11.47	13.87			2.68																																																			SC	Yellowish grey, clayey sand
210	8525	3b	T38	-1.77	U7	8.00 - 8.90	-9.77 - -10.67			100.0	99.7	99.48	99.16	77.40	29.02	31.58	31.35	15.72	15.63	1.90	1.44	2.69	46.47	97.87	0.87	0.791		0.757	0.740	0.715	0.677	0.621	0.557	0.481		1.685	0.579	1.090	2.452	2.779	2.584	2.348		0.243	0.182	0.091	0.069	0.049	0.029	0.017	1.271	2.565	0.079	0.247	0.251	0.140	0.042	0.024	0.056	0.032	2.320	0.61	13.03	0.62	10.49	17.83	0o53'	16.51	29o27'	CL	Yellowish grey, light grey, lean clay with sand

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From - To	Depth DL(m) From - To	Sieve 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm^3) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
211	8527	5	T38	-1.77	U9	11.00 - 11.90	-12.77 - -13.67			100.0	99.86	98.66	97.73	88.02	25.90	40.65	55.59	19.03	36.56	1.79	1.27	2.70	52.96	97.47	1.13
212	8528	5	T38	-1.77	U11	14.00 - 14.60	-15.77 - -16.37			100.0	100.0	99.96	99.94	94.78	46.70	52.90	55.22	22.41	32.81	1.68	1.1	2.71	59.42	97.92	1.46
213	8530	5	T38	-1.77	U13	17.00 - 17.90	-18.77 - -19.67				100.0	99.92	99.82	99.02	47.95	40.09	76.94	21.37	55.57	1.79	1.28	2.70	52.58	97.60	1.11
214	8532	5	T38	-1.77	U15	20.00 - 20.90	-21.77 - -22.67				100.0	99.96	99.80	98.88	47.55	44.57	56.50	22.65	33.85	1.75	1.21	2.71	55.36	97.41	1.24
215	8533	5	T38	-1.77	D16	21.00 - 21.45	-22.77 - -23.22				100.0	99.96	99.92	98.18	52.42		56.26	21.14	35.12			2.72			
216	8534	5	T38	-1.77	U18	23.00 - 23.90	-24.77 - -25.67			100.0	100.0	99.86	99.56	88.65	39.15	52.61	54.45	19.71	34.74	1.68	1.1	2.70	59.27	97.63	1.46
217	8351	2	T40	1.04	D1	1.00 - 1.45	0.04 - -0.41		100.0	99.90	99.72	99.42	99.14	97.75	40.56		60.36	23.57	36.79			2.71			
218	8352	2	T40	1.04	D2	2.00 - 2.45	-0.96 - -1.41		100.0	99.88	99.66	99.40	99.04	97.51	40.01	50.38	64.63	23.72	40.91			2.70			
219	8353	2	T40	1.04	U3	3.00 - 3.90	-1.96 - -2.86			100.0	99.94	99.70	99.02	86.66	24.06	52.65	40.65	21.27	19.38	1.68	1.1	2.70	59.27	97.70	1.46
220	8354	2	T40	1.04	D4	4.00 - 4.45	-2.96 - -3.41		100.0	99.92	99.86	99.72	99.54	98.90	50.11	65.74	42.91	26.41	16.50			2.71			
221	8355	2	T40	1.04	D6	6.00 - 6.45	-4.96 - -5.41			100.0	99.70	99.34	99.04	96.66	30.93	68.94	79.76	25.99	53.77			2.69			
222	8356	2	T40	1.04	U7	7.00 - 7.90	-5.96 - -6.86			100.0	99.60	99.30	98.96	96.49	30.22	67.11	79.65	29.10	50.55	1.59	0.95	2.70	64.81	98.37	1.84
223	8357	3b	T40	1.04	U10	10.00 - 10.90	-8.96 - -9.86			100.0	100.0	99.44	88.40	56.49	29.25	22.53	34.26	24.36	9.90	2.04	1.66	2.69	38.27	97.75	0.62
224	8358	3b	T40	1.04	D12	12.00 - 12.45	-10.96 - -11.41			100.0	100.0	99.52	88.37	56.56	29.34		31.73	25.47	6.26			2.69			
225	8359	3c	T40	1.04	D13	13.00 - 13.45	-11.96 - -12.41			100.0	100.0	97.11	19.60	2.61								2.65			
226	8360	5	T40	1.04	U14	14.00 - 14.45	-12.96 - -13.41				100.0	99.88	99.70	96.31	47.88	42.00	53.44	22.65	30.79	1.76	1.24	2.69	53.90	96.65	1.17
227	8361	5	T40	1.04	D16	16.00 - 16.45	-14.96 - -15.41			100.0	99.9	99.86	99.54	96.57	38.88	47.42	54.71	23.12	31.59			2.70			
228	8362	5	T40	1.04	U18	18.00 - 18.80	-16.96 - -17.76				100.0	99.74	99.24	93.27	44.98	40.60	61.72	24.81	36.91	1.78	1.27	2.71	53.14	97.02	1.13
229	8363	5	T40	1.04	D20	20.00 - 20.45	-18.96 - -19.41				100.0	99.70	99.16	93.13	45.29	45.30	58.62	21.02	37.60			2.70			
230	8364	5	T40	1.04	D21	21.00 - 21.45	-19.96 - -20.41				100.0	99.76	99.30	93.34	44.93		62.17	21.36	40.81			2.70			
231	8365	5	T40	1.04	D23	23.00 - 23.45	-21.96 - -22.41		100.0	99.60	99.56	99.54	99.50	96.61	44.34	45.37	62.02	23.18	38.84			2.70			
232	8366	5	T40	1.04	D25	25.00 - 25.45	-23.96 - -24.41		100.0	99.62	99.60	99.58	99.54	96.69	43.48	50.94	60.85	22.56	38.29			2.71			
233	8367	2	T41	0.52	D1	1.00 - 1.45	-0.48 - -0.93			100.00	99.90	99.74	98.92	91.58	20.41		71.29	22.31	48.98			2.65			
234	8368	2	T41	0.52	U3	3.00 - 3.90	-2.48 - -3.38			100.00	100.0	99.68	98.98	85.72	23.02	40.80	72.15	23.06	49.09	1.77	1.26	2.68	52.99	97.02	1.13
235	8369	2	T41	0.52	U5	6.00 - 6.90	-5.48 - -6.38			100.00	99.90	99.48	99.26	98.76	50.65	54.02	76.03	25.12	50.91	1.67	1.08	2.70	60.00	97.24	1.50
236	8370	3a	T41	0.52	D7	9.00 - 9.45	-8.48 - -8.93			100.00	99.87	97.53	47.48	4.87								2.65			
237	8371	3b	T41	0.52	D8	10.00 - 10.45	-9.48 - -9.93				100.0	99.62	86.47	11.12								2.63			
238	8372	3b	T41	0.52	D10	12.00 - 12.45	-11.48 - -11.93				100.0	99.60	86.43	11.02								2.64			
239	8373	4	T41	0.52	U13	15.00 - 15.50	-14.48 - -14.98		100.0	99.60	98.90	98.45	98.27	94.75	47.41	33.82	52.49	23.02	29.47	1.88	1.4	2.70	48.16	98.29	0.93
240	8374	5	T41	0.52	D15	17.00 - 17.45	-16.48 - -16.93				100.0	99.94	99.84	98.08	41.10	49.08	64.64	24.25	40.39			2.71			
241	8375	5	T41	0.52	U16	18.00 - 18.90	-17.48 - -18.38				100.0	99.82	99.76	95.83	47.40	39.55	62.63	25.36	37.27	1.79	1.28	2.70	52.58	96.29	1.11
242	8376	5	T41	0.52	D18	20.00 - 20.45	-19.48 - -19.93				100.0	99.98	99.68	92.10	36.54	48.85	71.78	23.62	48.16			2.70			
243	8377	5	T41	0.52	D19	21.00 - 21.45	-20.48 - -20.93				100.0	99.94	99.62	95.93	36.15	49.36	72.36	22.91	49.45			2.71			
244	8378	5	T41	0.52	U20	22.00 - 22.90	-21.48 - -22.38				100.0	99.96	99.88	98.74	43.29	41.63	72.75	25.92	46.83	1.77	1.25	2.70	53.70	96.90	1.16
245	8379	5	T41	0.52	D22	24.00 - 24.45	-23.48 - -23.93			100.0	99.9	99.48	99.28	95.37	40.66	45.04	71.98	25.33	46.65			2.72			
246	8380	5	T41	0.52	D24	26.00 - 26.20	-25.48 - -25.68			100.0	99.9	99.40	99.16	95.19	41.20		84.87	26.12	58.75			2.70			
247	8536	1a	T43	0.53	D1	1.00 - 1.45	-0.47 - -0.92		100.0	87.19	77.56	61.47	40.90	2.09								2.64			
248	8537	1b	T43	0.53	U2	2.00 - 2.80	-1.47 - -2.27			100.0	99.46	98.43	96.44	75.44	20.58	41.17	41.06	20.26	20.80	1.78	1.26	2.69	53.16	97.57	1.14
249	8538	2	T43	0.53	D3	4.00 - 4.45	-3.47 - -3.92			100.0	99.94	99.84	99.72	99.12	54.67		81.25	22.35	58.90			2.70			
250	8539	2	T43	0.53	U5	6.00 - 6.90	-5.47 - -6.37			100.0	100.0	99.80	99.64	99.08	54.01	61.30	81.53	29.99	51.54	1.63	1.01	2.70	62.59	98.93	1.67
251	8540	2	T43	0.53	D6	8.00 - 8.45	-7.47 - -7.92		100.0	99.88	99.74	99.52	99.18	95.29	27.13		52.52	22.46	30.06			2.70			
252	8541	3b	T43	0.53	U7	9.00 - 9.90	-8.47 - -9.37			100.0	99.92	99.34	95.27	57.60	33.15	21.85	37.76	15.17	22.59	2.05	1.68	2.68	37.30	98.42	0.60
253	8542	3c	T43	0.53	U9	12.00 - 12.90	-11.47 - -12.37		100.0	99.4	98.50	74.84	31.20	1.65								2.65			
254	8543	4	T43	0.53	D11	14.00 - 14.45	-13.47 - -13.92	100.00	99.4	98.3	96.83	95.67	95.10	91.58	34.21		54.21	22.18	32.03			2.70			
255	8544	5	T43	0.53	U13	16.00 - 16.50	-15.47 - -15.97			100.0	99.90	99.62	99.40	96.22	48.08	36.08	50.20	18.54	31.66	1.84	1.35	2.69	49.82	97.74	0.99
256	8545	5	T43	0.53	D14	18.00 - 18.45	-17.47 - -17.92		100.0	99.7	99.41	99.15	98.99	93.66	42.69		52.72	21.29	31.43			2.70			
257	8546	5	T43	0.53	U17	21.00 - 21.70	-20.47 - -21.17				100.0	99.98	99.92	92.25	46.07	46.16	52.56	17.76	34.80	1.72	1.18	2.71	56.46	96.45	1.30
258	8547	5	T43	0.53	D19	24.00 - 24.45	-23.47 - -23.92				100.0	99.97	99.79	93.59	39.74		53.52	23.87	29.65			2.70			
259	8548	5	T43	0.53	U21	26.00 - 26.80	-25.47 - -26.27				100.0	99.96	99.92	93.07	48.53	46.85	58.13	24.16	33.97	1.74	1.18	2.71	56.46	97.89	1.30
260	8582	1a	T45	3.13	D1	1.00 1.45	2.13 - 1.68		100.0	99.56	99.16	94.66	85.31	2.76								2.65			
261	8583	1a	T45	3.13	D3	3.00 3.45	0.13 - -0.32		100.0	99.70	99.15	93.85	90.24	11.85								2.64			
262	8584	1b	T45	3.13	D4	4.00 4.45	-0.87 - -1.32			100.0	100.0	99.94	99.84	95.03			44.15	21.80	22.35			2.68			
263	8585	1b	T45	3.13	U6	6.00 6.90	-2.87 - -3.77				100.0	99.84	99.52	88.25	18.28	33.58	48.73	20.59	28.14	1.87	1.4	2.68	47.75	98.46	0.91
264	8586	2	T45	3.13	U9	9.00 9.70	-5.87 - -6.57			100.0	99.2	99.06	98.54	95.21	62.94	67.31	78.83	30.68	48.15	1.58	0.94	2.70	65.18	97.08	1.87
265	8587	3b	T45	3.13	D12	12.00 12.45	-8.87 - -9.32		100.0	98.35	97.03	88.69	69.34	22.01			26.73	15.69	11.04			2.67			
266	8588	3b	T45	3.13	D14	14.00 14.45	-10.87 - -11.32			100.0	100.0	99.90	99.39	90.24			61.46	22.65	38.81			2.70			
267	8589	4	T45	3.13	D17	17.00 17.45	-13.87 - -14.32			100.0	100.0	99.88	99.80	98.08	52.99		58.09	20.45	37.64			2.71			
268	8590	5	T45	3.13	D20	20.00 20.45	-16.87 - -17.32			100.0	100.0	99.94	99.90	95.84	42.98		60.77	23.54	37.23			2.70			
269	8591	5	T45	3.13	U23	23.00 23.60	-19.87 - -20.47				100.0	99.98	99.92	96.34	46.89	42.65	58.34	21.43	36.91	1.77	1.24	2.70	54.07	97.84	1.18
270	8690	1a	T47	-1.51	D1	1.00 - 1.45	-2.51 - -2.96		100.0	100.0	99.76	97.19	86.05	1.11								2.64			
271	8691	1b	T47	-1.51	U2	2.00 - 2.80	-3.51 - -4.31		100.0	99.65	99.45	99.25	99.15	92.21	17.75	34.21	41.66	19.24	22.42	1.86	1.39	2.68	48.13	98.80	0.93
272	8692	1b	T47	-1.51	U5	5.00 - 5.80	-6.51 - -7.31			100.0	99.6	99.44	99.06	77.86		30.24	35.67	15.99	19.68	1.90	1.46	2.68	45.53	96.94	0.84
273	8693	4	T47	-1.51	U8	8.00 - 8.50	-9.51 - -10.01				100.0	99.96	99.70	88.77	38.64	22.58	50.51	17.44	33.07	2.05	1.67	2.71	38.39	98.22	0.62
274	8694	4	T47	-1.51	U11	11.00 - 11.90	-12.51 - -13.41				100.0	99.96	99.82	90.66	41.57	42.43	73.03	29.31	43.72	1.76	1.24	2.71	54.23	97.03	1.19
275	8695	5	T47	-1.51	U15	15.00 - 15.70	-16.51 - -17.21				100.0	99.98	99.96	97.00	47.76	43.30	67.92	24.17	43.75	1.76	1.23	2.70	54.44	97.83	1.20
276	8696	5	T47	-1.51	D17	17.00 - 17.45	-18.51 - -18.96				100.0	99.91	99.80	96.45	48.88		62.39	21.75	40.64			2.71			
277	8697	5	T47	-1.51	U19	19.00 - 19.80	-20.51 - -21.31				100.0	99.98	99.92	95.74	45.19	50.40	67.58	24.70	42.88	1.68	1.12	2.70	58.52	96.44	1.41
278	8698	5	T47	-1.51	D21	21.00 - 21.45	-22.51 - -22.96				100.0	99.94	99.82	95.13	47.27		61.66	23.24	38.42			2.71			
279	8699	5	T47	-1.51	U23	23.00 - 23.90	-24.51 - -25.41				100.0	99.98	99.96	95.76	45.89	46.36	61.61	23.24	38.37	1.74	1.19	2.70	55.93	98.64	1.27
280	8456	1a	T49	0.93	D1	1.00 - 1.45	-0.07 - -0.52		100.0	100.0	99.91	97.91	80.23	3.36								2.65			
281	8457	2	T49	0.93	U3	3.00 - 3.60	-2.07 - -2.67			100.0	99.92	99.78	99.52	96.28	24.09	44.98	51.98	22.21	29.77	1.74	1.2	2.69	55.40	97.42	1.24
282	8459	2	T49	0.93	U6	6.00 - 6.50	-5.07 - -5.57			100.0	99.82	99.36	96.52	85.75	42.96	47.50	73.11	25.17	47.94	1.72	1.17	2.70	56.67	98.05	1.31
283	8458	3b	T49	0.93	U9	9.00 - 9.60	-8.07 - -8.67			100.0	99.76	97.78	77.72	41.28	6.55	18.80	16.65	8.55	8.10	2.10	1.77	2.67	33.69	98.81	0.51
284	8460	3c	T49	0.93	U12	12.00 - 12.50	-11.07 - -11.57			100.0	99.90	94.81	47.46	5.32								2.65			
285	8461	5	T49	0.93	U15	15.00 - 15.80	-14.07 - -14.87				100.0	99.98	99.88	96.10	44.09	43.10	56.92	21.32	35.60	1.78	1.24	2.71	54.23	98.57	1.19
286	8462	5	T49	0.93	U18	18.00 - 18.30	-17.07 - -17.37			100.0	100.0	99.88	99.78	99.12	63.46	54.32	55.30	20.58	34.72	1.66	1.08	2.70	60.00	97.78	1.50
287	8463	5	T49	0.93	U21	21.00 - 21.90	-20.07 - -20.97				100.0	99.98	99.94	96.46	42.79	49.31	55.31	22.24	33.07	1.71	1.15	2.70	57.41	98.77	1.35
288	8464	5	T49	0.93	U24	24.00 - 24.90	-23.07 - -23.97			100.0	100.0	99.82	99.38	78.69	35.47	37.01	53.54	21.36	32.18	1.84	1.34	2.70	50.37	98.45	1.02
289	8396	1b	T51	0.52	D1	1.00 - 1.45	-0.48 - -0.93			100.0	99.8	99.52	98.33	80.34	15.68		43.73	22.87	20.86			2.69			
290	8397	2	T51	0.52	U2	3.10 - 4.00	-2.58 - -3.48			100.0	100.0	99.86	99.58	97.75	53.23	41.62	51.92	25.60	26.32	1.77	1.25	2.70	53.70	96.87	1.16
291	8398	2	T51	0.52	D3	4.00 - 4.45	-3.48 - -3.93			100.0	100.0	99.92	99.72	98.02	52.55		53.18	23.67	29.51			2.70			
292	8399	2	T51	0.52	U4	5.00 - 5.90	-4.48 - -5.38			100.0	99.84	99.78	99.70	99.34	63.26	68.79	82.58	28.62	53.96	1.57	0.93	2.71	65.68	97.40	1.91
293	8400	3c	T51	0.52	U7	8.00 - 8.90	-7.48 - -8.38		100.0	100.0	99.81	96.92	54.85	8.04								2.66			
294	8401	3c	T51	0.52	D9	10.00 - 10.45	-9.48 - -9.93		100.0	100.0	99.86	96.86	54.99	9.30								2.65			
295	8402	3c	T51	0.52	D11	12.00 - 12.45	-11.48 - -11.93		100.0	100.0	99.83	97.28	54.92	10.67								2.65			
296	8403	5	T51	0.52	U14	15.00 - 15.90	-14.48 - -15.38				100.0	99.62	98.96	93.24	41.86	34.38	52.88	21.20	31.68	1.87	1.39	2.70	48.51	98.54	0.94
297	8404	5	T51	0.52	D15	17.00 - 17.45	-16.48 - -16.93				100.0	99.70	99.10	93.35	41.34		50.50	21.30	29.20			2.70			
298	8405	5	T51	0.52	D17	19.00 - 19.45	-18.48 - -18.93				100.0	99.74	99.24	93.60	41.90		64.22	21.50	42.72			2.71			
299	8406	5	T51	0.52	U18	20.00 - 20.80	-19.48 - -20.28				100.0	99.94	99.84	94.95	46.20	45.86	64.58	23.43	41.15	1.74	1.19	2.70	55.93	97.57	1.27
300	8407	5	T51	0.52	D20	22.00 - 22.45	-21.48 - -21.93				100.0	99.96	99.88	95.09	46.43		63.99	23.12	40.87			2.71			
301	8408	5	T51	0.52	D22	24.00 - 24.45	-23.48 - -23.93				100.0	99.98	99.94	95.08	47.17		63.48	23.40	40.08			2.70			
302	8409	5	T51	0.52	D24	26.00 - 26.45	-25.48 - -25.93				100.0	99.92	99.86	95.27	46.43		64.31	22.80	41.51			2.71			
303	8472	1a	T53	1.15	D1	1.00 - 1.45	0.15 - -0.30		100.0	100.0	99.9	98.02	79.42	1.85								2.65			
304	8473	1b	T53	1.15	U2	2.00 - 2.90	-0.85 - -1.75			100.0	100.0	99.78	99.54	94.80	20.85	39.51	38.42	21.78	16.64	1.75	1.25	2.69	53.53	92.26	1.15
305	8475	2	T53	1.15	U5	6.00 - 6.90	-4.85 - -5.75			100.0	100.0	99.84	99.60	98.48	50.92	61.37	80.32	30.40	49.92	1.62	1	2.70	62.96	97.47	1.70
306	8478	3b	T53	1.15	U8	10.00 - 10.85	-8.85 - -9.70			100.0	99.92	98.86	82.31	54.41	26.21	22.11	31.33	14.86	16.47	2.04	1.67	2.69	37.93	97.34	0.61
307	8480	4	T53	1.15	U11	13.00 - 13.70	-11.85 - -12.55			100.0	99.78	99.50	98.86	96.88	47.33	25.74	47.63	19.13	28.50	1.99	1.58	2.71	41.69	97.56	0.72
308	8481	5	T53	1.15	U14	16.00 - 16.90	-14.85 - -15.75			100.0	100.0	99.82	99.68	97.53	44.70	41.50	54.08	19.90	34.18	1.78	1.26	2.70	53.34	98.03	1.14
309	8483	5	T53	1.15	U16	19.00 - 19.85	-17.85 - -18.70			100.0	100.0	99.82	99.72	97.63	43.97	39.66	53.99	21.84	32.15	1.80	1.29	2.71	52.40	97.62	1.10
310	8485	5	T53	1.15	U18	22.00 - 22.90	-20.85 - -21.75			100.0	99.9	99.82	99.74	97.63	44.77	45.36	54.03	22.14	31.89	1.75	1.2	2.71	55.71	97.72	1.26
311	8592	1a	T54	2.84	D1	1.00 1.45	1.84 - 1.39		100.0	99.11	97.93	95.39	75.80	1.75								2.66			
312	8593	1b	T54	2.84	U3	3.00 3.90	-0.16 - -1.06		100.0	99.92	99.70	99.44	98.88	61.58	9.47	38.80	31.52	15.68	15.84	1.79	1.29	2.68	51.88	96.46	1.08
313	8594	1b	T54	2.84	U6	6.00 6.80	-3.16 - -3.96			100.0	99.8	99.60	99.26	89.53	22.77	39.35	46.60	16.57	30.03	1.79	1.28	2.68	52.24	96.40	1.09
314	8595	2	T54	2.84	U9	9.00 9.80	-6.16 - -6.96			100.0	99.6	99.42	99.26	98.39	63.17	79.51	84.37	33.03	51.34	1.52	0.85	2.70	68.51	98.66	2.18
315	8596	2	T54	2.84	D11	11.00 11.45	-8.16 - -8.61		100.0	99.75	99.44	99.08	98.67	96.26	50.11		85.24	22.35	62.89			2.71			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Initial Void ratio eo	Void ratio e at load P KN/m^2: 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load $\sqrt{Pi-1 \times Pi}$ KN/m^2: 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m^2: 12.5	25	50	100	200	400	800	1600
211	1.287		1.241	1.218	1.188	1.148	1.094	0.909	0.709		1.681	2.228	1.905	1.968	0.763	1.121	0.665		0.420	0.315	0.135	0.091	0.061	0.106	0.057
212	1.210		1.182	1.167	1.141	1.100	0.942	0.765	0.591		1.076	2.660	0.799	1.593	0.651	0.905	0.629		0.253	0.191	0.117	0.089	0.175	0.098	0.048
214	1.355		1.323	1.309	1.286	1.247	1.063	0.839	0.616		0.453	0.453	0.371	1.215	0.633	0.921	0.502		0.300	0.217	0.110	0.092	0.216	0.132	0.066
219	1.453	1.428	1.412	1.379	1.314	1.172	1.007	0.839		0.285	0.089	0.279	0.126	0.162	0.244	0.147		0.497	0.405	0.324	0.319	0.348	0.202	0.103	
223	0.653	0.637	0.631	0.619	0.600	0.581	0.532	0.484		0.445	0.207	0.511	0.378	0.366	0.721	0.331		0.211	0.144	0.077	0.062	0.033	0.040	0.020	
226	1.200		1.191	1.170	1.140	1.079	0.941	0.777	0.505		0.230	0.262	0.522	0.456	0.562	0.634	0.632		0.085	0.135	0.130	0.134	0.152	0.090	0.075
228	1.319		1.275	1.258	1.227	1.165	0.993	0.783	0.569		0.529	0.522	0.784	0.598	0.614	0.761	0.914		0.411	0.283	0.146	0.143	0.199	0.122	0.062
234	0.996	0.977	0.951	0.925	0.879	0.812	0.736	0.654		2.151	0.381	0.552	0.300	1.337	2.903	1.127		0.307	0.357	0.210	0.182	0.134	0.075	0.041	
235	1.564	1.533	1.515	1.487	1.436	1.251	1.048	0.846		1.294	0.758	0.624	0.393	0.390	0.841	0.779		0.623	0.500	0.289	0.263	0.473	0.260	0.129	
241	1.161		1.136	1.119	1.099	1.068	0.961	0.746	0.531		0.442	0.419	0.870	1.174	0.512	0.770	1.343		0.212	0.181	0.085	0.068	0.116	0.116	0.058
244	1.345		1.308	1.288	1.259	1.217	1.080	0.820	0.557		1.071	1.971	1.187	1.997	0.346	0.500	0.896		0.352	0.271	0.134	0.100	0.160	0.153	0.077
248	0.989	0.942	0.929	0.885	0.829	0.751	0.667	0.583		1.273	0.972	1.589	1.364	1.208	1.619	0.681		0.741	0.474	0.354	0.224	0.154	0.083	0.042	
250	1.740	1.705	1.675	1.616	1.497	1.285	1.070	0.854		2.017	1.056	0.930	0.471	0.529	0.661	0.494		0.769	0.707	0.644	0.656	0.580	0.294	0.148	
252	0.547		0.537	0.528	0.517	0.497	0.464	0.427	0.381		6.120	3.720	1.740	1.560	1.600	1.920	2.010		0.245	0.238	0.147	0.135	0.110	0.064	0.041
255	1.184		1.163	1.146	1.125	1.092	0.980	0.786	0.647		4.430	4.080	3.360	5.570	1.390	1.270	0.930		0.390	0.318	0.196	0.159	0.275	0.258	0.101
259	1.319		1.291	1.269	1.240	1.198	1.044	0.826	0.653		3.150	3.290	3.660	4.110	0.880	0.690	0.820		0.490	0.384	0.257	0.192	0.363	0.281	0.124
263	1.064	1.025	1.009	0.987	0.952	0.877	0.777	0.669		1.521	0.871	0.831	0.905	1.665	2.583	0.904		0.651	0.462	0.178	0.144	0.156	0.103	0.056	
264	1.080	1.040	1.023	1.002	0.967	0.891	0.790	0.681		1.521	0.871	0.831	0.905	1.665	2.583	0.904		0.661	0.469	0.181	0.147	0.158	0.104	0.057	
269	1.151		1.125	1.104	1.078	1.037	0.914	0.749	0.609		3.480	3.080	3.110	3.770	0.980	1.180	1.220		0.480	0.397	0.245	0.202	0.310	0.225	0.105
271	0.948	0.894	0.881	0.852	0.810	0.742	0.666	0.583		2.640	5.135	0.685	0.906	1.827	2.100	0.552		0.850	0.523	0.225	0.167	0.131	0.075	0.040	
273	0.725		0.710	0.697	0.685	0.667	0.634	0.578	0.507		3.210	5.830	4.400	2.770	2.860	2.990	3.830		0.350	0.296	0.148	0.109	0.099	0.087	0.058
274	1.066		1.040	1.017	0.992	0.951	0.845	0.694	0.551		2.400	2.410	1.200	1.940	0.600	0.430	0.480		0.520	0.442	0.257	0.206	0.279	0.214	0.110
275	1.153		1.123	1.098	1.074	1.026	0.881	0.703	0.553		2.000	1.820	3.710	4.090	0.900	0.790	0.970		0.550	0.483	0.227	0.233	0.371	0.249	0.115
277	1.321		1.297	1.272	1.246	1.199	1.023	0.809	0.626		4.760	4.560	5.060	4.130	0.690	0.670	0.770		0.410	0.443	0.233	0.210	0.417	0.280	0.133
279	1.161		1.123	1.091	1.068	1.027	0.901	0.718	0.565		1.960	2.640	3.050	3.280	0.880	0.790	1.100		0.700	0.611	0.223	0.201	0.320	0.253	0.116
281	1.207	1.159	1.140	1.108	1.044	0.936	0.816	0.699		3.182	1.006	0.742	0.529	1.346	2.193	1.915		0.836	0.587	0.288	0.282	0.237	0.133	0.064	
282	1.635	1.607	1.586	1.550	1.464	1.242	1.020	0.788		2.702	1.519	1.419	0.747	0.385	0.466	0.392		0.603	0.524	0.381	0.450	0.587	0.292	0.153	
283	0.450		0.446	0.441	0.437	0.430	0.421	0.409	0.394		1.890	1.730	3.880	2.500	3.170	2.200	4.080		0.140	0.115	0.066	0.047	0.033	0.021	0.013
286	1.326		1.303	1.280	1.243	1.185	1.012	0.809	0.637		1.390	1.330	2.120	1.660	0.760	0.630	0.760		0.390	0.400	0.330	0.263	0.412	0.265	0.125
288	0.929		0.916	0.901	0.878	0.840	0.755	0.628	0.509		3.840	4.110	5.410	4.170	1.030	0.900	0.840		0.270	0.305	0.249	0.202	0.237	0.188	0.095
290	1.109	1.088	1.061	1.033	0.985	0.914	0.834	0.747		0.528	0.212	0.549	0.375	0.342	0.700	0.407		0.343	0.398	0.235	0.204	0.150	0.084	0.046	
292	1.172	1.151	1.124	1.095	1.045	0.972	0.890	0.800		0.700	0.300	0.585	0.522	0.309	0.319	0.150		0.364	0.423	0.249	0.216	0.159	0.089	0.049	
296	1.142		1.110	1.091	1.065	1.028	0.940	0.733	0.522		1.892	0.809	0.812	1.068	0.837	0.883	0.788		0.276	0.220	0.112	0.079	0.094	0.111	0.057
299	1.307		1.277	1.259	1.232	1.192	1.086	0.819	0.542		1.400	1.094	1.112	1.117	0.248	0.743	0.681		0.281	0.224	0.122	0.093	0.122	0.154	0.080
304	1.059	1.039	1.025	1.003	0.961	0.884	0.785	0.687		3.247	1.143	0.849	0.610	1.924	2.650	1.674		0.339	0.281	0.186	0.169	0.160	0.101	0.050	
305	1.781	1.737	1.697	1.627	1.488	1.287	1.087	0.883		1.792	0.982	0.719	0.519	0.491	0.558	0.478		0.987	0.931	0.786	0.770	0.559	0.278	0.142	
307	0.705		0.678	0.661	0.641	0.615	0.577	0.527	0.458		1.035	0.669	0.379	1.357	1.913	2.264	2.787		0.185	0.148	0.070	0.044	0.032	0.021	0.015
308	1.216		1.186	1.168	1.138	1.097	0.994	0.792	0.587		1.340	0.772	0.814	2.000	0.782	0.541	0.521		0.270	0.213	0.136	0.091	0.114	0.112	0.057
310	1.246		1.226	1.206	1.179	1.130	0.963	0.795	0.650		4.330	3.680	4.820	4.330	1.270	1.450	1.940		0.370	0.361	0.246	0.227	0.408	0.224	0.105
312	0.979	0.956	0.940	0.915	0.883	0.842	0.792	0.732		1.617	0.474	0.535	0.331	0.481	1.249	0.337		0.360	0.305	0.196	0.129	0.080	0.050	0.029	
313	1.027	1.000	0.982	0.952	0.904	0.837	0.757	0.670		1.195	0.337	0.507	0.480	1.751	2.364	1.064		0.445	0.366	0.242	0.193	0.136	0.082	0.044	
314	1.897	1.860	1.835	1.786	1.671	1.397	1.156	0.893		1.618	0.858	0.688	0.515	0.340	0.533	0.362		0.856	0.718	0.566	0.667	0.793	0.350	0.190	

No.	Log Average in Over consolidated Cv(o) (10^{-3}cm^2/s)	Log Average in Nomal consolidated Cv(n) (10^{-3}cm^2/s)	Log Average at Load increment 1 - 2 KG/cm^2: mv (cm^2/KG)	k (10^{-7}cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm^2)	Unconfined compression test, Specimen 1: q_u (KG/cm^2)	Failure Strain ef (%)	Specimen 2: q_u (KG/cm^2)	Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5): Cuu (KN/m^2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10: Ccu (KN/m^2)	fcu (deg.)	Soil group	Description
211	1.936	0.828	0.111	0.351	0.666	0.291	0.044	0.019	0.049	0.022	3.420	0.38	5.64	0.75	4.00			14.75	24o49'	CH	Grey, fat clay
212	1.317	0.877	0.102	0.152	0.576	0.261	0.046	0.021	0.075	0.035	1.890	0.54	2.85	0.56	3.69	37.92	0o5'			CH	Greenish grey, light grey, fat clay
213												1.40	3.96	1.29	3.66					CH	Greenish grey, grey, fat clay
214	0.552	0.664	0.100	0.064	0.742	0.315	0.038	0.016	0.076	0.033	2.060	0.56	2.87	0.96	2.39	50.59	0o0'			CH	Greenish grey, grey, fat clay
215																				CH	Greenish grey, grey, fat clay
216												1.18	3.03	1.28	2.65			12.11	20o38'	CH	Greenish grey, grey, fat clay
217																				CH	Grey, brownish grey, fat clay
218																				CH	Grey, brownish grey, fat clay
219	0.173	0.179	0.164	0.071	0.558	0.227	0.102	0.042	0.069	0.029	1.050	0.23	13.93	0.32	13.01	11.73	1o23'	26.87	20o31'	CL	Grey, lean clay
220																				CL	Grey, lean clay
221																				CH	Grey, fat clay
222																				CH	Grey, fat clay
223	0.365	0.444	0.426	0.052	0.158	0.096	0.017	0.011	0.019	0.012	1.130	0.17	2.58			49.45	0o50'	26.54	19o59'	CL	Yellowish grey, sandy lean clay
224																				CL	Yellowish grey, sandy lean clay
225																				SP	Reddish brown, poorly graded sand
226	0.346	0.609	0.540	0.150	0.902	0.410	0.050	0.023	0.053	0.024	3.600	0.51	4.84	0.73	3.48	37.90	0o26'	19.54	16o19'	CH	Grey, bluish grey, fat clay
227																				CH	Grey, fat clay
228	0.600	0.753	0.684	0.220	0.713	0.307	0.056	0.024	0.039	0.017	2.220	0.67	4.37	0.97	3.11	37.82	0o22'	23.37	17o50'	CH	Grey, bluish grey, fat clay
229																				CH	Grey, fat clay
230																				CH	Grey, fat clay
231																				CH	Grey, fat clay
232																				CH	Grey, fat clay
233																				CH	Grey, brownish grey, fat clay
234	0.768	0.768	0.157	0.176	0.275	0.138	0.080	0.040	0.070	0.036	0.970	0.25	12.61	0.22	6.54	9.26	0o2'	26.12	20o04'	CH	Grey, brownish grey, fat clay
235	0.849	0.849	0.353	0.239	0.671	0.262	0.055	0.022	0.055	0.022	0.880	0.33	13.30			24.86	1o11'	22.80	18o17'	CH	Grey, brownish grey, fat clay
236																				SP	Yellowish grey, poorly graded sand
237																				SP-SC	Grey, poorly graded sand with clay (or silty clay)
238																				SP-SC	Grey, poorly graded sand with clay (or silty clay)
239												1.22	8.83	1.05	4.87					CH	Yellowish grey, fat clay
240																				CH	Grey, fat clay
241	0.659	0.659	0.076	0.131	0.715	0.331	0.035	0.016	0.049	0.023	2.710	1.13	2.64			53.84	0o35'	18.27	14o29'	CH	Grey, fat clay
242																				CH	Grey, fat clay
243																				CH	Grey, fat clay
244	1.496	1.496	0.116	0.225	0.873	0.372	0.046	0.020	0.071	0.031	2.680	0.94	2.28	0.88	2.16	43.02	0o6'	24.37	14o13'	CH	Grey, fat clay
245																				CH	Grey, fat clay
246																				CH	Grey, fat clay
247																				SP	Grey, yellowish grey, poorly graded sand
248	1.253	1.161	0.186	0.418	0.279	0.140	0.080	0.040	0.051	0.026	0.550	0.25	11.06	0.22	9.54			39.50	15o35	CL	Brownish grey, lean clay with sand
249																				CH	Brownish grey, fat clay
250	1.256	0.534	0.617	0.330	0.717	0.262	0.111	0.041	0.078	0.029	0.630	0.31	10.75	0.27	7.86	6.13	1o3'	18.43	18o01'	CH	Brownish grey, fat clay
251																				CH	Brownish grey, fat clay
252	3.409	1.762	0.141	0.194	0.150	0.097	0.019	0.012	0.032	0.021	1.964	0.61	12.13	0.56	11.13	29.41				CL	Brown, reddish brown, sandy lean clay
253																				SP	Yellowish grey, light grey, poorly graded sand
254																				CH	Yellowish grey, grey, fat clay
255	4.289	1.180	0.176	0.575	0.460	0.211	0.048	0.022	0.097	0.044	2.463	1.24	4.04	1.28	3.31	51.79	2o8'			CH	Grey, fat clay
256																				CH	Grey, fat clay
257												1.17	2.76	1.13	2.69	48.50	1o8'			CH	Grey, fat clay
258																				CH	Grey, fat clay
259	3.534	0.793	0.222	0.502	0.570	0.246	0.076	0.033	0.131	0.056	2.300	0.92	2.84			35.89	0o30'			CH	Grey, fat clay
260																				SP	Grey, yellowish grey, poorly graded sand
261																				SP	Grey, yellowish grey, poorly graded sand with clay (or silty clay)
262																				CL	Brownish grey, lean clay
263	0.999	1.573	0.150	0.402	0.359	0.174	0.052	0.025	0.048	0.024	1.150	0.19	10.96	0.22	11.08			17.84	24o02'	CL	Brownish grey, lean clay
264	0.999	1.573	0.152	0.402	0.362	0.174	0.061	0.029	0.048	0.024	1.240	0.22	4.84	0.26	2.49	24.81		21.33	17o38'	CH	Grey, brownish grey, fat clay
265																				SC	Yellowish grey, clayey sand
266																				CH	Yellowish grey, fat clay
267																				CH	Light grey, yellowish grey, fat clay
268																				CH	Grey, fat clay
269	3.348	1.122	0.223	0.475	0.470	0.219	0.065	0.030	0.097	0.045	2.127	0.47	9.39	0.60	7.18			6.78	21o50'	CH	Bluish grey, grey, fat clay
270																				SP	Grey, poorly graded sand with shell
271	2.102	1.177	0.148	0.376	0.275	0.141	0.067	0.034	0.048	0.026	0.970					9.65	0o55'			CL	Brownish grey, grey, lean clay
272																				CL	Yellowish grey, grey, lean clay with sand
273	3.886	3.199	0.127	0.295	0.240	0.139	0.026	0.015	0.038	0.022	2.882	0.70	10.38			44.80				CH	Yellowish grey, light grey, fat clay
274	1.916	0.498	0.230	0.259	0.480	0.232	0.068	0.033	0.099	0.048	2.197	1.12	4.85	0.92	3.81	41.01	0o26'			CH	Grey, fat clay
275	2.726	0.884	0.230	0.565	0.500	0.232	0.082	0.038	0.107	0.050	2.094									CH	Grey, fat clay
276																				CH	Grey, fat clay
277	4.615	0.709	0.222	0.499	0.610	0.263	0.090	0.039	0.130	0.056	2.166					35.74				CH	Grey, fat clay
278																				CH	Grey, fat clay
279	2.682	0.914	0.212	0.429	0.510	0.236	0.076	0.035	0.116	0.054	2.278	1.18	3.33	0.91	2.83			22.00	20o13'	CH	Grey, fat clay
280																				SP	Grey, poorly graded sand with shell
281	1.334	1.334	0.259	0.351	0.387	0.175	0.064	0.029	0.047	0.022	0.640	0.36	12.17	0.45	7.32					CH	Grey, brownish grey, fat clay
282	1.799	1.799	0.514	0.376	0.771	0.292	0.102	0.039	0.096	0.037	0.880	0.26	4.09	0.49	3.53			21.18	20o19'	CH	Grey, brownish grey, fat clay
283	2.373	3.053	0.056	0.116	0.050	0.034	0.013	0.009	0.002	0.001	2.684	0.22	3.91	0.19	5.85	30.39				CL	Yellowish grey, lean clay with sand
284																				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
285												0.15	2.14	1.03	4.15	55.11		31.20	18o23'	CH	Grey, fat clay
286	1.577	0.882	0.294	0.369	0.570	0.245	0.085	0.037	0.118	0.051	1.916	0.97	5.52	0.42	5.30					CH	Grey, fat clay
287												1.18	4.90	1.14	4.97	45.85	2o49'	31.90	21o23'	CH	Grey, fat clay
288	4.344	0.920	0.224	0.450	0.400	0.207	0.056	0.029	0.065	0.034	2.224	1.08	5.22	1.12	5.59	57.14	1o8'			CH	Grey, fat clay with sand
289																				CL	Grey, lean clay with sand
290	0.394	0.394	0.175	0.100	0.291	0.138	0.069	0.033	0.044	0.022	0.800	0.44	10.71	0.33	13.05	8.25	1o0'	28.76	19o51'	CH	Grey, fat clay
291																				CH	Grey, fat clay
292	0.497	0.497	0.186	0.112	0.299	0.138	0.070	0.032	0.041	0.020	0.790	0.31	6.46	0.50	3.13	21.38	0o10'	29.63	13o44'	CH	Grey, fat clay
293																				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
294																				SP-SC	Reddish grey, poorly graded sand with clay (or silty clay)
295																				SP-SC	Reddish grey, poorly graded sand with clay (or silty clay)
296	1.074	1.074	0.094	0.147	0.701	0.327	0.040	0.019	0.056	0.026	2.950	1.67	2.94	1.46	3.36	44.15	1o31'	24.43	15o58'	CH	Grey, fat clay
297																				CH	Grey, fat clay
298																				CH	Grey, fat clay
299	0.839	0.839	0.107	0.203	0.922	0.399	1.814	0.786	0.071	0.031	3.040	0.97	2.33	1.11	2.21	72.57		25.08	14o39'	CH	Grey, fat clay
300																		18.05	23o03'	CH	Grey, fat clay
301																				CH	Grey, fat clay
302																				CH	Grey, fat clay
303																				SP	Grey, poorly graded sand with shell
304	1.466	1.466	0.165	0.357	0.325	0.158	0.040	0.020	0.041	0.020	0.820	0.22	8.78	0.44	6.81	13.20	0o46'	17.00	22o26'	CL	Brownish grey, grey, lean clay
305	1.082	1.082	0.656	0.313	0.678	0.244	0.234	0.084	0.180	0.067	0.730	0.17	11.66	0.25	11.92	7.43	0o38'	26.03	17o21'	CH	Brownish grey, fat clay
306												0.35	3.13	0.36	8.62	7.78	0o29'			CL	Yellowish grey, light grey, sandy lean clay
307	0.773	0.773	0.056	0.061	0.228	0.134	0.032	0.019	0.052	0.031	3.120	1.12	3.41	1.03	4.13			32.43	29o13'	CL	Rednish brown, light grey, lean clay
308	1.139	1.139	0.111	0.158	0.682	0.308	0.033	0.015	0.076	0.035	2.560	1.00	1.98	1.59	2.97	57.94	0o10'	24.30	26o06'	CH	Grey, fat clay
309																				CH	Grey, fat clay
310	4.251	1.983	0.236	0.713	0.480	0.214	0.089	0.040	0.097	0.043	1.858	0.81	3.37	0.74	3.49					CH	Grey, fat clay
311																				SP	Grey, yellowish grey, poorly graded sand with shell
312	0.743	0.509	0.102	0.069	0.198	0.100	0.047	0.024	0.040	0.020	0.940	0.24	9.95	0.34	10.11	10.86	1o38'			CL	Brownish grey, sandy lean clay
313	0.589	1.205	0.162	0.260	0.287	0.142	0.077	0.038	0.063	0.032	0.990	0.17	11.55	0.27	11.99			19.26	23o05'	CL	Brownish grey, lean clay
314	0.985	0.429	0.727	0.317	0.871	0.301	0.074	0.025	0.070	0.025	0.700	0.17	9.73	0.37	4.61					CH	Brownish grey, fat clay
315																				CH	Brownish grey, fat clay

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From - To	Depth DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Initial Void ratio eo
316	**8597**	3b	T54	2.84	U13	13.00 - 13.50	-10.16 - -10.66		100.0	99.80	99.24	98.45	96.97	60.49	30.52	22.38	37.84	17.46	20.38	2.03	1.66	2.71	38.76	95.81	0.63	0.623
317	**8598**	4	T54	2.84	D15	15.00 - 15.45	-12.16 - -12.61	100.00	99.9	98.82	97.46	96.54	95.61	90.10	39.64		37.77	17.21	20.56			2.68				
318	**8599**	4	T54	2.84	D18	18.00 - 18.45	-15.16 - -15.61			100.0	99.88	99.78	99.64	97.49	46.72		54.61	20.24	34.37			2.70				
319	**8600**	5	T54	2.84	U20	20.00 - 20.70	-17.16 - -17.86			100.0	100.0	99.88	99.72	96.27	47.01	39.68	62.41	21.27	41.14	1.80	1.29	2.70	52.22	98.02	1.09	1.043
320	**8601**	5	T54	2.84	D22	22.00 - 22.45	-19.16 - -19.61		100.0	99.76	99.74	99.68	99.60	93.54	38.50		63.81	22.36	41.45			2.70				
321	**8602**	5	T54	2.84	U24	24.00 - 24.60	-21.16 - -21.76				100.0	99.88	99.76	96.71	46.18	46.37	59.69	27.11	32.58	1.74	1.19	2.70	55.93	98.66	1.27	1.286
322	**8603**	5	T54	2.84	D27	27.00 - 27.45	-24.16 - -24.61				100.0	99.86	99.76	95.19	41.22		59.86	23.54	36.32			2.71				
323	**8560**	2	T56	-1.33	D1	1.00 - 1.45	-2.33 - -2.78		100.0	99.60	99.42	99.22	99.00	91.59	16.99		72.35	20.12	52.23			2.69				
324	**8561**	2	T56	-1.33	U3	3.00 - 3.90	-4.33 - -5.23			100.0	99.28	99.16	99.02	97.77	45.20	49.24	64.17	21.30	42.87	1.72	1.15	2.70	57.41	98.63	1.35	1.598
325	**8562**	3b	T56	-1.33	U6	6.00 - 6.80	-7.33 - -8.13		100.0	100.0	99.83	99.23	89.29	44.11	12.54	42.13	51.39	19.65	31.74	1.76	1.24	2.68	53.73	97.25	1.16	
326	**8563**	3b	T56	-1.33	D8	8.00 - 8.45	-9.33 - -9.78		100.0	99.9	99.70	99.26	90.35	41.27	13.18		29.57	19.95	9.62			2.68				
327	**8564**	3b	T56	-1.33	U9	9.00 - 9.90	-10.33 - -11.23			100.0	99.86	99.52	90.68	59.07	32.12	24.34	37.92	15.33	22.59	2.00	1.61	2.69	40.16	97.58	0.67	0.679
328	**8565**	5	T56	-1.33	D12	12.00 - 12.45	-13.33 - -13.78				100.0	99.92	99.74	93.36	45.76		50.19	22.30	27.89			2.71				
329	**8566**	5	T56	-1.33	U14	14.00 - 14.90	-15.33 - -16.23				100.0	99.96	99.86	95.25	47.52	46.36	62.94	20.53	42.41	1.74	1.19	2.70	55.93	98.64	1.27	1.135
330	**8567**	5	T56	-1.33	D17	17.00 - 17.45	-18.33 - -18.78				100.0	99.92	99.78	93.77	48.28		56.56	20.14	36.42			2.70				
331	**8568**	5	T56	-1.33	U19	19.00 - 19.90	-20.33 - -21.23				100.0	99.98	99.88	93.37	41.92	46.39	56.64	17.91	38.73	1.75	1.2	2.71	55.71	99.93	1.26	1.174
332	**8569**	5	T56	-1.33	D21	21.00 - 21.45	-22.33 - -22.78				100.0	99.94	99.78	93.55	42.78		63.59	20.65	42.94			2.70				
333	**8570**	5	T56	-1.33	D24	24.00 - 24.45	-25.33 - -25.78				100.0	99.90	99.72	94.43	42.31		64.62	20.47	44.15			2.71				
334	**8549**	1a	T58	0.85	D1	1.00 - 1.45	-0.15 - -0.60		100.0	99.73	98.20	82.02	62.93	11.86								2.68				
335	**8550**	2	T58	0.85	D4	5.00 - 5.45	-4.15 - -4.60			100.0	99.92	99.84	99.74	99.02	54.84		89.96	25.31	64.65			2.70				
336	**8551**	2	T58	0.85	U5	6.00 - 6.90	-5.15 - -6.05			100.0	99.72	99.28	98.96	97.46		65.90	92.39	28.99	63.40	1.59	0.96	2.71	64.58	97.96	1.82	1.828
337	**8552**	3b	T58	0.85	U7	9.00 - 9.50	-8.15 - -8.65			100.0	99.85	95.59	61.03	3.29								2.66				
338	**8553**	4	T58	0.85	U10	12.00 - 12.40	-11.15 - -11.55				100.0	99.98	99.80	93.27	46.86	26.16	48.13	19.88	28.25	1.99	1.58	2.72	41.93	98.55	0.72	0.810
339	**8554**	4	T58	0.85	D11	13.00 - 13.45	-12.15 - -12.60	100.00	99.91	99.28	98.59	98.35	97.98	49.30	23.90		32.34	18.21	14.13			2.69				
340	**8555**	5	T58	0.85	U13	15.00 - 15.90	-14.15 - -15.05			100.0	99.56	99.50	99.46	97.59	51.96	41.66	51.21	20.45	30.76	1.78	1.26	2.71	53.51	98.09	1.15	1.148
341	**8556**	5	T58	0.85	U16	18.00 - 18.40	-17.15 - -17.55				100.0	99.96	99.80	91.28	44.20	43.23	62.63	23.00	39.63	1.77	1.24	2.71	54.23	98.86	1.19	
342	**8557**	5	T58	0.85	D17	19.00 - 19.45	-18.15 - -18.60				100.0	99.90	99.80	94.51	44.98		63.50	22.36	41.14			2.70				
343	**8558**	5	T58	0.85	U19	21.00 - 21.90	-20.15 - -21.05				100.0	99.91	99.84	94.56	43.97	44.47	64.35	23.93	40.42	1.75	1.21	2.70	55.18	97.54	1.23	1.259
344	**8559**	5	T58	0.85	U22	24.00 - 24.40	-23.15 - -23.55			100.0	100.0	99.74	99.46	92.78	43.53	50.34	56.28	21.07	35.21	1.70	1.13	2.70	58.14	97.85	1.39	
345	**8438**	1a	T60	1.59	D1	1.00 - 1.45	0.59 - 0.14		100.0	97.50	95.65	88.64	74.55	4.66								2.67				
346	**8439**	1b	T60	1.59	U3	3.00 - 3.80	-1.41 - -2.21		100.0	99.60	99.30	98.49	96.19	60.60	14.66	35.63	33.13	15.47	17.66	1.85	1.36	2.69	49.44	98.00	0.98	0.954
347	**8440**	2	T60	1.59	D4	5.00 - 5.45	-3.41 - -3.86		100.0	99.94	99.78	99.68	99.48	85.35	19.15		75.46	20.53	54.93			2.70				
348	**8441**	2	T60	1.59	U5	6.00 - 6.90	-4.41 - -5.31			100.0	99.88	99.70	99.52	98.41	51.57	65.68	75.36	20.71	54.65	1.59	0.96	2.71	64.58	97.64	1.82	1.542
349	**8442**	2	T60	1.59	D6	8.00 - 8.45	-6.41 - -6.86		100.0	100.0	99.78	99.64	99.40	85.88	19.00		74.87	21.02	53.85			2.70				
350	**8443**	3b	T60	1.59	U7	9.00 - 9.90	-7.41 - -8.31			100.0	99.48	98.76	84.24	53.53	23.27	26.38	38.23	16.44	21.79	1.97	1.56	2.69	42.00	98.01	0.72	0.736
351	**8444**	3c	T60	1.59	D8	10.00 - 10.45	-8.41 - -8.86			100.0	99.89	99.32	81.65	3.41								2.65				
352	**8445**	3c	T60	1.59	D10	12.00 - 12.45	-10.41 - -10.86			100.0	99.86	99.26	83.86	8.18								2.65				
353	**8446**	3c	T60	1.59	D12	14.00 - 14.45	-12.41 - -12.86			100.0	99.90	99.35	82.65	5.85								2.66				
354	**8447**	5	T60	1.59	D14	17.00 - 17.45	-15.41 - -15.86		100.0	100.0	100.0	99.81	99.65	99.01	51.62		57.57	22.36	35.21			2.70				
355	**8448**	5	T60	1.59	U15	18.00 - 18.80	-16.41 - -17.21			100.0	100.0	99.90	99.86	96.72	46.85	43.70	57.29	20.47	36.82	1.76	1.22	2.71	54.98	96.99	1.22	1.098
356	**8449**	5	T60	1.59	D17	20.00 - 20.45	-18.41 - -18.86		100.0	99.94	99.88	99.78	99.76	99.06	50.05		58.51	23.87	34.64			2.70				
357	**8450**	5	T60	1.59	U19	22.00 - 22.90	-20.41 - -21.31				100.0	99.98	99.80	94.59	41.13	46.49	56.81	23.40	33.41	1.74	1.19	2.70	55.93	98.91	1.27	1.161
358	**8451**	5	T60	1.59	D21	24.00 - 24.45	-22.41 - -22.86		100.0	100.0	99.93	99.83	99.75	99.25	50.88		57.68	21.25	36.43			2.71				
359	**8452**	5	T60	1.59	D23	26.00 - 26.45	-24.41 - -24.86		100.0	100.0	99.93	99.81	99.77	99.13	49.88	42.30	57.04	22.80	34.24			2.70				
360	**8453**	5	T60	1.59	D25	28.00 - 28.45	-26.41 - -26.86		100.0	100.0	99.89	99.83	99.75	99.17	49.78		57.13	22.57	34.56			2.72				
361	**8454**	5	T60	1.59	D27	30.00 - 30.45	-28.41 - -28.86		100.0	100.0	99.92	99.82	99.64	99.02	50.54	43.50	58.42	23.00	35.42			2.70				
362	**8455**	5	T60	1.59	D30	33.00 - 33.45	-31.41 - -31.86		100.0	100.0	99.90	99.76	99.56	99.06	51.29	41.60	58.75	22.70	36.05			2.70				
363	**8571**	1b	T62	0.37	D1	1.00 - 1.45	-0.63 - -1.08			100.0	99.42	99.00	98.60	63.24	17.11		41.49	18.24	23.25			2.68				
364	**8572**	2	T62	0.37	U4	4.00 - 4.70	-3.63 - -4.33			100.0	99.86	99.58	99.36	98.35	54.60	61.50	82.00	30.11	51.89	1.61	1	2.70	62.96	97.68	1.70	1.554
365	**8573**	2	T62	0.37	D6	6.00 - 6.45	-5.63 - -6.08		100.0	100.0	99.21	97.52	84.14	31.25	6.61		82.78	28.65	54.13			2.67				
366	**8574**	3b	T62	0.37	U8	8.00 - 8.80	-7.63 - -8.43			100.0	99.90	98.70	87.86	55.25	30.25	21.37	34.35	13.78	20.57	2.05	1.69	2.68	36.95	97.73	0.59	0.583
367	**8575**	3b	T62	0.37	D10	10.00 - 10.45	-9.63 - -10.08		100.0	99.48	99.00	89.58	75.73	65.57	22.95		33.30	13.65	19.65			2.65				
368	**8576**	3b	T62	0.37	U12	12.00 - 12.90	-11.63 - -12.53		100.0	99.93	97.67	94.45	84.85	64.96	27.87	23.87	32.99	15.24	17.75	2.01	1.62	2.69	39.76	97.29	0.66	
369	**8577**	5	T62	0.37	U15	15.00 - 15.80	-14.63 - -15.43				100.0	99.90	99.76	95.19	49.02	38.14	59.14	21.69	37.45	1.81	1.31	2.70	51.48	97.06	1.06	1.232
370	**8578**	5	T62	0.37	U18	18.00 - 18.90	-17.63 - -18.53				100.0	99.98	99.92	98.38	52.88	47.62	74.85	22.90	51.95	1.74	1.18	2.71	56.46	99.50	1.30	1.243
371	**8579**	5	T62	0.37	U22	22.00 - 22.90	-21.63 - -22.53			100.0	99.8	99.68	99.24	79.39	37.53	38.95	50.01	21.42	28.59	1.80	1.3	2.69	51.67	98.01	1.07	1.197
372	**8580**	5	T62	0.37	D25	25.00 - 25.45	-24.63 - -25.08				100.0	99.96	99.86	98.78	53.70		72.52	21.54	50.98			2.70				
373	**8581**	5	T62	0.37	D28	28.00 - 28.45	-27.63 - -28.08			100.0	99.90	99.74	99.44	80.35	38.97		51.64	22.36	29.28			2.70				
374	**8834**	1a	B1	4.65	D1	1.00 - 1.45	3.65 - 3.20		100.0	99.9	99.65	96.96	89.32	3.79								2.64				
375	**8835**	1a	B1	4.65	D3	3.00 - 3.45	1.65 - 1.20		100.0	100.0	99.49	98.13	90.78	5.94								2.65				
376	**8836**	1b	B1	4.65	U6	6.00 - 6.90	-1.35 - -2.25			100.0	99.50	99.02	98.07	38.09	7.06	37.34	39.36	21.56	17.80	1.83	1.33	2.69	50.57	98.19	1.02	1.108
377	**8837**	1b	B1	4.65	D7	7.00 - 7.45	-2.35 - -2.80		100.0	99.85	99.73	99.55	99.25	95.38	10.57		45.00	21.22	23.78			2.70				
378	**8838**	2	B1	4.65	U9	9.00 - 9.70	-4.35 - -5.05				100.0	99.94	99.82	98.14	40.02	43.60	66.92	22.66	44.26	1.76	1.23	2.71	54.61	98.22	1.20	1.148
379	**8839**	3a	B1	4.65	D12	12.00 - 12.45	-7.35 - -7.80		100.0	87.44	81.88	75.64	63.58	1.96								2.65				
380	**8840**	3b	B1	4.65	U14	14.00 - 14.80	-9.35 - -10.15			100.0	100.0	99.78	98.52	84.31		38.02	42.28	17.34	24.94	1.82	1.32	2.71	51.29	97.85	1.05	0.883
381	**8841**	4	B1	4.65	D19	19.00 - 19.45	-14.35 - -14.80			100.0	100.0	99.38	90.83	65.40	22.50		40.46	23.20	17.26			2.69				
382	**8842**	5	B1	4.65	D22	22.00 - 22.45	-17.35 - -17.80		100.0	100.0	99.77	99.73	99.63	97.60	50.56		58.27	22.20	36.07			2.70				
383	**8843**	5	B1	4.65	U24	24.00 - 24.90	-19.35 - -20.25				100.0	99.96	99.94	96.34	24.60	38.31	59.65	19.10	40.55	1.83	1.32	2.71	51.29	98.59	1.05	1.006
384	**8844**	5	B1	4.65	D26	26.00 - 26.45	-21.35 - -21.80				100.0	99.90	99.84	96.35	25.36		57.33	22.24	35.09			2.70				
385	**8845**	5	B1	4.65	U28	28.00 - 28.70	-23.35 - -24.05			100.0	100.0	99.92	99.80	98.82		36.20	70.85	27.40	43.45	1.85	1.36	2.72	50.00	98.46	1.00	1.242
386	**8846**	1a	B2	3.95	D1	1.00 - 1.45	2.95 - 2.50		100.0	96.77	92.40	81.21	65.11	2.69								2.64				
387	**8847**	1a	B2	3.95	D3	3.00 - 3.45	0.95 - 0.50		100.0	99.30	98.38	97.49	94.99	9.76								2.65				
388	**8848**	1b	B2	3.95	U5	5.00 - 5.90	-1.05 - -1.95			100.0	99.72	99.22	98.13	61.04		37.18	40.33	22.10	18.23	1.83	1.33	2.68	50.37	98.17	1.02	0.988
389	**8849**	1b	B2	3.95	D7	7.00 - 7.45	-3.05 - -3.50		100.0	99.8	99.72	99.58	99.24	95.45			36.92	24.30	12.62			2.70				
390	**8850**	2	B2	3.95	U8	8.00 - 8.80	-4.05 - -4.85			100.0	99.54	99.38	98.88	74.56	19.05	55.99	74.73	27.00	47.73	1.65	1.06	2.71	60.89	97.45	1.56	1.656
391	**8851**	2	B2	3.95	D10	10.00 - 10.45	-6.05 - -6.50			100.0	99.70	99.46	98.86	74.74	20.21		65.49	24.36	41.13			2.70				
392	**8852**	3a	B2	3.95	U11	11.00 - 11.70	-7.05 - -7.75			100.0	99.88	99.18	92.04	49.89	19.93	26.92	24.40	12.36	12.04	1.96	1.54	2.69	42.76	96.94	0.75	0.833
393	**8853**	3a	B2	3.95	D13	13.00 - 13.45	-9.05 - -9.50		100.0	98.87	96.98	94.77	78.81	4.83								2.65				
394	**8854**	3b	B2	3.95	U15	15.00 - 15.90	-11.05 - -11.95			100.0	99.70	99.28	97.51	83.74		42.58	43.20	16.81	26.39	1.76	1.23	2.70	54.44	96.21	1.20	0.936
395	**8855**	3b	B2	3.95	U18	18.00 - 18.80	-14.05 - -14.85			100.0	99.32	97.81	90.32	55.85	12.79	18.61	41.34	14.56	26.78	2.10	1.77	2.69	34.21	96.27	0.52	0.501
396	**8856**	3b	B2	3.95	D19	19.00 - 19.45	-15.05 - -15.50			100.0	99.40	98.01	90.56	56.33	13.67		20.84	16.25	4.59			2.69				
397	**8857**	4	B2	3.95	D21	21.00 - 21.45	-17.05 - -17.50				100.0	99.91	99.60	96.13	50.10		54.06	21.00	33.06			2.70				
398	**8858**	5	B2	3.95	U23	23.00 - 23.90	-19.05 - -19.95				100.0	99.94	99.82	92.11	42.96	45.09	64.19	26.12	38.07	1.75	1.21	2.71	55.36	98.54	1.24	1.314
399	**8859**	5	B2	3.95	U26	26.00 - 26.90	-22.05 - -22.95			100.0	100.0	99.88	99.74	87.65	38.15	40.33	58.10	20.55	37.55	1.78	1.27	2.70	52.96	96.71	1.13	1.149
400	**8860**	5	B2	3.95	D28	28.00 - 28.45	-24.05 - -24.50				100.0	99.92	99.82	87.84	39.03		55.87	21.25	34.62			2.70				
401	**8604**	2	B5	-1.35	U2	2.00 - 2.90	-3.35 - -4.25			100.00	99.88	99.78	99.62	98.72		50.82	59.42	25.32	34.10	1.71	1.13	2.72	58.45	98.24	1.41	1.384
402	**8605**	2	B5	-1.35	D4	4.00 - 4.45	-5.35 - -5.80			100.00	99.94	99.70	99.54	98.84			59.75	22.47	37.28			2.70				
403	**8606**	2	B5	-1.35	D7	7.00 - 7.45	-8.35 - -8.80			100.00	99.90	99.60	99.54	99.04	15.21		72.65	27.07	45.58			2.71				
404	**8607**	3a	B5	-1.35	U8	8.00 - 8.90	-9.35 - -10.25			100.00	100.0	99.51	64.37	0.36								2.64				
405	**8608**	3b	B5	-1.35	D9	9.00 - 9.45	-10.35 - -10.80		100.0	99.8	99.57	99.30	98.53	93.23			57.06	21.25	35.81			2.70				
406	**8609**	3c	B5	-1.35	U11	11.00 - 11.90	-12.35 - -13.25			100.0	99.96	96.48	51.87	2.83								2.65				
407	**8610**	3c	B5	-1.35	D13	13.00 - 13.45	-14.35 - -14.80			100.0	99.96	96.48	51.87	2.83								2.64				
408	**8611**	5	B5	-1.35	U15	15.00 - 15.70	-16.35 - -17.05				100.0	99.96	99.86	94.61	43.24	36.11	52.80	25.13	27.67	1.84	1.35	2.70	50.00	97.50	1.00	1.217
409	**8612**	5	B5	-1.35	D17	17.00 - 17.45	-18.35 - -18.80				100.0	99.90	99.76	92.78	43.23		50.89	23.68	27.21			2.71				
410	**8613**	5	B5	-1.35	D19	19.00 - 19.45	-20.35 - -20.80				100.0	99.98	99.86	93.23	42.20		71.98	22.33	49.65			2.72				
411	**8614**	5	B5	-1.35	U21	21.00 - 21.90	-22.35 - -23.25				100.0	99.96	99.86	94.61	42.85	43.57	56.80	23.36	33.44	1.77	1.23	2.70	54.44	98.44	1.20	
412	**8615**	5	B5	-1.35	D23	23.00 - 23.45	-24.35 - -24.80				100.0	99.94	99.84	93.21	43.54		56.49	22.24	34.25			2.71				
413	**8616**	5	B5	-1.35	D26	25.00 - 25.52	-26.35 - -26.87				100.0	99.88	99.70	92.64	43.27		55.75	22.00	33.75			2.70				
414	**8654**	1a	B8	1.30	D1	1.00 - 1.45	0.30 - -0.15			100.0	99.94	96.44	52.75	9.50								2.64				
415	**8655**	1b	B8	1.30	U3	3.00 - 3.90	-1.70 - -2.60			100.0	99.52	98.88	97.67	46.51	11.12	36.08	33.49	14.65	18.84	1.82	1.34	2.69	50.17	96.38	1.01	0.987
416	**8656**	2	B8	1.30	D4	4.00 - 4.45	-2.70 - -3.15			100.0	99.82	99.70	99.40	94.13	27.34		45.66	19.54	26.12			2.70				
417	**8657**	2	B8	1.30	U6	6.00 - 6.90	-4.70 - -5.60			100.0	99.70	99.52	99.32	92.57	26.78	43.25	53.47	23.25	30.22	1.78	1.24	2.71	54.23	98.91	1.19	0.941
418	**8658**	2	B8	1.30	D7	7.00 - 7.45	-5.70 - -6.15			100.0	99.80	99.72	99.50	92.81	26.48		55.85	23.57	32.28			2.70				
419	**8659**	3b	B8	1.30	U9	9.00 - 9.90	-7.70 - -8.60			100.0	100.0	99.76	79.31	46.40	20.10	22.71	29.33	14.13	15.20	2.03	1.65	2.68	38.42	97.54	0.62	0.548
420	**8660**	3b	B8	1.30	U12	12.00 - 12.80	-10.70 - -11.50			100.0	99.94	98.86	69.22	36.99			22.30	10.30	12.00			2.64				

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √Pi-1 x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10⁻³cm²/s)	Log Average in Nomal consolidated Cv(n) (10⁻³cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁷cm/s)
316		0.612	0.602	0.589	0.567	0.534	0.496	0.451		4.760	4.290	4.230	4.140	3.910	3.830	3.390		0.290	0.244	0.159	0.140	0.106	0.063	0.038	4.420	3.808	0.149	0.492
317																												
318																												
319		1.014	0.989	0.951	0.891	0.789	0.661	0.535		1.330	1.360	1.040	1.220	1.050	1.030	0.890		0.560	0.514	0.384	0.311	0.276	0.187	0.098	1.234	1.041	0.345	0.332
320																												
321		1.245	1.216	1.181	1.129	1.004	0.809	0.648		1.230	1.330	2.050	2.370	1.320	0.850	0.730		0.730	0.504	0.326	0.241	0.301	0.256	0.117	1.679	0.936	0.281	0.478
322																												
323																												
324	1.567	1.542	1.499	1.414	1.234	1.046	0.855		1.703	0.279	0.424	0.895	0.544	0.784	0.488		0.648	0.578	0.448	0.445	0.466	0.244	0.124		0.586	0.657	0.455	0.406
325																												
326																												
327		0.661	0.646	0.623	0.588	0.541	0.480	0.418		1.500	1.320	1.520	1.460	1.830	1.820	2.020		0.440	0.366	0.270	0.220	0.152	0.100	0.054	1.444	1.770	0.244	0.302
328																												
329		1.115	1.100	1.077	1.038	0.904	0.692	0.548		1.910	1.850	4.500	3.530	0.850	0.720	0.680		0.390	0.276	0.222	0.188	0.341	0.295	0.111	2.737	0.747	0.204	0.432
330																												
331		1.151	1.128	1.097	1.040	0.913	0.773	0.640		5.120	5.310	3.970	2.110	1.190	1.210	1.450		0.430	0.415	0.301	0.272	0.322	0.190	0.097	4.761	1.449	0.286	0.467
332																												
333																												
334																												
335																												
336	1.802	1.793	1.766	1.708	1.495	1.307	1.099		0.146	0.236	0.352	0.211	0.135	0.173	0.477		0.579	0.391	0.305	0.328	0.602	0.266	0.147		0.230	0.220	0.444	0.096
337																												
338		0.779	0.765	0.739	0.700	0.650	0.589	0.515		0.456	1.014	1.279	2.462	1.398	2.629	1.857		0.228	0.163	0.095	0.071	0.045	0.028	0.017	1.098	1.897	0.082	0.291
339																												
340		1.132	1.110	1.082	1.046	0.893	0.701	0.553			1.450	3.400	2.500	0.710	0.670	0.740			0.409	0.275	0.171	0.388	0.268	0.114	2.310	0.706	0.217	0.342
341																												
342																												
343		1.236	1.215	1.184	1.136	0.994	0.787	0.640		1.870	1.740	2.970	3.550	1.070	1.060	1.110		0.410	0.369	0.288	0.220	0.344	0.274	0.107	2.420	1.080	0.252	0.537
344																												
345																												
346	0.922	0.904	0.877	0.839	0.788	0.726	0.657		1.459	0.787	0.590	0.411	1.127	1.151	0.844		0.499	0.384	0.211	0.150	0.099	0.061	0.034		0.878	0.878	0.122	0.151
347																												
348	1.485	1.462	1.428	1.356	1.137	0.894	0.654		2.894	0.914	1.125	0.369	0.379	0.430	0.343		1.163	0.814	0.349	0.365	0.557	0.309	0.153		1.438	1.438	0.451	0.287
349																												
350		0.717	0.700	0.677	0.647	0.611	0.572	0.523		4.140	3.680	4.240	3.010	3.210	3.450	3.480		0.440	0.417	0.269	0.177	0.113	0.061	0.040	4.012	3.282	0.218	0.442
351																												
352																												
353																												
354																												
355		1.062	1.047	1.023	0.977	0.841	0.654	0.435		0.942	1.259	1.285	1.754	0.381	0.512	1.209		0.306	0.214	0.102	0.096	0.143	0.098	0.057	1.279	1.279	0.099	0.293
356																												
357		1.120	1.103	1.077	1.041	0.918	0.715	0.452		0.650	0.568	0.851	0.899	9.195	1.301	0.887		0.363	0.251	0.115	0.078	0.132	0.110	0.071	0.729	0.729	0.095	0.150
358																												
359																												
360																												
361																												
362																												
363																												
364	1.506	1.488	1.420	1.320	1.173	1.024	0.834		0.765	0.378	0.361	0.424	0.248	0.710	0.913		0.984	0.678	0.686	0.513	0.375	0.190	0.121		0.459	0.544	0.439	0.156
365																												
366		0.567	0.557	0.541	0.517	0.486	0.451	0.411		4.430	4.690	4.500	5.120	4.350	3.870	4.260		0.410	0.257	0.207	0.154	0.106	0.060	0.034	4.539	4.377	0.179	0.595
367																												
368																												
369		1.206	1.186	1.162	1.121	1.048	0.909	0.760		2.470	2.550	1.970	2.000	1.150	0.870	0.690		0.470	0.356	0.224	0.189	0.177	0.175	0.102	2.232	0.884	0.205	0.278
370		1.230	1.218	1.201	1.175	1.059	0.818	0.647		1.940	2.110	2.810	3.420	1.590	0.770	0.620		0.240	0.216	0.148	0.121	0.273	0.311	0.124	2.504	0.912	0.134	0.427
371		1.165	1.143	1.117	1.078	0.951	0.763	0.621		4.120	4.210	3.860	5.130	1.100	0.930	1.150		0.580	0.412	0.248	0.184	0.317	0.252	0.105	4.305	1.056	0.214	0.568
372																												
373																												
374																												
375																												
376		1.081	1.058	1.030	0.990	0.875	0.720	0.582		1.960	1.960	1.890	2.990	0.720	0.710	0.760		0.520	0.446	0.273	0.202	0.296	0.216	0.104	2.159	0.730	0.235	0.358
377																												
378		1.117	1.092	1.060	1.013	0.892	0.704	0.538		2.460	3.330	3.480	4.530	0.870	0.940	1.090		0.590	0.470	0.311	0.229	0.310	0.261	0.129	3.371	0.962	0.267	0.526
379																												
380	0.857	0.849	0.822	0.772	0.685	0.592	0.490		0.976	0.297	0.306	0.353	0.338	0.396	0.392		0.393	0.263	0.200	0.190	0.163	0.087	0.048		0.446	0.369	0.369	0.130
381																												
382																												
383		0.988	0.972	0.952	0.929	0.886	0.725	0.563		2.570	3.430	2.650	4.290	2.350	0.870	1.160		0.360	0.334	0.201	0.119	0.114	0.223	0.123	3.164	1.334	0.155	0.370
384																												
385	1.215	1.205	1.180	1.123	0.949	0.797	0.631		0.806	0.273	0.541	0.605	0.335	0.481	0.645		0.480	0.333	0.218	0.255	0.391	0.170	0.093		0.492	0.501	0.501	0.265
386																												
387																												
388	0.951	0.930	0.901	0.861	0.805	0.738	0.663		3.217	0.569	0.847	1.550	1.393	2.608	0.887		0.585	0.457	0.232	0.158	0.111	0.067	0.037		1.157	1.495	1.495	0.353
389																												
390	1.615	1.571	1.493	1.370	1.214	1.044	0.876		1.155	0.461	0.416	0.427	0.465	0.497	0.501		0.875	0.904	0.828	0.650	0.415	0.226	0.112		0.605	0.471	0.471	0.233
391																												
392	0.808	0.795	0.778	0.755	0.726	0.690	0.647		2.150	0.373	0.890	0.647	1.226	1.888	0.710		0.365	0.279	0.125	0.083	0.054	0.033	0.020		0.893	1.016	1.016	0.118
393																												
394	0.890	0.860	0.814	0.756	0.687	0.611	0.532		0.451	0.184	0.349	0.395	0.482	0.704	0.724		0.714	0.591	0.356	0.226	0.134	0.074	0.038		0.307	0.558	0.558	0.133
395		0.489	0.477	0.466	0.453	0.438	0.419	0.394		4.640	4.580	3.380	6.210	6.760	5.250	5.770		0.320	0.324	0.148	0.088	0.053	0.032	0.022	4.596	5.894	0.114	0.453
396																												
397																												
398		1.291	1.268	1.237	1.188	1.057	0.880	0.714		4.140	2.130	2.150	1.630	0.920	0.590	0.670		0.410	0.408	0.274	0.222	0.307	0.225	0.116	2.358	0.714	0.247	0.318
399		1.128	1.109	1.082	1.048	0.979	0.863	0.721		5.410	4.170	5.670	5.360	1.350	1.170	1.420		0.390	0.361	0.259	0.163	0.172	0.151	0.099	5.117	1.309	0.206	0.453
400																												
401	1.344	1.316	1.272	1.202	1.080	0.931	0.781		2.012	0.532	0.725	0.744	0.722	0.758	0.742		0.764	0.648	0.423	0.331	0.291	0.178	0.089		0.872	0.741	0.742	0.338
402																												
403																												
404																												
405																												
406																												
407																												
408		1.196	1.175	1.144	1.098	0.934	0.751	0.592		5.130	4.660	1.780	1.870	0.530	0.510	0.630		0.380	0.385	0.284	0.220	0.406	0.248	0.119	3.491	0.751	0.250	0.298
409																												
410																												
411																												
412																												
413																												
414																												
415	0.948	0.931	0.908	0.874	0.830	0.770	0.700		2.290	0.391	0.356	0.341	0.525	0.860	0.297		0.616	0.445	0.188	0.131	0.088	0.060	0.035		0.574	0.512	0.462	0.085
416																												
417	0.920	0.903	0.872	0.821	0.757	0.685	0.609		0.953	0.393	0.342	0.275	0.310	0.432	0.423		0.341	0.299	0.244	0.196	0.124	0.070	0.037		0.504	0.353	0.353	0.080
418																												
419		0.541	0.534	0.522	0.503	0.476	0.439	0.394		4.450	2.290	2.700	3.130	2.720	3.890	2.900		0.200	0.167	0.159	0.130	0.088	0.063	0.040	3.019	3.131	0.144	0.312
420																												

No.	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)	Unconfined compression test Specimen 1 q_u (KG/cm²)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm²)	Specimen 2 Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m²)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m²)	fcu (deg.)	Soil group	Description
316	0.150	0.092	0.028	0.017	0.032	0.020	1.962	0.59	3.40	0.81	7.84					CL	Yellowish grey, light grey, sandy lean clay
317																CL	Yellowish grey, light grey, sandy lean clay
318																CH	Reddish brown, fat clay
319	0.420	0.206	0.075	0.037	0.083	0.041	1.651	0.50	4.96	0.58	1.84			9.17	20o38'	CH	Grey, fat clay
320																CH	Grey, fat clay
321	0.530	0.232	0.070	0.031	0.121	0.053	2.142	0.57	3.85	0.91	3.38	54.05	0o44'			CH	Grey, fat clay
322																CH	Grey, fat clay
323																CH	Brownish grey, fat clay
324	0.635	0.244	0.086	0.033	0.075	0.029	0.750	0.37	12.69	0.34	10.64	21.26	0o18'	20.45	17o26'	CH	Brownish grey, fat clay
325								0.22	9.71	0.27	14.76			16.85	26o17'	SC	Brownish grey, yellowish grey, clayey sand
326																SC	Yellowish grey, clayey sand
327	0.210	0.125	0.046	0.027	0.037	0.022	1.552	0.48	8.96	0.39	10.25	35.46		16.81	26o25'	CL	Yellowish grey, sandy lean clay
328																CH	Grey, fat clay
329	0.480	0.225	0.044	0.021	0.106	0.050	2.309	1.36	3.01	1.15	2.44	59.54	1o34'			CH	Grey, fat clay
330																CH	Grey, fat clay
331	0.440	0.202	0.071	0.033	0.089	0.041	1.637	0.59	3.05	0.51	2.62	40.76	0o4'	3.19	20o3'	CH	Grey, fat clay
332																CH	Grey, fat clay
333																CH	Grey, fat clay
334																SP-SC	Brownish grey, poorly graded sand with clay (or silty clay)
335																CH	Brownish grey, fat clay
336	0.691	0.244	0.038	0.013	0.054	0.019	0.850	0.52	6.32	0.28	12.73	20.97	0o22'	20.16	18o16'	CH	Brownish grey, fat clay
337																SP	Yellowish grey, poorly graded sand
338	0.246	0.136	0.038	0.021	0.048	0.027	2.450	0.49	3.21	0.49	5.06					CL	Yellowish grey, lean clay
339																SC	Yellowish grey, light grey, clayey sand
340	0.490	0.228	0.059	0.027	0.099	0.046	2.047	0.99	5.00	0.85	3.77	52.01	0o30'	7.72	23o36'	CH	Grey, fat clay
341								0.91	4.73	0.78	4.25					CH	Grey, fat clay
342																CH	Grey, fat clay
343	0.490	0.217	0.067	0.030	0.172	0.076	2.201	0.49	2.66	1.01	4.69	52.29	1o1'			CH	Grey, fat clay
344								0.94	5.34	0.89	5.37	55.60				CH	Grey, fat clay
345																SP	Grey, poorly graded sand
346	0.229	0.117	0.050	0.026	0.026	0.013	0.820	0.45	8.22	0.24	9.46	14.95	0o00'	22.45	24o5'	CL	Grey, sandy lean clay
347																CH	Brownish grey, fat clay
348	0.798	0.314	0.063	0.025	0.072	0.029	0.830	0.37	4.23	0.24	7.04	22.32	1o24'	25.34	19o31'	CH	Brownish grey, grey, fat clay
349																CH	Brownish grey, fat clay
350	0.160	0.092	0.051	0.029	0.025	0.014	1.963	0.21	7.54	0.26	8.99	22.69	0o48'	15.52	24o44'	CL	Grey, sandy lean clay
351																SP	Yellowish grey, poorly graded sand
352																SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
353																SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
354																CH	Grey, fat clay
355	0.727	0.346	0.026	0.013	0.045	0.022	2.540	0.91	2.69	0.68	1.79	49.43	0o37'	28.80	18o18'	CH	Grey, fat clay
356																CH	Grey, fat clay
357	0.874	0.404	0.036	0.017	0.061	0.029	3.280	0.66	1.92	0.61	1.94	57.39		35.10	15o05'	CH	Grey, fat clay
358																CH	Grey, fat clay
359																CH	Grey, fat clay
360																CH	Grey, fat clay
361																CH	Grey, fat clay
362																CH	Grey, fat clay
363																CL	Brownish grey, sandy lean clay
364	0.631	0.247	0.117	0.046	0.068	0.027	1.030	0.29	10.37	0.19	10.51			20.65	18o41'	CH	Brownish grey, grey, fat clay
365																SC	Brownish grey, grey, clayey sand
366	0.130	0.082	0.036	0.023	0.026	0.016	1.840									CL	Yellowish grey, sandy lean clay
367																CL	Yellowish grey, sandy lean clay
368								0.20	1.76	0.31	2.57	60.80	1o19'	16.12	28o56'	CL	Yellowish grey, sandy lean clay
369	0.500	0.224	0.052	0.023	0.104	0.047	2.335	0.46	11.80	0.27	1.04			14.87	22o41'	CH	Brownish grey, fat clay
370	0.570	0.254	0.044	0.020	0.121	0.054	2.797	0.98	2.21	1.10	2.35	84.49		6.25	19o36'	CH	Grey, fat clay
371	0.470	0.214	0.050	0.023	0.102	0.046	2.158	1.23	3.75	1.15	4.28	47.59		7.45	22o38'	CH	Grey, sandy fat clay
372																CH	Grey, fat clay
373																CH	Grey, fat clay
374																SP	Brownish grey, poorly graded sand
375																SP	Brownish grey, poorly graded sand
376	0.460	0.218	0.070	0.033	0.039	0.019	2.130	0.46	8.45	0.21	5.35	10.01	0o27'	18.25	24o56'	SC	Grey, clayey sand
377																CL	Grey, brownish grey, lean clay
378	0.550	0.256	0.079	0.037	0.123	0.057	2.316	1.46	3.86	1.31	4.76	54.37	2o7'			CH	Grey, fat clay
379																SP	Yellowish grey, poorly graded sand
380	0.339	0.180	0.038	0.020	0.045	0.024	0.790	0.51	5.51	0.54	7.53	24.24	0o3'	22.15	18o23'	CL	Yellowish grey, lean clay
381																CL	Yellowish grey, sandy lean clay
382																CH	Grey, fat clay
383	0.540	0.269	0.050	0.025	0.094	0.047	3.281	1.42	4.57	1.35	5.30	82.12				CH	Grey, fat clay
384																CH	Grey, fat clay
385	0.554	0.247	0.038	0.017	0.052	0.023	0.790	0.57	4.14	0.64	4.64	20.85	0o57'			CH	Grey, brownish grey, fat clay
386																SP	Blackish grey, poorly graded sand with shell
387																SP	Blackish grey, poorly graded sand with shell
388	0.250	0.126	0.060	0.030	0.050	0.026	0.880	0.23	8.00			23.88	1o41'	23.00	29o49'	CL	Grey, sandy lean clay
389																CL	Brownish grey, lean clay
390	0.558	0.210	0.186	0.070	0.122	0.048	0.540	0.27	9.30			8.81	1o56'	22.00	24o19'	CH	Brownish grey, grey, Fat clay
391																CH	Brownish grey, grey, Fat clay
392	0.144	0.078	0.032	0.017	0.026	0.014	0.930					15.84	1o4'			SC	Grey, clayey sand
393																SP	Yellowish grey, grey, poorly graded sand
394	0.260	0.134	0.133	0.069	0.086	0.046	0.760	0.62	2.90			2.44	0o21'	22.90	20o38'	CL	Yellowish grey, lean clay
395	0.080	0.053	0.027	0.018	0.006	0.004	2.376	0.36	4.60			21.37	0o55'			CL	Yellowish grey, light grey, sandy lean clay
396																CL	Yellowish grey, light grey, sandy lean clay
397																CH	Yellowish grey, light grey, fat clay
398	0.550	0.238	0.099	0.043	0.118	0.051	2.325	1.22	5.70	0.98	5.70	45.47	1o27'	20.82	18o14'	CH	Grey, bluish grey, fat clay
399	0.470	0.219	0.062	0.029	0.082	0.038	3.057	0.85	3.40	1.41	3.80	47.84	0o48'	21.43	18o17'	CH	Grey, bluish grey, fat clay
400																CH	Grey, bluish grey, fat clay
401	0.498	0.209	0.128	0.426	0.062	0.027	1.020	0.45	10.70	0.27	5.50	21.82	0o45'	22.40	16o47'	CH	Grey, brownish grey, fat clay
402																CH	Grey, brownish grey, fat clay
403																CH	Grey, brownish grey, fat clay
404																SP	Yellowish grey, poorly graded sand
405																CH	Yellowish grey, reddish brown, fat clay
406																SP	Yellowish grey, poorly graded sand
407																SP	Yellowish grey, poorly graded sand
408	0.530	0.239	0.065	0.029	0.122	0.055	1.836	0.94	3.20	0.57	1.77			28.20	17o37'	CH	Grey, fat clay
409																CH	Grey, fat clay
410																CH	Grey, fat clay
411																CH	Grey, fat clay
412																CH	Grey, fat clay
413																CH	Grey, fat clay
414																SP-SC	Yellowish grey, light grey, poorly graded sand with clay (or silty clay)
415	0.233	0.117	0.056	0.028	0.033	0.017	1.250	0.28	10.59	0.32	10.78			17.56	27º26'	SC	Brownish grey, clayey sand
416																CL	Brownish grey, lean clay
417	0.255	0.131	0.074	0.038	0.049	0.026	0.780									CH	Brownish grey, fat clay
418																CH	Brownish grey, fat clay
419	0.150	0.097	0.029	0.019	0.021	0.014	1.922	0.69	2.40	0.13	5.10	20.98	1o11'	11.84	31o07'	SC	Reddish brown, clayey sand
420																SC	Yellowish grey, clayey sand

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5); CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From	Depth GL-(m) To	Depth DL(m) From	Depth DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load $\sqrt{P_{i-1} \times P_i}$ KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10^{-3}cm²/s)	Log Average in Nomal consolidated Cv(n) (10^{-3}cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10^{-7}cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)	Unconfined compression test Specimen 1 q_u (KG/cm²)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm²)	Specimen 2 Failure Strain ef (%)	UU triaxial Cuu (KN/m²)	fuu (deg.)	CU triaxial Ccu (KN/m²)	fcu (deg.)	Soil group	Description
421	8661	5	B8	1.30	U15	15.00	15.90	-13.70	-14.60				100.0	99.98	99.92	97.70	50.23	36.77	52.02	21.14	30.88	1.82	1.33	2.70	50.74	96.39	1.03	1.058		1.043	1.028	1.007	0.976	0.893	0.735	0.573		3.250	2.030	2.750	2.430	1.250	0.610	0.590		0.310	0.297	0.204	0.157	0.215	0.218	0.122	2.577	0.766	0.179	0.324	0.540	0.262	0.050	0.024	0.118	0.057	2.671	1.46	4.19	1.40	4.67	60.78		30.80	17o50'	CH	Grey, fat clay
422	8662	5	B8	1.30	U17	17.00	17.45	-15.70	-16.15		100.0	99.90	99.86	99.64	99.20	92.20	34.81	41.14	58.45	20.34	38.11	1.79	1.27	2.71	53.14	98.32	1.13																																															CH	Grey, fat clay
423	8663	5	B8	1.30	U20	20.00	20.90	-18.70	-19.60			100.0	99.73	99.39	97.71	87.77	36.94	46.78	73.15	24.95	48.20	1.75	1.19	2.71	56.08	99.27	1.28	1.236		1.216	1.199	1.179	1.145	0.997	0.757	0.587		2.440	3.100	3.320	3.690	0.530	0.460	0.560		0.370	0.304	0.186	0.154	0.359	0.319	0.127	3.103	0.515	0.169	0.327	0.560	0.250	0.054	0.024	0.123	0.055	2.483	1.26	2.81	1.37	2.16	48.01	1o6'			CH	Grey, fat clay
424	8664	5	B8	1.30	D23	23.00	23.45	-21.70	-22.15			100.0	99.66	99.32	97.91	88.28	36.99		59.96	20.54	39.42			2.70																																																				CH	Grey, fat clay
425	8665	5	B8	1.30	D25	25.00	25.45	-23.70	-24.15				100.0	99.94	99.88	94.75	42.50		57.11	22.12	34.99			2.71																																																				CH	Grey, bluish grey, fat clay
426	8666	5	B8	1.30	D29	29.00	29.45	-27.70	-28.15				100.0	99.98	99.92	95.72	47.06		63.25	20.29	42.96			2.70																																																				CH	Grey, bluish grey, fat clay
427	8617	2	B10	0.15	U2	2.00	2.90	-1.85	-2.75				100.0	99.94	99.80	90.82	45.35	46.58	54.84	22.14	32.70	1.75	1.19	2.71	56.08	98.85	1.28																																														CH	Grey, fat clay
428	8618	2	B10	0.15	U4	5.00	5.90	-4.85	-5.75			100.0	99.80	99.72	99.66	99.42	62.72	64.98	75.60	21.60	54.00	1.59	0.96	2.70	64.45	96.77	1.81	1.821	1.792	1.769	1.724	1.628	1.405	1.164	0.933		1.349	1.064	1.113	0.503	0.379	0.457	0.496		0.672	0.589	0.509	0.542	0.629	0.340	0.163		1.169	0.456	0.456	0.299	0.768	0.272	0.083	0.029	0.070	0.025	0.710	0.42	4.50			26.09		26.40	18º10'	CH	Brownish grey, fat clay
429	8619	3b	B10	0.15	U6	8.00	8.90	-7.85	-8.75		100.0	99.79	99.45	98.02	84.67	52.12	26.92	23.30	59.69	15.24	44.45	2.00	1.62	2.68	39.54	95.48	0.65																																									25.29	0o45'			CL	Yellowish grey, light grey, redish brown, sandy lean clay
430	8620	3b	B10	0.15	D7	10.00	10.45	-9.85	-10.30		100.0	100.0	99.60	96.95	77.48	48.44	19.26		38.51	14.11	24.40			2.69																																																				CL	Yellowish grey, reddish brown sandy lean clay
431	8621	3c	B10	0.15	D10	13.00	13.45	-12.85	-13.30		100.0	97.3	95.56	94.06	74.44	1.14								2.65																																																				SP	Yellowish grey, poorly graded sand
432	8622	5	B10	0.15	U12	15.00	15.80	-14.85	-15.65			100.0	100.0	99.88	99.80	95.83	48.31	43.56	73.28	21.04	52.24	1.76	1.23	2.71	54.61	98.13	1.20	1.107		1.080	1.058	1.031	0.974	0.812	0.663	0.534		1.250	1.200	1.340	1.770	0.710	0.630	0.600		0.500	0.432	0.268	0.280	0.430	0.214	0.101	1.262	0.830	0.274	0.390	0.430	0.204	0.076	0.036	0.101	0.048	1.518	0.49	4.16	0.13	1.76	36.00		3.37	22o10'	CH	Grey, fat clay
433	8623	5	B10	0.15	D13	17.00	17.45	-16.85	-17.30			100.0	100.0	99.92	99.80	94.51	48.88		57.53	22.47	35.06			2.71																																																				CH	Grey, fat clay
434	8624	5	B10	0.15	U15	19.00	19.80	-18.85	-19.65				100.0	99.96	99.86	94.51	49.68	45.25	75.59	23.24	52.35	1.68	1.16	2.69	56.88	92.28	1.32	1.134		1.113	1.092	1.069	1.028	0.903	0.736	0.604		3.550	3.480	4.580	4.660	1.090	1.290	0.860		0.400	0.396	0.224	0.202	0.317	0.229	0.099	4.030	1.065	0.212	0.564	0.440	0.206	0.058	0.027	0.100	0.047	2.085	0.83	2.79	0.96	2.76	38.30	1o31'			CH	Grey, fat clay
435	8625	5	B10	0.15	U18	22.00	22.80	-21.85	-22.65				100.0	99.98	99.94	92.68	42.10	40.25	53.90	22.84	31.06	1.71	1.22	2.69	54.65	89.85	1.21	1.167		1.146	1.129	1.105	1.065	0.917	0.734	0.590		2.790	2.460	2.850	3.890	1.050	1.080	0.790		0.380	0.320	0.230	0.191	0.372	0.251	0.108	2.953	0.964	0.210	0.538	0.480	0.222	0.052	0.024	0.107	0.049	2.007	0.85	3.17	0.71	2.36	40.88	1o2'	3.19	22o0'	CH	Grey, fat clay
436	8626	5	B10	0.15	D21	25.00	25.45	-24.85	-25.30				100.0	99.98	99.94	93.98	42.24		62.49	22.87	39.62			2.71																																																				CH	Grey, bluish grey, fat clay
437	8627	5	B10	0.15	D23	27.00	27.45	-26.85	-27.30				100.0	99.92	99.86	93.39	48.22		62.88	23.10	39.78			2.70																																																				CH	Grey, bluish grey, fat clay
438	8861	2	B15	-1.35	D1	1.00	1.45	-2.35	-2.80		100.0	99.82	99.72	99.62	99.32	95.35	9.15		54.40	22.30	32.10			2.71																																																				CH	Grey, bluish grey, fat clay
439	8862	2	B15	-1.35	U3	3.00	3.90	-4.35	-5.25			100.0	99.78	99.64	99.54	99.04		62.20	64.13	37.30	26.83	1.63	1	2.70	62.96	98.79	1.70	1.756	1.730	1.711	1.673	1.586	1.334	1.093	0.845		1.805	1.232	1.651	0.556	0.409	0.640	0.490		0.577	0.501	0.410	0.479	0.695	0.333	0.171		1.543	0.517	0.517	0.356	0.823	0.298	0.066	0.024	0.090	0.033	0.760	0.23	13.27	0.32	4.75	24.51	0o10'	23.20	17º29'	CH	Grey, bluish grey, fat clay
440	8863	2	B15	-1.35	D4	4.00	4.45	-5.35	-5.80				100.0	99.96	99.78	96.77	44.74		63.20	21.30	41.90			2.71																																																			CH	Grey, bluish grey, fat clay
441	8864	3b	B15	-1.35	U6	6.00	6.90	-7.35	-8.25		100.0	99.76	99.26	97.65	85.41	37.78		33.90	31.18	14.96	16.22	1.85	1.38	2.69	48.69	96.09	0.95	0.786	0.739	0.717	0.688	0.656	0.622	0.585	0.546		1.065	0.964	1.300	1.517	2.305	2.643	1.192		0.663	0.490	0.205	0.115	0.061	0.033	0.017		1.013	1.703	1.822	0.291	0.130	0.073	0.086	0.048	0.046	0.027	0.490	0.08	13.36			13.64	0o5'	22.46	16º43'	SC	Grey, clayey sand
442	8865	3b	B15	-1.35	D7	7.00	7.50	-8.35	-8.85	100.00	99.52	99.24	98.66	97.46	89.04	34.26			29.81	22.30	7.51			2.69																																																			SC	Yellowish grey, bluish grey, clayey sand
443	8866	3b	B15	-1.35	D10	10.00	10.45	-11.35	-11.80			100.0	100.0	99.52	90.17	43.39	13.25		33.56	13.22	20.34			2.69																																																				SC	Reddish brown, yellowish grey, light grey, clayey sand
444	8867	3b	B15	-1.35	U12	12.00	12.50	-13.35	-13.85			100.0	99.86	98.68	79.77	35.80		28.62	26.09	21.57	4.52	1.93	1.5	2.67	43.82	97.97	0.78																																									32.47				SC	Reddish brown, yellowish brown, clayey sand
445	8868	3c	B15	-1.35	D14	14.00	14.45	-15.35	-15.80			100.0	100.0	98.40	66.38	4.23								2.64																																																				SP	Yellowish grey, poorly graded sand
446	8869	5	B15	-1.35	D16	16.00	16.45	-17.35	-17.80				100.0	99.94	99.88	97.38	45.26		52.85	24.12	28.73			2.70																																																			CH	Grey, fat clay
447	8870	5	B15	-1.35	U18	18.00	18.50	-19.35	-19.85				100.0	99.98	99.88	97.14	48.88	47.23	55.18	18.91	36.27	1.72	1.17	2.70	56.67	97.49	1.31	1.153		1.125	1.100	1.073	1.037	0.947	0.737	0.565		1.790	1.900	2.570	2.990	1.810	0.880	1.100		0.530	0.471	0.255	0.174	0.226	0.285	0.131	2.261	1.206	0.211	0.460	0.570	0.265	0.069	0.032	0.119	0.055	2.824	1.02	3.28							CH	Grey, fat clay
448	8871	5	B15	-1.35	U21	21.00	21.50	-22.35	-22.85				100.0	99.98	99.90	94.55	43.23	44.20	56.31	22.95	33.36	1.74	1.21	2.69	55.02	97.22	1.22	1.211		1.187	1.164	1.138	1.098	0.958	0.770	0.621		5.110	3.600	6.020	3.780	1.160	1.040	1.140		0.430	0.417	0.250	0.188	0.345	0.252	0.110	4.523	1.112	0.217	0.532	0.500	0.226	0.065	0.029	0.108	0.049	2.147	0.90	4.57	1.42	2.47					CH	Grey, fat clay
449	8872	5	B15	-1.35	D23	23.00	23.45	-24.35	-24.80				100.0	99.96	99.94	97.54	45.55		55.45	23.45	32.00			2.70																																																			CH	Grey, fat clay
450	8873	1a	B17	0.42	D1	1.00	1.45	-0.58	-1.03		100.0	99.00	98.74	98.21	97.42	41.60	7.79		25.82	10.01	15.81			2.64																																																			SC	Grey, clayey sand with hell
451	8874	2	B17	0.42	U2	2.00	2.40	-1.58	-1.98			100.0	99.86	99.74	98.88	86.46		42.75	51.72	23.26	28.46	1.77	1.24	2.69	53.90	98.37	1.17	1.458	1.413	1.391	1.360	1.296	1.188	1.066	0.944		1.889	1.255	1.278	1.851	1.194	2.266	0.989		0.890	0.662	0.308	0.312	0.266	0.151	0.075		1.447	1.492	1.492	0.554	0.405	0.165	0.112	0.389	0.109	0.045	0.960	0.53	10.84	0.49	5.97					CH	Brownish grey, fat clay
452	8875	2	B17	0.42	U5	5.00	5.50	-4.58	-5.08			100.0	99.76	99.58	99.26	96.44	52.68	63.95	81.51	23.24	58.27	1.60	0.98	2.70	63.70	98.38	1.76	1.749	1.682	1.636	1.563	1.433	1.208	0.986	0.759		1.059	0.590	0.480	0.445	0.252	0.335	0.827		1.481	1.241	0.807	0.714	0.618	0.305	0.156		0.670	0.420	0.420	0.240	0.754	0.274	0.156	0.057	0.097	0.037	0.620	0.43	7.92	0.40	9.31	14.73				CH	Brownish grey, fat clay
453	8876	2	B17	0.42	D7	7.00	7.45	-6.58	-7.03			100.0	99.80	99.70	99.50	96.52	51.86		72.29	22.14	50.15			2.70																																																			CH	Brownish grey, fat clay
454	8877	3c	B17	0.42	U9	9.00	9.50	-8.58	-9.08				100.0	93.39	73.99	6.46								2.67																																																			SP-SC	Yellowish grey, light grey, poorly graded sand with clay(or silty clay)
455	8878	3c	B17	0.42	D11	11.00	11.45	-10.58	-11.03				100.0	94.90	76.70	8.50								2.64																																																			SP-SC	Yellowish grey, poorly graded sand with clay(or silty clay)
456	8879	4	B17	0.42	U12	12.00	12.50	-11.58	-12.08	100.00	99.44	99.06	98.68	98.42	98.12	95.48	50.08	38.65	53.93	20.12	33.81	1.80	1.3	2.67	51.31	97.91	1.05	0.938		0.910	0.885	0.864	0.835	0.779	0.680	0.560		1.720	3.580	1.790	3.330	1.350	1.080	0.780		0.570	0.521	0.227	0.157	0.155	0.143	0.093	2.461	1.044	0.189	0.329	0.400	0.206	0.045	0.023	0.080	0.041	2.152	0.78	4.85	0.74	4.30	30.40				CH	Yellowish grey, brownish grey, fat clay
457	8880	4	B17	0.42	D14	14.00	14.45	-13.58	-14.03		100.0	99.10	98.41	98.00	96.88	91.84	43.83		54.75	23.24	31.51			2.70																																																			CH	Yellowish grey, light grey, fat clay
458	8881	5	B17	0.42	U16	16.00	16.90	-15.58	-16.48			100.0	99.86	99.64	97.93	89.65	41.13	42.04	62.08	24.08	38.00	1.78	1.25	2.71	53.87	97.54	1.17	1.292		1.278	1.264	1.240	1.191	1.011	0.813	0.645		4.250	3.730	3.410	3.090	0.690	0.520	0.590		0.250	0.230	0.216	0.220	0.429	0.260	0.121	3.781	0.899	0.218	0.448	0.560	0.244	0.060	0.026	0.114	0.050	1.887	0.79	3.98	0.70	3.34	50.04	0o55'	39.81		CH	Yellowish grey, fat clay
459	8882	5	B17	0.42	U19	19.00	19.90	-18.58	-19.48				100.0	99.98	99.94	97.20	44.28	45.08	65.43	22.39	43.04	1.74	1.2	2.72	55.89	96.78	1.27	1.167		1.143	1.120	1.095	1.050	0.918	0.732	0.564		3.260	3.680	2.400	2.290	1.010	0.720	0.910		0.440	0.429	0.246	0.218	0.332	0.254	0.127	2.850	0.871	0.231	0.407	0.560	0.258	0.068	0.031	0.113	0.052	2.198	0.65	1.95	0.68	2.99	47.73	0o51'	30.00	17º23'	CH	Grey, fat clay
460	8883	5	B17	0.42	U22	22.00	22.90	-21.58	-22.48				100.0	99.98	99.90	95.64	41.18	45.42	61.37	21.29	40.08	1.74	1.2	2.72	55.89	97.51	1.27	1.133		1.100	1.068	1.024	0.959	0.864	0.749	0.628		3.470	4.500	1.800	1.360	1.370	1.470	1.010		0.630	0.606	0.429	0.329	0.248	0.159	0.090	3.040	1.290	0.376	0.389	0.400	0.188	0.115	0.054	0.076	0.036	1.918	0.25	13.15			5.74	0o19'			CH	Grey, fat clay
461	8640	1a	B19	1.28	D1	1.00	1.45	0.28	-0.17		100.0	99.12	97.49	92.06	64.42	1.17								2.64																																																			SP	Grey, yellowish grey, poorly graded sand with shell
462	8641	1b	B19	1.28	U3	3.00	3.90	-1.72	-2.62			100.0	99.58	99.08	97.89	38.18		30.35	21.59	13.03	8.56	1.90	1.46	2.65	44.90	98.68	0.82	0.911	0.877	0.861	0.838	0.810	0.771	0.722	0.661		2.000	0.682	1.181	1.194	1.025	1.515	0.330		0.527	0.381	0.176	0.109	0.074	0.047	0.029		1.178	0.800	0.884	0.193	0.201	0.105	0.050	0.026	0.042	0.023	1.280	0.43	3.74	0.46	4.86	31.32	0o37'			SC	Grey, clayey sand
463	8642	1b	B19	1.28	D5	5.00	5.45	-3.72	-4.17		100.0	98.5	98.12	97.73	96.91	45.32	8.44		24.11	11.20	12.91			2.64																																																			SC	Grey, brownish grey, clayey sand
464	8653	2	B19	1.28	U6	6.00	6.90	-4.72	-5.62			100.0	99.86	99.78	99.76	99.54	56.79	58.59	75.19	23.55	51.64	1.63	1.03	2.70	61.85	97.59	1.62	0.991	0.960	0.941	0.918	0.886	0.848	0.801	0.744		2.005	0.393	0.539	0.473	0.637	1.709	0.626		0.491	0.395	0.185	0.126	0.076	0.046	0.029		0.669	0.880	0.753	0.089	0.190	0.096	0.056	0.028	0.047	0.024	1.210	0.43	12.87	0.41	14.02	9.30	0o26'	19.43	18o27'	CH	Grey, brownish grey fat clay
465	8643	2	B19	1.28	D8	8.00	8.45	-6.72	-7.17			100.0	100.0	99.94	99.82	99.23	42.30		76.14	23.65	52.49			2.70																																																			SC	Grey, clayey sand
466	8644	3b	B19	1.28	U9	9.00	9.80	-7.72	-8.52		100.0	99.17	98.81	96.44	78.35	32.36	8.03	26.33	20.75	14.01	6.74	1.96	1.55	2.67	41.96	97.24	0.72																																															CL	Reddish brown, light grey, sandy lean clay
467	8645	3b	B19	1.28	D11	11.00	11.45	-9.72	-10.17		100.0	99.79	99.61	98.73	81.18	51.09	24.60		39.15	16.24	22.91			2.69																																																			CL	Yellowish grey, light grey, sandy lean clay
468	8646	3b	B19	1.28	U12	12.00	12.90	-10.72	-11.62	100.00	99.56	95.14	93.05	90.61	81.42	50.33	17.31	27.24	25.28	13.07	12.21	1.95	1.53	2.67	42.69	97.63	0.75																																							39.26	0o46'			CH	Yellowish grey, light grey, sandy lean clay
469	8647	5	B19	1.28	U14	15.00	15.80	-13.72	-14.52				100.0	99.86	99.26	95.11	49.24	44.15	60.31	30.38	29.93	1.76	1.22	2.72	55.16	97.63	1.23	1.057		1.042	1.028	1.006	0.971	0.896	0.744	0.585		1.670	1.570	2.230	1.980	1.070	0.470	0.640		0.300	0.289	0.218	0.175	0.194	0.209	0.119	1.845	0.685	0.195	0.270	0.530	0.258	0.049	0.024	0.118	0.057	2.578	0.75	1.97	0.69	1.92	56.55	1o16'	5.10	22o41'	CH	Grey, bluish grey, fat clay
470	8648	5	B19	1.28	U17	18.00	18.90	-16.72	-17.62				100.0	99.94	99.84	96.41	47.59	45.10	64.36	21.83	42.53	1.73	1.19	2.70	55.93	95.96	1.27	1.411		1.398	1.383	1.359	1.320	1.154	0.965	0.800		2.480	2.730	6.140	5.020	1.350	0.870	1.180		0.220	0.242	0.202	0.169	0.370	0.230	0.109	3.464	1.624	0.185	0.645	0.550	0.228	0.058	0.024	0.115	0.048	1.980	0.68	1.72	1.04	2.04	44.09	3o02'			CH	Grey, fat clay
471	8649	5	B19	1.28	D20	21.00	21.45	-19.72	-20.17			100.0	100.0	99.87	99.85	97.05	49.85		63.93	22.24	41.69			2.71																																																			CH	Grey, fat clay
472	8650	5	B19	1.28	D23	24.00	24.45	-22.72	-23.17		100.0	100.0	99.92	99.80	99.54	88.81	20.45		56.20	21.53	34.67			2.70																																																			CH	Grey, fat clay
473	8651	5	B19	1.28	D26	27.00	27.45	-25.72	-26.17				100.0	99.98	99.90	92.77	39.77		58.20	22.25	35.95			2.71																																																			CH	Grey, fat clay
474	8652	5	B19	1.28	D29	30.00	30.45	-28.72	-29.17				100.0	99.98	99.89	90.15	37.64		58.58	23.65	34.93			2.72																																																			CH	Grey, fat clay
475	8667	1a	B21	3.95	D1	1.00	1.45	2.95	2.50		100.0	99.93	99.84	97.83	91.95	6.65								2.65																																																		SP-SC	Grey, poorly graded sand with clay (or silty clay)
476	8668	1a	B21	3.95	D3	3.00	3.45	0.95	0.50		100.0	98.91	97.08	90.56	87.62	12.72								2.64																																																			SP-SC	Grey, poorly graded sand with clay (or silty clay)
477	8669	1a	B21	3.95	U4	4.00	4.80	-0.05	-0.85		100.0	99.84	99.80	99.58	95.73	4.63								2.65																																																		SP-SC	Grey, poorly graded sand
478	8670	2	B21	3.95	D6	6.00	6.45	-2.05	-2.50			100.0	99.84	99.70	99.40	82.52	18.59		62.35	24.58	37.77			2.70																																																			CH	Brownish grey, fat clay with sand
479	8671	2	B21	3.95	U8	8.00	8.80	-4.05	-4.85			100.0	99.84	99.64	99.52	98.82	45.50	57.23	71.88	27.73	44.15	1.65	1.05	2.71	61.26	98.10	1.58	1.630	1.588	1.564	1.531	1.469	1.288	1.075	0.869		0.552	0.523	0.628	0.487	0.469	0.721	0.490		0.888	0.699	0.346	0.327	0.475	0.280	0.135		0.566	0.533	0.533	0.291	0.684	0.260	0.092	0.035	0.083	0.032	0.920	0.63	4.93			20.95	0o11'	22.40	20o04'	CH	Brownish grey, fat clay
480	8672	2	B21	3.95	D10	10.00	10.45	-6.05	-6.50			100.0	100.0	99.90	99.82	94.83	56.71		63.69	26.35	37.34			2.70																																																			CH	Brownish grey, fat clay
481	8673	2	B21	3.95	U11	11.00	11.60	-7.05	-7.65			100.0	99.90	99.80	98.86	93.98	62.64	58.54	86.81	26.04	60.77	1.64	1.03	2.71	61.99	97.27	1.63	1.663	1.615	1.575	1.505	1.380	1.207	1.016	0.832		1.286	0.781	0.535	0.375	0.439	0.456	0.349		1.030	0.938	0.755	0.661	0.463	0.253	0.123		0.813	0.402	0.402	0.237	0.611	0.230	0.221	0.083	0.155	0.060	0.700	0.12	10.02	0.18	11.34			19.51	16o59'	CH	Brownish grey, grey, fat clay
482	8674	3b	B21	3.95	D12	12.00	12.45	-8.05	-8.50		100.0	99.73	99.53	99.21	97.09	32.45	5.87		23.66	10.65	13.01			2.65																																																			SC	Yellowish grey, clayey sand
483	8675	3b	B21	3.95	U14	14.00	14.70	-10.05	-10.75		100.0	99.85	99.65	98.45	80.95	52.62	23.82	35.24	43.38	14.21	29.17	1.85	1.37	2.69	49.08	98.34	0.96																																			0.92	12.59	0.63	10.53	24.77				CL	Yellowish grey, light grey, sandy lean clay
484	8676	3b	B21	3.95	D16	16.00	16.45	-12.05	-12.50		100.0	99.63	99.29	99.15	98.57	77.99	37.62	22.57	38.43	13.35	25.08			2.70																																																		CL	Yellowish grey, light grey, lean clay with sand
485	8677	4	B21	3.95	D18	18.00	18.45	-14.05	-14.50			100.0	100.0	99.56	91.60	39.70	9.31		23.87	16.37	7.50			2.67																																																			SC	Light grey, clayey sand
486	8678	4	B21	3.95	D20	20.00	20.45	-16.05	-16.50			100.0	100.0	99.80	92.75	28.25			23.36	11.02	12.34			2.64																																																			SC	Yellowish grey, clayey sand
487	8679	5	B21	3.95	D21	21.00	21.45	-17.05	-17.50					100.0	99.90	93.71	44.59		54.56	21.25	33.31			2.70																																																		CH	Grey, fat clay
488	8680	5	B21	3.95	U23	23.00	23.90	-19.05	-19.95					100.0	99.86	94.59	43.80	40.36	54.79	19.89	34.90	1.81	1.29	2.71	52.40	99.34	1.10	1.068		1.050	1.032	1.006	0.970	0.888	0.712	0.560		4.880	4.000	2.650	3.660	1.440	0.710	0.690		0.350	0.367	0.253	0.182	0.212	0.245	0.116	3.709	0.890	0.215	0.448	0.500	0.242	0.057	0.028	0.113	0.055	2.663	0.88	4.75	1.33	5.03	46.67		3.25	20o31'	CH	Grey, fat clay
489	8681	5	B21	3.95	U26	26.00	26.90	-22.05	-22.95				100.0	99.98	99.96	93.44	44.77	44.01	63.91	20.89	43.02	1.76	1.22	2.70	54.81	97.96	1.21	1.168		1.145	1.123	1.092	1.045	0.924	0.753	0.602		3.890	2.550	2.480	3.530	1.100	1.030	1.110		0.420	0.423	0.295	0.224	0.306	0.233	0.113	3.053	1.079	0.257	0.513	0.500	0.231	0.085	0.039	0.103	0.048	2.269	0.77	2.57	0.77	2.55	46.19		28.20	14o19'	CH	Grey, fat clay
490	8628	2	B23	-1.30	D1	1.00	1.45	-2.30	-2.75			100.0	99.90	99.78	99.48	98.29	44.45		47.06	25.20	21.86			2.71																																																			CL	Grey, brownish grey, lean clay
491	8630	2	B23	-1.30	D2	3.00	3.45	-4.30	-4.75			100.0	99.86	99.70	99.46	98.01	45.85		45.83	24.56	21.27			2.70																																																			CL	Grey, brownish grey, lean clay
492	8631	2	B23	-1.30	U3	4.00	4.90	-5.30	-6.20			100.0	99.94	99.80	99.66	99.06	52.98	66.38	88.01	33.50	54.51	1.58	0.95	2.70	64.81	97.30	1.84	1.744	1.712	1.689	1.651	1.592	1.393	1.116	0.850		1.156	1.448	1.003	0.834	0.305	0.434	0.400		0.717	0.607	0.417	0.324	0.545	0.381	0.182		1.088	0.376	0.459	0.353	0.883	0.322	0.090	0.033	0.094	0.035	1.060	0.30	5.31	0.43	7.29	16.87	0o22'	35.12	2o00	CH	Brownish grey, fat clay
493	8632	2	B23	-1.30	D4	6.00	6.45	-7.30	-7.75			100.0	99.90	99.84	99.70	98.80	53.28		47.70	39.40	8.30			2.71																																																			CL	Grey, brownish grey, lean clay
494	8633	3b	B23	-1.30	U5	7.00	7.80	-8.30	-9.10			100.0	99.82	99.52	98.15	34.78			21.20	12.24	8.96			2.64																																																			SC	Yellowish grey, clayey sand
495	8634	3b	B23	-1.30	U8	10.00	10.90	-11.30	-12.20			100.0	100.0	99.90	98.76	68.56	35.35	31.65	46.82	14.30	32.52	1.90	1.44	2.70	46.67	97.66	0.88	0.775		0.755	0.737	0.712	0.657	0.557	0.467	0.382		3.740	3.820	1.380	1.420	1.850	2.040	1.940		0.450	0.423	0.290	0.327	0.309	0.149	0.075	2.701	1.796	0.308	0.514	0.280	0.158	0.056	0.032	0.040	0.023	1.349	0.59	3.50	0.47	4.40	18.64	0o60'	17.89	21o48'	CL	Yellowish grey, light grey, sandy lean clay
496	8635	3c	B23	-1.30	U10	13.00	13.80	-14.30	-15.10			100.0	100.0	96.26	51.92	9.93								2.65																																																			SP-SC	Yellowish grey, light grey, poorly graded sand with clay (or silty clay)
497	8636	5	B23	-1.30	U13	16.00	16.90	-17.30	-18.20			100.0	100.0	99.88	99.82	96.55	46.96	41.01	55.67	20.37	35.30	1.79	1.27	2.70	52.96	98.34	1.13																																			0.95	5.00	1.02	5.10	33.69	1o48'			CH	Grey, fat clay
498	8637	5	B23	-1.30	U15	19.00	19.90	-20.30	-21.20			100.0	99.66	99.62	99.52	94.82	44.14	42.06	62.53	24.86	37.67	1.78	1.25	2.70	53.70	97.90	1.16	1.279		1.261	1.244	1.222	1.190	1.073	0.845	0.675		4.650	3.010	1.620	2.290	0.630	0.560	0.640		0.320	0.295	0.203	0.144	0.273	0.292	0.121	2.684	0.609	0.171	0.240	0.560	0.246	0.061	0.027	0.122	0.054	2.741	1.20	3.50			52.92		19.06	20º06'	CH	Grey, fat clay
499	8638	5	B23	-1.30	D16	21.00	21.45	-22.30	-22.75			100.0	99.94	99.76	99.72	95.73	47.44		56.63	23.24	33.39			2.71																																																			CH	Grey, fat clay
500	8639	5	B23	-1.30	D18	23.00	23.45	-24.30	-24.75			100.0	99.72	99.62	99.44	94.75	45.26		63.66	24.20	39.46			2.70																																																			CH	Grey, fat clay
501	8682	1b	B25	-0.27	D1	1.00	1.45	-1.27	-1.72			100.0	99.94	99.82	99.52	69.27	25.35		37.56	13.25	24.31			2.68																																																			CL	Grey, sandy lean clay
502	8683	2	B25	-0.27	U3	3.00	3.90	-3.27	-4.17			100.0	99.80	99.62	99.04	91.79		48.01	52.49	23.54	28.95	1.70	1.15	2.70	57.41	96.16	1.35	1.337	1.309	1.291	1.263	1.210	1.072	0.904	0.743		1.044	1.137	0.742	0.443	0.634	0.805	0.650		0.524	0.430	0.258	0.251	0.323	0.196	0.094		0.958	0.619	0.619	0.276	0.537	0.230	0.078	0.033	0.078	0.034	0.930	0.47	6.70	0.40	7.20	11.44	0o12'	29.00	16o21'	CH	Brownish grey, fat clay
503	8684	2	B25	-0.27	D4	5.00	5.45	-5.27	-5.72			100.0	99.92	99.86	99.78	94.79	47.52		60.81	23.20	37.61			2.71																																																			CH	Grey, brownish grey, fat clay
504	8685	2	B25	-0.27	U5	6.00	6.70	-6.27	-6.97			100.0	100.0	99.94	99.82	95.17	48.46	60.47	55.71	27.94	27.77	1.60	1	2.70	62.96	96.04	1.70																																							14.51	0o22'			CH	Grey, brownish grey, fat clay
505	8686	4	B25	-0.27	U7	9.00	9.80	-9.27	-10.07	100.00	98.16	96.79	95.75	94.42	90.28	83.51	33.21		52.16	21.25	30.91			2.71																																																			CH	Yellowish grey, grey, fat clay
506	8687	4	B25	-0.27	U10	12.00	12.60	-12.27	-12.87	100.00	98.16	96.74	95.54	93.92	89.56	82.16	32.62	29.11	55.13	15.72	39.41	1.94	1.5	2.70	44.44	98.25	0.80	0.687		0.658	0.633	0.608	0.579	0.544	0.491	0.423		1.920	1.210	2.040	2.630	2.060	1.500	1.730		0.700	0.601	0.302	0.185	0.111	0.088	0.058	1.879	1.749	0.236	0.341	0.230	0.136	0.052	0.031	0.055	0.033	2.476					72.12				CH	Yellowish grey, fat clay with sand
507	8688	5	B25	-0.27	U13	15.00	15.90	-15.27	-16.17				100.0	99.90	99.88	94.09	47.84	42.35	63.31	23.30	40.01	1.76	1.24	2.70	54.07	97.15	1.18	1.301		1.284	1.269	1.249	1.218	1.073	0.824	0.634		2.300	2.380	2.500	4.770	1.130	0.480	0.640		0.300	0.269	0.179	0.138	0.337	0.320	0.137	2.842	0.703	0.157	0.502	0.630	0.274	0.050	0.022	0.137	0.060	2.562	0.97	3.14	0.95	2.29	45.68	1o28'			CH	Grey, bluish grey, fat clay
508	8689	5	B25	-0.27	D14	17.00	17.45	-17.27	-17.72				100.0	99.94	99.74	94.95	48.52		62.43	24.10	38.33			2.71																																																			CH	Grey, bluish grey, fat clay
509	8973	5	B25	-0.27	U17	20.00	20.60	-20.27	-20.87				100.0	99.94	99.70	92.16	41.19	42.69	63.44	22.24	41.20	1.75	1.23	2.71	54.61	96.17	1.20																																							62.75				CH	Grey, fat clay
510	8974	5	B25	-0.27	D20	23.00	23.45	-23.27	-23.72				100.0	99.92	99.86	94.67	48.67		62.69	23.24	39.45			2.70																																																			CH	Grey, fat clay
511	8975	5	B25	-0.27	D23	26.00	26.45	-26.27	-26.72				100.0	99.98	99.94	94.54	47.66		65.76	21.54	44.22			2.70																																																			CH	Grey, fat clay
512	8884	1b	B27	0.55	D1	1.00	1.45	-0.45	-0.90			100.0	99.9	99.84	98.94	84.89	19.06		42.55	15.24	27.31			2.69																																																			CL	Brownish grey, lean clay with sand
513	8885	1b	B27	0.55	U3	3.00	3.90	-2.45	-3.35			100.0	99.8	99.70	98.68	83.56	18.67	36.35	40.53	20.47	20.06	1.84	1.35	2.68	49.62	98.90	0.99	0.977	0.953	0.938	0.913	0.874	0.822	0.752	0.676		2.686	1.269	0.795	0.484	1.903	2.057	1.067		0.377	0.313	0.195	0.154	0.102	0.070	0.037		1.394	1.192	1.192	0.225	0.251	0.127	0.044	0.022	0.049	0.025	0.860	0.24	11.36	0.42	8.83	6.88	1o58'	25.00	22o26'	CL	Grey, lean clay with sand
514	8886	2	B27	0.55	U5	7.00	7.80	-6.45	-7.25				100.0	99.74	99.24	92.99	40.94	45.23	52.49	21.14	31.35	1.75	1.2	2.70	55.56	97.70	1.25	2.168	2.107	2.066	1.978	1.842	1.650	1.441	1.259		0.747	0.638	0.447	0.491	0.340	0.457	0.436		mv	1.546	1.297	1.112	0.866	0.606	0.331		0.597	0.427	0.427	0.219	0.605	0.191	0.213	0.067	0.085	0.028	0.510									CH	Grey, fat clay
515	8887	3c	B27	0.55	U8	10.00	10.80	-9.45	-10.25				100.0	93.80	74.80	7.20								2.64																																																				SP-SC	Yellowish grey, poorly graded sand with clay(or silty clay)
516	8888	3c	B27	0.55	D10	12.00	12.45	-11.45	-11.90		100.0	100.0	99.81	99.07	81.22	39.07	10.70		25.78	9.36	16.42			2.65																																																			SC	Yellowish grey, clayey sand
517	8889	5	B27	0.55	U11	13.00	13.80	-12.45	-13.25			100.0	99.64	99.18	95.41	83.88	36.65	34.07	43.74	17.65	26.09	1.86	1.39	2.70	48.51	97.65	0.94	1.184		1.154	1.126	1.080	1.009	0.890	0.755	0.620		3.870	1.070	1.140	0.650	0.540	0.450	0.460		0.550	0.527	0.436	0.349	0.305	0.185	0.100	1.678	0.519	0.390	0.191	0.450	0.206	0.091	0.042	0.111	0.051	1.482	0.53	2.60	0.65	9.66			8.03	23o47'	CL	Grey, lean clay with sand
518	8890	5	B27	0.55	D12	12.00	12.45	-11.45	-11.90				100.0	99.94	99.90	97.30	43.12		51.02	22.35	28.67			2.70																																																			CH	Grey, fat clay
519	8891	5	B27	0.55	U14	17.00	17.90	-16.45	-17.35					100.0	99.98	95.96	43.67	43.52	52.12	20.58	31.54	1.76	1.23	2.68	54.11	98.93	1.18	1.180		1.131	1.086	1.011	0.904	0.788	0.662	0.517		2.040	1.060	0.900	0.730	0.830	0.810	0.720		0.910	0.858	0.729	0.546	0.315	0.182	0.114	1.249	0.771	0.631	0.321	0.480	0.220	0.142	0.065	0.107	0.049	1.417	0.16	4.68	0.24	6.54	10.23	0o46'	22.00	17o55'	CH	Grey, fat clay
520	8992	5	B27	0.55	U18	22.00	22.90	-21.45	-22.35			100.0	99.9	99.64	98.98	92.82	41.45	48.77	52.68	16.20	36.48	1.72	1.16	2.70	57.04	99.16	1.33	1.089		1.060	1.037	1.011	0.977	0.887	0.738	0.599		2.350	2.600	5.780	6.200	1.230	1.160	1.650		0.570	0.439	0.260	0.170	0.233	0.205	0.105	3.847	1.330	0.210	0.540	0.460	0.220	0.065	0.031	0.090	0.043	2.409	0.86	3.80	0.78	3.70	43.11				CH	Grey, fat clay
521	8993	5	B27	0.55	U21	25.00	25.90	-24.45	-25.35				100.0	99.90	99.80	93.61	41.80	41.64	59.37	20.32	39.05	1.79	1.26	2.72	53.68	97.72	1.16	1.146		1.125	1.107	1.078	1.031	0.923	0.770	0.628		3.600	2.460	2.800	2.880	1.410	1.230	1.160		0.390	0.343	0.277	0.228	0.271	0.207	0.104	2.907	1.262	0.251	0.497	0.470	0.219	0.063	0.029	0.095	0.044	2.084	0.16	5.70			9.98				CH	Grey, fat clay
522	8894	1a	B29	0.55	D1	1.00	1.45	-0.45	-0.90		100.0	100.0	99.44	92.63	49.29	0.23								2.65																																																			SP	Grey, yellowish grey, poorly graded sand
523	8895	1b	B29	0.55	U2	2.00	2.90	-1.45	-2.35		100.0	98.86	98.54	98.15	97.48	56.95	11.29	33.24	34.42	16.20	18.22	1.86	1.4	2.68	47.75	97.47	0.91																																													CL	Brownish grey, sandy lean clay
524	8896	1b	B29	0.55	D3	4.00	4.45	-3.45	-3.90		100.0	99.00	98.80	98.31	97.64	54.87	13.04		32.51	16.32	16.19			2.69																																																			CL	Brownish grey, sandy lean clay
525	8897	2	B29	0.55	U5	6.00	6.90	-5.45	-6.35			100.0	99.66	99.56	99.42	98.33	44.86	37.29	81.81	30.36	51.45	1.82	1.33	2.70	50.74	97.75	1.03	1.402		1.351	1.308	1.221	1.069	0.910	0.760	0.619		2.910	2.440	0.930	0.610	0.780	0.720	0.900		0.870	0.736	0.769	0.710	0.400	0.204	0.104	2.665	0.779	0.739	0.368	0.470	0.196	0.153	0.064	0.083	0.035	0.827	0.40	4.65	0.22	3.62	6.48	1o57'	20.60	17o50'	CH	Grey, brownish grey, fat clay

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL	Sample No.	Depth (m)		Percent passed sieve size (mm)								Natural moisture content w (%)	Atterberg Limits			Bulk density (g/cm^3)		Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5) Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)																																			Unconfined compression test				UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5)		CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10		Soil group	Description
				(m)		GL-(m)	DL(m)	9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005		Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Natural	Dry					Initial Void ratio eo	Void ratio e at load P KN/m^2								Cv (Coefficient of Consolidation) at load $\sqrt{Pi-1 \times Pi}$ KN/m^2								mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m^2								Log Average in Over consolidated	Log Average in Nomal consolidated	Log Average at Load increment 1 - 2 KG/cm^2		Compression Index	Compression Ratio	Re-Compression Index	Re-compression Ratio	Swelling Index	Swelling Ratio	Over consolidation stress	Specimen 1		Specimen 2							
						From - To	From - To																				12.5	25	50	100	200	400	800	1600	12.5	25	50	100	200	400	800	1600	12.5	25	50	100	200	400	800	1600	Cv(o) $(10^{-3}cm^2/s)$	Cv(n) $(10^{-3}cm^2/s)$	mv (cm^2/KG)	k $(10^{-7}cm/s)$	Cc	CR = Cc/ (1+e0)	Cr	RR = Cr/ (1+e0)	Cs	SR = Cs/ (1+e0)	Pc (KG/cm^2)	q_u (KG/cm^2)	Failure Strain ef (%)	q_u (KG/cm^2)	Failure Strain ef (%)	Cuu (KN/m^2)	fuu (deg.)	Ccu (KN/m^2)	fcu (deg.)		
526	8898	2	B29	0.55	D6	8.00 - 8.45	-7.45 - -7.90			100.0	99.70	99.64	99.44	98.45	45.30		57.07	22.24	34.83			2.70																																																		CH	Brownish grey, fat clay
527	8899	3a	B29	0.55	U7	9.00 - 9.90	-8.45 - -9.35		100.0	99.73	98.30	91.69	70.98	3.82								2.65																																																	SP	Grey, poorly graded sand with shell
528	8900	3b	B29	0.55	D9	11.00 - 11.45	-10.45 - -10.90			100.0	99.94	98.96	98.94	53.29	14.86		26.53	10.23	16.30			2.67																																																		CL	Yellowish grey, light grey, sandy lean clay
529	8901	3b	B29	0.55	D11	13.00 - 13.45	-12.45 - -12.90			100.0	100.0	99.62	78.72	38.02	5.78		24.31	9.25	15.06			2.64																																																		SC	Yellowish grey, clayey sand
530	8902	5	B29	0.55	U12	14.00 - 14.80	-13.45 - -14.25			100.0	99.86	99.68	99.44	97.45		38.98	56.35	19.94	36.41	1.82	1.31	2.72	51.83	98.54	1.08	0.875		0.849	0.827	0.803	0.770	0.725	0.619	0.485		1.660	1.900	1.030	1.630	1.330	0.840	0.530		0.560	0.486	0.263	0.184	0.128	0.159	0.108	1.517	0.840	0.220	0.229	0.450	0.240	0.047	0.025	0.093	0.050	2.399	1.20	4.87	0.90	2.74	65.96		30.00	17o24'	CH	Grey, bluish grey, fat clay
531	8903	5	B29	0.55	D13	16.00 - 16.45	-15.45 - -15.90			100.0	99.90	99.84	99.54	97.95	20.97		55.04	21.25	33.79			2.70																																																		CH	Grey, bluish grey, fat clay
532	8904	5	B29	0.55	U15	18.00 - 18.90	-17.45 - -18.35				100.0	99.98	99.90	98.22	47.06	44.91	65.45	24.32	41.13	1.75	1.21	2.70	55.18	98.50	1.23	1.132		1.099	1.067	1.033	0.986	0.882	0.709	0.552		1.660	1.880	1.460	1.580	0.990	0.710	0.760		0.630	0.608	0.331	0.234	0.268	0.241	0.121	1.638	0.811	0.278	0.312	0.520	0.244	0.084	0.039	0.105	0.049	2.323	1.13	5.40	0.91	2.46	36.61	0o37'			CH	Grey, fat clay
533	8905	5	B29	0.55	D16	20.00 - 20.45	-19.45 - -19.90				100.0	99.98	99.90	98.30	47.59		54.57	21.36	33.21			2.71																																																		CH	Grey, fat clay
534	8906	5	B29	0.55	U18	22.00 - 22.90	-21.45 - -22.35			100.0	99.84	99.78	99.68	93.88	45.38	41.25	54.59	24.26	30.33	1.78	1.26	2.70	53.34	97.44	1.14																																					0.87	3.78	0.86	2.34					CH	Grey, fat clay
535	8907	5	B29	0.55	D19	24.00 - 24.45	-23.45 - -23.90			100.0	99.90	99.80	99.70	93.72	44.76		58.15	23.24	34.91			2.71																																																		CH	Grey, fat clay
536	8908	5	B29	0.55	D21	27.00 - 27.45	-26.45 - -26.90			100.0	99.92	99.78	99.60	94.62	44.13		52.07	22.45	29.62			2.70																																																		CH	Grey, fat clay
537	8800	1a	G1	1.45	D1	1.00 - 1.45	0.45 - 0.00		100.0	99.84	99.20	94.61	86.64	5.77								2.65																																																		SP-SC	Blackish grey, poorly graded sand with clay (or silty clay)
538	8801	1a	G1	1.45	D3	3.00 - 3.45	-1.55 - -2.00		100.0	99.80	97.26	90.68	84.70	9.01								2.64																																																		SP-SC	Blackish grey, poorly graded sand with clay (or silty clay)
539	8802	1b	G1	1.45	U5	5.00 - 5.90	-3.55 - -4.45			100.00	99.84	99.24	92.29	49.38	20.96	44.41	27.69	11.01	16.68	1.74	1.2	2.66	54.89	97.07	1.22	1.087	1.052	1.031	0.997	0.933	0.835	0.726	0.620		2.296	0.615	0.898	0.969	1.487	2.680	1.240		0.593	0.469	0.289	0.267	0.205	0.113	0.055		1.083	1.479	1.479	0.478	0.352	0.169	0.106	0.051	0.064	0.032	0.760	0.22	5.08	0.20	4.67	52.88				SC	Grey, clayey sand
540	8803	1b	G1	1.45	D7	8.00 - 8.45	-6.55 - -7.00			100.00	99.80	99.06	92.19	48.12	20.33		24.33	13.24	11.09			2.67																																																		SC	Blackish grey, clayey sand
541	8804	3b	G1	1.45	U11	12.00 - 12.90	-10.55 - -11.45			100.0	98.10	95.12	87.51	57.98	23.71	24.85	36.95	15.46	21.49	1.98	1.59	2.69	40.90	96.60	0.69	0.683	0.667	0.659	0.645	0.624	0.591	0.544	0.485		2.697	0.485	0.789	0.771	1.656	2.363	1.753		0.216	0.163	0.094	0.072	0.054	0.040	0.025		0.944	1.900	1.517	0.197	0.196	0.116	0.023	0.014	0.024	0.014	1.280	0.46	3.20	0.53	3.56	32.15	1o15'			CL	Yellowish grey, reddish brown, sandy lean clay
542	8805	4	G1	1.45	D14	15.00 - 15.45	-13.55 - -14.00				100.00	99.98	99.78	89.40	37.70		47.73	19.78	27.95			2.70																																																		CL	Brownish yellow, lean clay
543	8806	5	G1	1.45	U17	18.00 - 18.90	-16.55 - -17.45				100.00	99.96	99.94	93.32	48.16	49.98	58.96	20.93	38.03	1.71	1.14	2.72	58.09	98.08	1.39	1.438		1.417	1.396	1.356	1.296	1.150	0.948	0.771		3.480	2.670	1.800	1.430	0.780	0.520	0.590		0.350	0.342	0.342	0.256	0.328	0.247	0.119	2.211	0.621	0.296	0.306	0.590	0.242	0.077	0.032	0.128	0.053	2.034	0.59	4.63	0.69	5.27	30.51	1o45'			CH	Grey, fat clay
544	8807	5	G1	1.45	D19	21.00 - 21.45	-19.55 - -20.00				100.00	99.98	99.96	95.70	46.47		61.17	21.36	39.81			2.70																																																		CH	Grey, fat clay
545	8808	1a	G8	3.97	D1	1.00 - 1.45	2.97 - 2.52		100.0	100.0	99.6	99.19	83.29	2.20								2.64																																																		SP	Yellowish grey, poorly graded sand
546	8809	1a	G8	3.97	D3	3.00 - 3.45	0.97 - 0.52		100.0	95.79	93.60	88.36	69.95	3.23								2.65																																																		SP	Grey, blackish grey, poorly graded sand, with shell
547	8810	1a	G8	3.97	D4	4.00 - 4.45	-0.03 - -0.48		100.0	99.44	98.40	96.64	94.61	7.01								2.66																																																		SP-SC	Blackish grey, poorly graded sand with clay (or silty clay)
548	8811	1b	G8	3.97	U6	6.00 - 6.70	-2.03 - -2.73			100.0	99.72	99.16	98.29	66.70	16.85	39.25	41.87	22.90	18.97	1.78	1.28	2.68	52.24	96.15	1.09	1.047	1.019	1.001	0.958	0.895	0.799	0.693	0.589		1.194	1.022	0.898	0.969	1.487	2.680	1.240		0.457	0.373	0.356	0.256	0.197	0.109	0.053		1.031	1.479	1.479	0.478	0.345	0.169	0.092	0.045	0.065	0.032	0.630					9.23	0o28'			CL	Blackish grey, sandy lean clay
549	8812	2	G8	3.97	D8	8.00 - 8.45	-4.03 - -4.48			100.0	99.82	99.67	99.42	97.73	39.85		64.17	25.88	38.29			2.70																																																		CH	Brownish grey, fat clay
550	8813	2	G8	3.97	D11	11.00 - 11.45	-7.03 - -7.48			100.0	99.75	99.70	99.47	98.21	40.10		68.06	34.84	33.22			2.71																																																		CH	Brownish grey, fat clay
551	8814	3b	G8	3.97	U13	13.00 - 13.60	-9.03 - -9.63		100.0	99.70	99.60	99.46	99.28	92.03	16.49	33.12	39.51	18.45	21.06	1.88	1.41	2.69	47.59	98.12	0.91	1.103	1.063	1.044	1.004	0.950	0.875	0.787	0.695		2.300	0.697	1.126	1.818	1.294	2.786	0.562		0.671	0.496	0.335	0.230	0.157	0.092	0.048		1.218	1.385	1.385	0.469	0.306	0.145	0.100	0.047	0.080	0.039	0.960							81.75		CL	Brownish grey, grey, lean clay
552	8815	3b	G8	3.97	D15	15.00 - 15.45	-11.03 - -11.48			100.0	100.0	99.38	94.69	65.15	19.05		31.89	13.47	18.42			2.68																																																		CL	Yellowish grey, light grey, sandy lean clay
553	8816	4	G8	3.97	D17	17.00 - 17.45	-13.03 - -13.48		100.0	100.0	99.94	99.78	99.62	97.73	53.39		54.40	19.20	35.20			2.70																																																		CH	Yellowish grey, light grey, fat clay
554	8817	4	G8	3.97	D19	19.00 - 19.45	-15.03 - -15.48			100.0	99.75	99.63	99.56	94.41	45.05		64.88	22.40	42.48			2.71																																																		CH	Yellowish grey, fat clay
555	8818	5	G8	3.97	D21	21.00 - 21.45	-17.03 - -17.48			100.0	100.0	99.96	99.94	98.08	54.68		63.23	22.90	40.33			2.70																																																		CH	Grey, fat clay
556	8819	5	G8	3.97	U23	23.00 - 23.90	-19.03 - -19.93			100.0	99.88	99.80	99.66	98.54		51.35	70.90	23.77	47.13	1.70	1.12	2.70	58.52	98.26	1.41	1.502		1.485	1.467	1.440	1.395	1.238	0.998	0.806		2.920	3.110	4.130	3.430	0.680	0.700	0.770		0.270	0.289	0.216	0.185	0.341	0.282	0.126	3.368	0.716	0.200	0.383	0.640	0.256	0.074	0.030	0.132	0.053	2.422	0.68	2.47	0.67	2.99	28.68	0o36'			CH	Grey, fat clay
557	8820	5	G8	3.97	D26	26.00 - 26.45	-22.03 - -22.48		100.0	99.90	99.85	99.80	99.73	91.26	40.38		58.73	22.50	36.23			2.70																																																		CH	Grey, fat clay
558	8821	1a	G9	3.05	D1	1.00 - 1.45	2.05 - 1.60		100.0	99.63	99.37	98.98	91.35	1.12								2.65																																																		SP	Yellowish grey, blackish grey, poorly graded sand
559	8822	1b	G9	3.05	U3	3.00 - 3.80	0.05 - -0.75			100.0	99.80	99.50	98.76	60.86	6.39	38.16	41.66	36.87	4.79	1.79	1.3	2.69	51.67	96.02	1.07	1.318	1.282	1.254	1.209	1.143	1.059	0.966	0.866		1.533	0.850	0.691	0.782	0.994	2.477	0.514		0.666	0.594	0.414	0.306	0.194	0.108	0.058		0.966	0.998	0.998	0.267	0.333	0.144	0.121	0.052	0.080	0.035	0.890	0.21	3.56	0.28	13.98			10.00	23o16'	CL	Grey, sandy lean clay
560	8823	1b	G9	3.05	U6	6.00 - 6.60	-2.95 - -3.55			100.0	100.0	99.94	99.92	98.46	49.60	33.77	42.75	21.28	21.47	1.86	1.39	2.68	48.13	97.53	0.93	0.970	0.944	0.926	0.898	0.855	0.794	0.719	0.636		1.150	0.536	0.376	0.471	2.572	3.747	1.120		0.419	0.347	0.220	0.171	0.119	0.075	0.041		0.575	2.210	1.501	0.294	0.275	0.139	0.068	0.034	0.054	0.028	1.030	0.34	8.07			4.80	0o59'			CL	Grey, brownish grey, lean clay
561	8824	2	G9	3.05	D8	8.00 - 8.45	-4.95 - -5.40			100.0	99.94	99.92	99.80	98.40	30.58		62.06	23.20	38.86			2.70																																																		CH	Grey, fat clay
562	8825	2	G9	3.05	D10	10.00 - 10.45	-6.95 - -7.40		100.0	100.0	99.90	99.85	99.78	92.50	41.26		57.62	23.35	34.27			2.71																																																		CH	Grey, fat clay
563	8826	2	G9	3.05	D12	12.00 - 12.45	-8.95 - -9.40			100.0	99.90	99.80	99.78	98.38	30.32		54.77	26.20	28.57			2.70																																																		CH	Grey, fat clay
564	8827	3b	G9	3.05	U14	14.00 - 14.80	-10.95 - -11.75			100.0	100.0	99.76	99.34	65.01	26.14	32.24	37.46	17.80	19.66	1.86	1.41	2.68	47.40	95.90	0.90	1.182		1.151	1.132	1.097	0.988	0.823	0.691	0.541		1.238	1.665	1.028	0.571	0.563	0.770	0.681		0.266	0.218	0.151	0.239	0.179	0.072	0.041	1.285	0.641	0.710	0.551	0.496	0.227	0.054	0.025	0.078	0.036	1.120					14.75		24.60	18o18'	CL	Yellowish grey, sandy lean clay
565	8828	4	G9	3.05	U17	17.00 - 17.80	-13.95 - -14.75			100.0	99.90	99.84	99.68	96.69	50.17	34.61	47.91	17.62	30.29	1.86	1.38	2.70	48.90	97.65	0.96	0.934	0.912	0.896	0.865	0.814	0.751	0.679	0.603		0.953	0.393	0.342	0.275	0.310	0.432	0.423		0.338	0.296	0.242	0.195	0.123	0.070	0.037		0.504	0.353	0.353	0.080	0.254	0.131	0.062	0.032	0.049	0.026	0.670	0.12	8.09	0.07	9.66			16.27	18o37'	CL	Brownish grey, yellowish grey, lean clay
566	8829	4	G9	3.05	D19	19.00 - 19.45	-15.95 - -16.40			100.0	100.0	99.86	99.70	96.71	52.71		59.50	22.79	36.71			2.69																																																		CH	Yellowish grey, brownish grey, fat clay
567	8830	5	G9	3.05	D21	21.00 - 21.45	-17.95 - -18.40			100.0	99.94	99.74	99.62	97.73	54.00		70.49	23.19	47.30			2.70																																																		CH	Yellowish grey, light grey, fat clay
568	8831	5	G9	3.05	U23	23.00 - 23.70	-19.95 - -20.65			100.0	100.0	99.88	99.78	95.61	41.33	47.06	65.41	23.49	41.92	1.72	1.17	2.71	56.82	96.91	1.32	1.398		1.385	1.371	1.348	1.307	1.130	0.933	0.772		3.560	2.700	3.540	3.390	0.540	0.670	0.910		0.210	0.234	0.201	0.177	0.398	0.243	0.109	3.277	0.691	0.189	0.358	0.530	0.221	0.078	0.033	0.120	0.050	2.099	0.73	1.72					5.76	21o12'	CH	Grey, yellowish grey, fat clay
569	8832	5	G9	3.05	D25	25.00 - 25.45	-21.95 - -22.40				100.0	99.90	99.78	95.99	26.06		62.08	22.36	39.72			2.70																																																		CH	Grey, fat clay
570	8833	5	G9	3.05	D27	27.00 - 27.45	-23.95 - -24.40				100.0	99.98	99.84	95.85	26.81		61.96	19.62	42.34			2.71																																																		CH	Grey, fat clay
571	8976	2	T2	-1.42	D1	1.00 1.45	-2.42 - -2.87			100.00	99.48	99.24	98.82	92.63	37.87		56.91	25.46	31.45			2.70																																																		CH	Brownish grey, fat clay
572	8977	2	T2	-1.42	U2	2.00 2.80	-3.42 - -4.22				100.0	99.86	98.14	94.16	45.40	58.11	61.72	20.33	41.39	1.65	1.04	2.71	61.63	98.06	1.606																																					0.22	4.00			13.39	1º49'	19.37	17o35'	CH	Brownish grey, fat clay
573	8978	2	T2	-1.42	D3	4.00 4.45	-5.42 - -5.87			100.00	99.32	99.22	99.18	92.46	40.64		59.07	29.60	29.47			2.71																																																	CH	Brownish grey, fat clay
574	8979	3a	T2	-1.42	D4	6.00 6.45	-7.42 - -7.87			100.00	99.84	99.52	71.97	7.86	0.00							2.66																																																		SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
575	8980	3a	T2	-1.42	D5	7.00 7.45	-8.42 - -8.87			100.00	99.98	97.94	65.19	10.10	0.00							2.65																																																		SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
576	8981	3a	T2	-1.42	D6	8.00 8.45	-9.42 - -9.87			100.00	99.84	99.12	71.01	10.92	0.00							2.66																																																		SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
577	8982	3a	T2	-1.42	D7	9.00 9.45	-10.42 - -10.87			100.00	99.82	98.04	70.94	9.34	0.00							2.66																																																		SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
578	8983	3a	T2	-1.42	D8	10.00 10.45	-11.42 - -11.87			100.00	99.90	99.34	59.68	11.83	0.00							2.65																																																	SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
579	8984	3a	T2	-1.42	D9	11.00 11.45	-12.42 - -12.87			100.00	99.88	96.60	54.95	11.50	0.00							2.66																																																	SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
580	8985	3a	T2	-1.42	D10	12.00 12.45	-13.42 - -13.87			100.00	99.88	99.26	57.75	9.41	0.00							2.66																																																	SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
581	8986	5	T2	-1.42	D11	13.00 13.45	-14.42 - -14.87					100.0	99.98	98.24	49.38		57.02	21.76	35.26			2.72																																																		CH	Grey, fat clay
582	8987	5	T2	-1.42	U12	14.00 14.80	-15.42 - -16.22				100.0	99.80	98.88	93.18	47.52	40.25	55.74	21.40	34.34	1.79	1.28	2.71	52.76	97.65	1.117	1.045		1.005	0.974	0.941	0.898	0.806	0.671	0.545		0.910	0.860	1.320	1.520	1.030	0.640	0.720		0.804	0.621	0.336	0.225	0.248	0.194	0.098	1.119	0.780	0.275	0.387	0.420	0.205	0.100	0.049	0.097	0.047	2.383	1.05	5.60	1.02	6.10	54.86	0º22'			CH	Grey, fat clay
583	8988	5	T2	-1.42	D13	16.00 16.45	-17.42 - -17.87				100.0	99.96	99.74	96.19	51.95		60.10	22.45	37.65			2.72																																																		CH	Grey, fat clay
584	8989	5	T2	-1.42	D14	17.00 17.45	-18.42 - -18.87			100.00	99.58	98.84	98.09	95.52	31.01		56.75	20.98	35.77			2.70																																																	CH	Grey, fat clay
585	8990	5	T2	-1.42	U15	18.00 18.80	-19.42 - -20.22			100.00	99.96	99.92	99.90	98.16	52.51	37.86	61.44	21.35	40.09	1.75	1.27	2.70	52.96	90.78	1.126	1.213		1.177	1.146	1.110	1.062	0.966	0.779	0.616		1.380	0.780	0.860	0.960	0.880	0.520	0.500		0.653	0.571	0.345	0.227	0.239	0.250	0.120	0.971	0.612	0.280	0.252	0.540	0.244	0.106	0.048	0.126	0.057	2.759	1.34	6.10	1.29	7.10	40.77	2º42'			CH	Grey, fat clay
586	8991	5	T2	-1.42	D16	20.00 20.45	-21.42 - -21.87				100.0	99.96	99.92	98.60	47.28		66.02	21.82	44.20			2.71																																																		CH	Grey, fat clay
587	8992	5	T2	-1.42	U17	21.00 21.50	-22.42 - -22.92			100.00	99.96	99.44	94.37	69.04	30.33	41.31	52.67	21.81	30.86	1.78	1.26	2.71	53.51	97.26	1.151	1.213		1.183	1.157	1.116	1.029	0.916	0.815	0.685		1.040	0.960	0.920	0.910	0.900	0.870	0.810		0.550	0.469	0.391	0.416	0.288	0.136	0.093	0.972	0.872	0.403	0.366	0.430	0.194	0.114	0.052	0.073	0.033	1.924	0.86	3.80	0.78	3.70	26.28	3º04'	31.70	16º22'	CH	Grey, sandy fat clay
588	8993	1a	T4	-1.33	D1	1.00 1.45	-2.33 - -2.78			100.00	91.24	89.34	51.32	11.44	0.00							2.66																																																		SP-SC	Grey, poorly graded sand with clay (or silty clay)
589	8994	2	T4	-1.33	U2	2.00 2.90	-3.33 - -4.23			100.00	99.94	99.80	99.44	93.39	24.03	49.02	50.23	32.99	17.24	1.72	1.15	2.68	57.08	98.78	1.330	1.181	1.141	1.112	1.062	0.990	0.906	0.812	0.705		1.003	1.736	1.679	2.851	1.877	4.019	1.186		0.704	0.602	0.435	0.313	0.183	0.103	0.058		1.430	2.247	0.239	0.764	0.354	0.162	0.125	0.057	0.088	0.042	0.950	0.35	4.24	0.55	8.20	2.24	0º32'	17.87	21º43'	CH	Brownish grey, fat clay
590	8995	2	T4	-1.34	D3	4.00 4.45	-5.34 - -5.79			100.00	99.96	99.86	99.44	93.45	24.63		53.15	27.14	26.01			2.69																																																		CH	Brownish grey, fat clay
591	8996	2	T4	-1.35	U4	5.00 5.90	-6.35 - -7.25			100.00	98.50	93.85	79.70	52.35	19.98	37.85	45.69	29.57	16.12	1.81	1.31	2.68	51.12	96.98	1.046	1.201	1.177	1.156	1.119	1.049	0.929	0.809	0.687		2.488	1.273	0.967	1.019	1.002	1.716	1.149		0.430	0.396	0.321	0.310	0.264	0.132	0.067		1.452	1.191	0.286	0.444	0.405	0.184	0.110	0.050	0.092	0.043	0.760	0.14	3.23	0.16	7.92	7.82	0º24'			CL	Grey, sandy lean clay
592	8997	3b	T4	-1.36	D5	6.00 6.45	-7.36 - -7.81		100.00	99.69	91.10	58.55	58.50	34.28	0.00		33.34	15.67	17.67			2.66																																																		SC	Grey, clayey sand with shell
593	8998	3c	T4	-1.37	D6	7.00 7.45	-8.37 - -8.82			100.00	99.88	99.34	71.62	11.43	0.00							2.66																																																		SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
594	8999	3c	T4	-1.38	D7	8.00 8.45	-9.38 - -9.83			100.00	95.98	95.46	72.55	11.70	0.00							2.65																																																	SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
595	9000	3c	T4	-1.39	D8	9.00 9.45	-10.39 - -10.84		100.00	99.71	90.95	57.39	47.31	11.89	0.00							2.66																																																	SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
596	9001	4	T4	-1.40	U9	10.00 10.60	-11.40 - -12.00			100.00	99.98	99.90	99.50	93.75	26.96	22.11	29.03	13.34	15.69	1.96	1.61	2.69	40.16	88.64	0.671	1.665		1.646	1.625	1.590	1.545	1.484	1.412	1.315		0.434	0.865	0.679	1.164	1.072	1.959	0.765		0.206	0.213	0.185	0.121	0.081	0.048	0.032	0.738	1.171	0.150	0.120	0.322	0.121	0.052	0.019	0.069	0.026	2.770	0.21	3.74			8.54				CL	Yellowish grey, light grey, lean clay
597	9002	4	T4	-1.41	D10	11.00 11.45	-12.41 - -12.86		100.00	99.24	98.39	96.46	92.60	83.04	37.48		53.33	16.71	36.62			2.71																																																		CH	Yellowish grey, light grey, fat clay with sand
598	9003	4	T4	-1.42	D11	12.00 12.45	-13.42 - -13.87		100.00	99.77	99.61	99.32	98.77	95.85	52.01		51.91	19.32	32.59			2.73																																																		CH	Yellowish grey, light grey, fat clay
599	9004	4	T4	-1.43	D12	13.00 13.45	-14.43 - -14.88		100.00	99.76	99.14	98.33	97.23	92.52	47.22		55.09	19.15	35.94			2.72																																																		CH	Yellowish grey, light grey, fat clay
600	9005	5	T4	-1.44	D13	14.00 14.45	-15.44 - -15.89					100.0	99.98	98.80	36.46		55.97	19.70	36.27			2.71																																																		CH	Grey, fat clay
601	9006	5	T4	-1.45	U14	15.00 15.90	-16.45 - -17.35				100.0	99.92	99.66	93.96	48.58	38.18	53.88	20.80	33.08	1.84	1.33	2.72	51.10	99.38	1.045	1.030		1.006	0.986	0.961	0.928	0.870	0.743	0.606		1.710	2.840	6.220	4.310	1.550	1.690	1.710		0.470	0.401	0.251	0.171	0.153	0.176	0.102	3.378	1.648	0.207	1.069	0.460	0.227	0.032	0.016	0.094	0.046	2.249	1.49	4.01	1.38	5.74	51.60	0º11'	22.72	17o16'	CH	Grey, fat clay
602	9007	5	T4	-1.46	D15	17.00 17.45	-18.46 - -18.91				100.0	99.96	99.56	94.18	47.36		57.69	21.03	36.66			2.71																																																		CH	Grey, fat clay
603	9008	5	T4	-1.47	U16	18.00 18.90	-19.47 - -20.37					100.0	99.94	98.42	51.61	43.17	64.97	20.13	44.84	1.75	1.22	2.72	55.16	95.47	1.230	1.258		1.240	1.219	1.198	1.166	1.087	0.906	0.693		3.150	1.850	1.540	2.330	1.250	0.700	0.810		0.330	0.381	0.187	0.149	0.185	0.227	0.148	2.138	0.892	0.167	0.315	0.710	0.314	0.044	0.019	0.107	0.047	2.648	1.23	2.62	1.24	3.67	59.52	0º10'			CH	Grey, fat clay
604	9009	5	T4	-1.48	D17	20.00 20.46	-21.48 - -21.94				100.0	99.98	99.94	96.60	52.12		61.06	20.99	40.07			2.71																																																		CH	Grey, fat clay
605	9010	5	T4	-1.49	D18	21.00 21.45	-22.49 - -22.94					100.0	99.96	97.72	45.71		66.40	19.98	46.42			2.70																																																		CH	Grey, fat clay
606	9011	5	T4	-1.50	D19	23.00 23.45	-24.50 - -24.95			100.00	99.94	99.78	99.76	94.23	45.73		62.69	21.46	41.23			2.71																																																	CH	Grey, fat clay
607	9012	1b	T6	-0.65	D1	1.00 1.45	-1.65 - -2.10			100.00	99.74	99.58	99.16	75.26	17.35		46.34	30.56	15.78			2.69																																																	CL	Grey, brownish grey, lean clay with sand
608	9013	2	T6	-0.65	U2	2.00 2.80	-2.65 - -3.45				100.0	99.82	99.20	92.20	23.39	39.52	42.50	26.67	15.83	1.80	1.29	2.68	51.88	98.25	1.078	0.980	0.960	0.944	0.919	0.879	0.810	0.723	0.631		2.320	2.908	1.563	1.445	1.055	1.091	0.942		0.304	0.284	0.193	0.161	0.136	0.086	0.046		1.976	1.027	0.148	0.373	0.306	0.155	0.064	0.032	0.058	0.030	1.070	0.20	3.60	0.14	7.00	9.82	0º55'	16.52	21º29'	CL	Grey, brownish grey, lean clay
609	9014	2	T6	-0.65	D3	4.00 4.45	-4.65 - -5.10		100.00	99.79	99.61	99.39	99.21	97.60	42.32		62.90	29.54	33.36			2.72																																																	CH	Brownish grey, fat clay
610	9015	2	T6	-0.65	U4	6.00 6.80	-6.65 - -7.45			100.00	98.26	97.95	97.05	90.18	31.03	65.23	69.74	30.89	38.85	1.61	0.97	2.70	64.08	98.72	1.784	1.769	1.725	1.685	1.614	1.499	1.302	1.061	0.803		1.008	0.730	0.528	0.486	0.352	0.632	0.497		0.982	0.936	0.782	0.636	0.546	0.334	0.179		0.659	0.480	0.590	0.278	0.858	0.310	0.177	0.064	0.152	0.057	1.060	0.53	3.80	0.49	4.10	18.38	0º35'			CH	Brownish grey, fat clay
611	9016	3b	T6	-0.65	D5	7.00 7.45	-7.65 - -8.10			100.00	98.26	95.88	80.17	40.97	13.43		20.85	13.48	7.37			2.67																																																	SC	Brownish grey, clayey sand
612	9017	3b	T6	-0.65	D6	8.00 8.45	-8.65 - -9.10		100.00	99.91	99.77	98.43	88.76	39.53	22.89		30.62	15.64	14.98			2.69																																																	SC	Yellowish grey, reddish brown, clayey sand
613	9018	3b	T6	-0.65	U7	9.00 9.80	-9.65 - -10.45			100.00	99.80	98.30	89.49	43.96	19.20	22.73	30.39	14.28	16.11	2.00	1.63	2.69	39.39	94.07	0.650	0.611		0.596	0.586	0.573	0.554	0.526	0.487	0.438		1.190	2.050	2.400	2.320	2.200	2.210	2.160		0.372	0.253	0.165	0.120	0.092	0.065	0.042	1.920	2.190	0.141	0.332	0.160	0.099	0.033	0.020	0.023	0.014	2.798	0.16	1.40			12.16	1º28'			SC	Yellowish grey, reddish brown, clayey sand
614	9019	3b	T6	-0.65	D8	10.00 10.45	-10.65 - -11.10			100.00	99.80	98.62	89.11	47.26	18.92		33.61	17.24	16.37			2.68																																																	SC	Yellowish grey, reddish brown, clayey sand
615	9020	3b	T6	-0.65	D9	11.00 11.45	-11.65 - -12.10		100.00	99.02	98.31	95.83	85.75	49.03	20.01		35.44	20.43	15.01			2.69																																																	SC	Yellowish grey, reddish brown, clayey sand
616	9021	4	T6	-0.65	U10	12.00 12.40	-12.65 - -13.05			100.00	98.92	97.91	96.64	92.74	47.67	31.18	62.69	20.47	42.22	1.89	1.44	2.71	46.87	95.80	0.882	0.819		0.792	0.773	0.755	0.733	0.700	0.643	0.557		0.620	0.950	0.910	0.990	1.010	0.920	0.880		0.590	0.435	0.204	0.125	0.096	0.085	0.067	0.853	0.935	0.160	0.152	0.290	0.159	0.048	0.026	0.071	0.039	3.803	0.28	3.80	0.85	4.00	62.81				CH	Yellowish grey, fat clay
617	9022	4	T6	-0.65	D11	13.00 13.45	-13.65 - -14.10	100.00	96.20	92.79	91.95	90.92	89.16	84.17	33.37		55.63	22.91	32.72			2.70																																																		CH	Yellowish grey, fat clay with sand
618	9023	4	T6	-0.65	D12	14.00 14.45	-14.65 - -15.10	100.00	96.12	93.12	92.08	91.29	89.76	84.59	33.60		63.55	18.75	44.80			2.70																																																		CH	Yellowish grey, fat clay with sand
619	9024	5	T6	-0.65	U13	15.00 15.50	-15.65 - -16.15			100.00	99.98	99.94	99.92	97.64	45.44	51.01	74.77	26.55	48.22	1.61	1.07	2.71	60.52	90.17	1.533	1.168		1.161	1.144	1.123	1.094	1.036	0.875	0.689		4.360	3.660	3.890	2.860	2.180	0.610	0.500		0.140	0.306	0.201	0.137	0.141	0.205	0.130	3.650	0.873	0.166	0.546	0.620	0.286	0.045	0.021	0.120	0.055	3.326	0.61	1.80	1.39	2.80	38.52	1º25'			CH	Grey, fat clay
620	9025	5	T6	-0.65	D14	17.00 17.45	-17.65 - -18.10					100.0	99.98	98.86	44.35		65.20	22.58	42.62			2.72																																																		CH	Grey, fat clay
621	9026	5	T6	-0.65	D15	18.00 18.45	-18.65 - -19.10				100.0	99.98	99.96	99.00	46.96		68.51	24.67	43.84			2.71																																																		CH	Grey, fat clay
622	9027	5	T6	-0.65	U16	19.00 19.80	-19.65 - -20.45					100.0	99.94	96.30	13.05	45.21	53.49	23.76	29.73	1.71	1.18	2.70	56.29	94.77	1.288	1.308		1.275	1.250	1.216	1.159	1.045	0.841	0.677		0.920	1.120	1.380	1.870	0.970	0.510	0.550		0.576	0.439	0.306	0.260	0.271	0.262	0.117	1.277	0.648	0.282	0.451	0.540	0.234	0.093	0.040	0.113	0.049	2.511	1.05	3.30	1.17	4.00	54.61	3º33'	26.00	21º40'	CH	Grey, fat clay
623	9028	5	T6	-0.65	D17	21.00 21.45	-21.65 - -22.10					100.0	99.98	99.30	49.15		71.56	21.89	49.67			2.72																																																		CH	Grey, fat clay
624	9029	5	T6	-0.65	D18	22.00 22.45	-22.65 - -23.10			100.00	99.83	99.70	99.67	98.27	47.14		73.05	25.87	47.18			2.72																																																	CH	Grey, fat clay
625	9030	5	T6	-0.65	D19	23.00 23.45	-23.65 - -24.10			100.00	99.91	99.74	99.68	96.18	46.60		67.63	26.45	41.18			2.71																																																	CH	Grey, fat clay
626	9031	5	T6	-0.65	D20	24.00 24.45	-24.65 - -25.10			100.00	99.97	99.94	99.81	97.85	39.19	42.98	56.08	21.79	34.29			2.71																																																	CH	Grey, fat clay
627	9032	1b	T8	-1.10	D1	1.00 1.45	-2.10 - -2.55			100.00	99.44	98.53	97.03	82.88	15.66		38.11	22.15	15.96			2.67																																																	CL	Grey, brownish grey, lean clay with sand
628	9033	1b	T8	-1.10	U2	2.00 2.80	-3.10 - -3.90				100.0	99.76	99.14	94.46	21.62	38.03	40.42	29.89	10.53	1.81	1.31	2.68	51.12	97.44	1.046	0.969	0.955	0.940	0.915	0.877	0.816	0.741	0.656		1.809	1.606	1.013	1.267	1.442	1.405	1.525		0.230	0.233	0.194	0.150	0.120	0.074	0.042		1.389	1.457	0.134	0.357	0.281	0.143	0.060	0.030	0.045	0.023	1.140	0.58	5.20	0.67	5.60	14.92	1º38'	16.89	22º47'	CL	Grey, brownish grey, lean clay
629	9034	2	T8	-1.10	D3	4.00 4.45	-5.10 - -5.55			100.00	99.72	99.50	99.08	97.38	46.55		50.88	18.67	32.21			2.71																																																	CH	Brownish grey, fat clay
630	9035	2	T8	-1.10	U4	6.00 6.80	-7.10 - -7.90			100.00	98.34	96.22	95.33	94.97	47.69	35.68	50.60	21.93	28.67	1.83	1.35	2.67	49.44	97.41	0.978	0.960	0.939	0.919	0.887	0.832	0.737	0.632	0.530		0.721	1.136	1.238	0.926	0.883	1.642	0.825		0.332	0.321	0.254	0.218	0.186	0.103	0.050		1.005	1.026	0.201	0.368	0.339	0.173	0.069	0.035	0.044	0.023	0.650	0.30	6.00							CH	Brownish grey, fat clay

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From	Depth GL-(m) To	Depth DL(m) From	Depth DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm^3) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Soil group	Description
631	9036	3b	T8	-1.10	D5	7.00	7.45	-8.10	-8.55		100.00	99.58	98.60	97.30	84.44	32.29	8.10		21.90	14.56	7.34			2.67				SC	Yellowish grey, clayey sand
632	9037	3b	T8	-1.10	D6	8.00	8.45	-9.10	-9.55		100.00	99.52	98.52	97.14	95.82	36.37	8.69		22.04	14.64	7.40			2.66				SC	Yellowish grey, clayey sand
633	9038	3b	T8	-1.10	U7	9.00	9.80	-10.10	-10.90			100.00	97.64	95.90	92.01	45.10	16.21	25.30	32.26	15.70	16.56	1.85	1.48	2.69	44.99	83.20	0.818	SC	Yellowish grey, clayey sand
634	9039	3b	T8	-1.10	D8	10.00	10.45	-11.10	-11.55		100.00	89.00	86.90	85.21	80.20	46.13	12.36		32.67	17.54	15.13			2.67				SC	Yellowish grey, clayey sand
635	9040	3b	T8	-1.10	D9	11.00	11.45	-12.10	-12.55			100.00	99.06	97.71	92.79	43.95	17.71		32.47	16.48	15.99			2.68				SC	Yellowish grey, clayey sand
636	9041	4	T8	-1.10	U10	12.00	12.60	-13.10	-13.70			100.00	99.82	99.72	99.66	98.11	51.06	31.29	58.17	21.53	36.64	1.89	1.44	2.71	46.87	96.14	0.882	CH	Yellowish grey, brownish grey, fat clay
637	9042	4	T8	-1.10	D11	13.00	13.45	-14.10	-14.55		100.00	97.92	91.18	88.79	87.76	84.16	26.11		56.84	22.57	34.27			2.69				CH	Yellowish grey, brownish grey, fat clay with sand
638	9043	4	T8	-1.10	D12	14.00	14.45	-15.10	-15.55			100.00	93.22	91.49	90.45	85.91	33.32		54.90	20.87	34.03			2.71				CH	Yellowish grey, brownish grey, fat clay
639	9044	5	T8	-1.10	U13	15.00	15.80	-16.10	-16.90				100.0	99.96	99.84	94.59	47.35	42.41	63.18	21.06	42.12	1.78	1.25	2.70	53.70	98.71	1.160	CH	Grey, fat clay
640	9045	5	T8	-1.10	D14	17.00	17.45	-18.10	-18.55					100.0	99.94	97.00	44.45		63.19	20.87	42.32			2.71				CH	Grey, fat clay
641	9046	5	T8	-1.10	D15	18.00	18.45	-19.10	-19.55					100.0	99.76	97.01	46.87		65.62	21.98	43.64			2.72				CH	Grey, fat clay
642	9047	5	T8	-1.10	D16	19.00	19.45	-20.10	-20.55					100.0	99.84	96.98	49.72		69.52	22.56	46.96			2.71				CH	Grey, fat clay
643	9048	5	T8	-1.10	U17	20.00	20.80	-21.10	-21.90				100.0	99.74	99.38	96.46	40.11	49.11	72.29	21.86	50.43	1.73	1.16	2.70	57.04	99.85	1.328	CH	Grey, fat clay
644	9049	5	T8	-1.10	D18	22.00	22.45	-23.10	-23.55					100.0	99.96	98.82	43.83		73.00	19.87	53.13			2.71				CH	Grey, fat clay
645	9050	5	T8	-1.10	D19	23.00	23.45	-24.10	-24.55					100.0	99.95	97.43	41.92		70.11	20.04	50.07			2.71				CH	Grey, fat clay
646	9051	5	T8	-1.10	D20	24.00	24.45	-25.10	-25.55					100.0	99.88	98.28	35.62		71.85	21.54	50.31			2.70				CH	Grey, fat clay
647	9052	1b	T10	-1.81	D1	1.00	1.45	-2.81	-3.26				100.0	99.94	99.82	93.39	21.91		46.22	24.03	22.19			2.68				CL	Grey, brownish grey, lean clay
648	9053	1b	T10	-1.81	U2	2.00	2.90	-3.81	-4.71			100.00	99.84	99.22	98.58	77.52	24.03	38.20	40.10	23.47	16.63	1.79	1.3	2.69	51.67	96.13	1.069	CL	Grey, brownish grey, lean clay with sand
649	9054	2	T10	-1.81	D3	3.00	3.45	-4.81	-5.26				100.0	99.89	99.06	93.37	47.16		71.79	26.45	45.34			2.72				CH	Brownish grey, fat clay
650	9055	2	T10	-1.81	D4	4.00	4.45	-5.81	-6.26			100.00	99.83	99.54	98.15	88.87	44.37		79.05	28.12	50.93			2.71				CH	Brownish grey, fat clay
651	9056	3a	T10	-1.81	U5	5.00	5.90	-6.81	-7.71			100.00	98.88	97.12	67.30	11.44	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
652	9057	3a	T10	-1.81	D6	6.00	6.45	-7.81	-8.26		100.00	97.75	96.79	94.99	57.35	11.03	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
653	9058	4	T10	-1.81	D7	7.00	7.45	-8.81	-9.26			100.00	99.60	98.38	95.23	88.18	42.84		50.31	19.54	30.77			2.71				CH	Yellowish grey, reddish brown, fat clay
654	9059	4	T10	-1.81	D8	8.00	8.45	-9.81	-10.26		100.00	99.50	98.58	97.22	94.17	85.43	43.72		52.03	17.46	34.57			2.72				CH	Yellowish grey, reddish brown, fat clay
655	9060	4	T10	-1.81	D9	9.00	9.45	-10.81	-11.26			100.00	99.58	98.52	95.51	85.79	46.11		50.10	18.02	32.08			2.71				CH	Yellowish grey, reddish brown, fat clay
656	9061	4	T10	-1.81	D10	10.00	10.45	-11.81	-12.26		100.00	99.80	98.50	96.79	92.05	79.99	42.38		50.31	17.93	32.38			2.72				CH	Yellowish grey, reddish brown, fat clay with sand
657	9062	4	T10	-1.81	D11	11.00	11.45	-12.81	-13.26			100.00	98.88	97.77	93.21	83.57	42.90		50.93	18.34	32.59			2.71				CH	Yellowish grey, reddish brown, fat clay with sand
658	9063	4	T10	-1.81	D12	12.00	12.45	-13.81	-14.26		100.00	99.68	99.26	98.55	96.58	89.09	48.47		51.46	18.92	32.54			2.71				CH	Yellowish grey, reddish brown, fat clay
659	9064	5	T10	-1.81	D13	13.00	13.45	-14.81	-15.26		100.00	99.60	98.40	98.24	96.31	95.44	47.94		57.99	23.56	34.43			2.71				CH	Grey, fat clay
660	9065	5	T10	-1.81	U14	14.00	14.90	-15.81	-16.71				100.0	99.90	99.70	93.88	46.69	42.82	63.78	21.08	42.70	1.78	1.25	2.71	53.87	99.35	1.168	CH	Grey, fat clay
661	9066	5	T10	-1.81	D15	15.00	15.45	-16.81	-17.26		100.00	99.95	99.93	99.88	99.81	94.67	46.99		58.05	21.45	36.60			2.71				CH	Grey, fat clay
662	9067	5	T10	-1.81	D16	16.00	16.45	-17.81	-18.26				100.0	99.96	99.92	95.64	51.66		63.25	23.56	39.69			2.72				CH	Grey, fat clay
663	9068	5	T10	-1.81	D17	17.00	17.45	-18.81	-19.26				100.0	99.98	99.96	95.82	43.22		69.59	19.58	50.01			2.71				CH	Grey, fat clay
664	9069	5	T10	-1.81	D18	18.00	18.45	-19.81	-20.26				100.0	99.90	99.10	96.15	43.90		67.46	22.62	44.84			2.70				CH	Grey, fat clay
665	9070	5	T10	-1.81	U19	19.00	19.60	-20.81	-21.41			100.00	99.50	99.26	98.23	95.99	46.27	39.22	50.85	25.93	24.92	1.77	1.27	2.70	52.96	94.04	1.126	CH	Grey, fat clay
666	9071	5	T10	-1.81	D20	20.00	20.45	-21.81	-22.26				100.0	99.92	99.76	96.45	39.15		70.81	24.51	46.30			2.70				CH	Grey, fat clay
667	9072	5	T10	-1.81	D21	21.00	21.45	-22.81	-23.26					100.0	99.88	89.97	42.20		55.19	22.45	32.74			2.71				CH	Grey, fat clay
668	9073	5	T10	-1.81	D22	22.00	22.45	-23.81	-24.26				100.0	99.90	99.66	95.93	39.92		57.55	24.71	32.84			2.70				CH	Grey, fat clay
669	9074	5	T10	-1.81	D23	23.00	23.45	-24.81	-25.26					100.0	99.92	98.40	47.28		61.58	20.56	41.02			2.72				CH	Grey, fat clay
670	9075	5	T10	-1.81	D24	24.00	24.45	-25.81	-26.26					100.0	99.94	98.16	50.44		82.60	21.64	60.96			2.72				CH	Grey, fat clay
671	9076	5	T10	-1.81	D25	25.00	25.45	-26.81	-27.26					100.0	99.94	97.78	48.35		59.36	25.16	34.20			2.71				CH	Grey, fat clay
672	9077	2	T13	-2.16	D1	1.00	1.45	-3.16	-3.61				100.0	99.83	99.51	97.00	39.65		54.91	20.50	34.41			2.70				CH	Brownish grey, fat clay
673	9078	2	T13	-2.16	U2	2.00	2.90	-4.16	-5.06				100.0	99.92	99.66	88.84	21.16	44.26	50.70	19.93	30.77	1.79	1.24	2.78	55.40	99.07	1.242	CH	Brownish grey, fat clay
674	9079	2	T13	-2.16	D3	3.00	3.45	-5.16	-5.61			100.00	99.95	99.78	99.58	98.29	43.80		74.13	23.64	50.49			2.71				CH	Brownish grey, fat clay
675	9080	2	T13	-2.16	D4	4.00	4.45	-6.16	-6.61			100.00	99.98	99.76	99.51	97.92	45.37		58.57	25.07	33.50			2.70				CH	Brownish grey, fat clay
676	9081	3a	T13	-2.16	U5	5.00	5.90	-7.16	-8.06	100.00	99.78	99.76	99.70	99.28	56.83	11.76	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
677	9082	3a	T13	-2.16	D6	6.00	6.45	-8.16	-8.61				100.0	98.92	77.26	11.53	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
678	9083	3a	T13	-2.16	D7	7.00	7.45	-9.16	-9.61				100.0	99.60	75.92	10.45	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
679	9084	3a	T13	-2.16	D8	8.00	8.45	-10.16	-10.61				100.0	99.40	70.00	9.76	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
680	9085	3b	T13	-2.16	U9	9.00	9.50	-11.16	-11.66			100.00	99.90	99.80	99.34	93.26	48.37	33.47	44.09	20.85	23.24	1.80	1.35	2.71	50.17	90.07	1.007	CL	Grey, bluish grey, lean clay
681	9086	3c	T13	-2.16	D10	10.00	10.45	-12.16	-12.61		100.00	99.45	98.95	97.86	80.62	43.50	13.54		28.77	20.30	8.47			2.67				SC	Yellowish grey, clayey sand
682	9087	4	T13	-2.16	D11	11.00	11.45	-13.16	-13.61		100.00	99.65	99.58	99.51	99.44	98.42	54.05		55.81	19.93	35.88			2.72				CH	Yellowish grey, fat clay
683	9088	4	T13	-2.16	D12	12.00	12.45	-14.16	-14.61		100.00	99.84	99.70	99.64	99.54	97.31	54.64		56.53	18.99	37.54			2.72				CH	Yellowish grey, fat clay
684	9089	5	T13	-2.16	D13	13.00	13.45	-15.16	-15.61					100.0	99.78	94.02	40.72		57.92	16.54	41.38			2.70				CH	Grey, fat clay
685	9090	5	T13	-2.16	D15	15.00	15.45	-17.16	-17.61			100.00	99.70	99.64	99.58	97.11	47.38		56.70	20.46	36.24			2.71				CH	Grey, fat clay
686	9091	5	T13	-2.16	D16	16.00	16.45	-18.16	-18.61				100.0	99.80	94.51	89.50	44.44		60.84	17.64	43.20			2.71				CH	Grey, fat clay
687	9092	5	T13	-2.16	D17	17.00	17.45	-19.16	-19.61			100.00	99.98	99.91	99.76	92.70	41.53		58.64	18.54	40.10			2.71				CH	Grey, fat clay
688	9093	5	T13	-2.16	U18	18.00	18.90	-20.16	-21.06					100.0	99.98	97.42	47.83	37.49	52.06	15.86	36.20	1.78	1.29	2.72	52.58	91.95	1.109	CH	Grey, fat clay
689	9094	5	T13	-2.16	D19	19.00	19.45	-21.16	-21.61					100.0	99.88	97.52	49.38		55.41	16.87	38.54			2.71				CH	Grey, fat clay
690	9095	5	T13	-2.16	D20	20.00	20.45	-22.16	-22.61					100.0	99.96	91.74	31.59		66.78	19.54	47.24			2.70				CH	Grey, fat clay
691	9096	5	T13	-2.16	D21	21.00	21.45	-23.16	-23.61			100.00	99.96	99.64	99.46	94.67	40.12		56.74	20.45	36.29			2.71				CH	Grey, fat clay
692	9097	5	T13	-2.16	D22	22.00	22.45	-24.16	-24.61					100.0	99.98	96.22	43.83		65.56	22.04	43.52			2.71				CH	Grey, fat clay
693	9098	5	T13	-2.16	D23	23.00	23.45	-25.16	-25.61					100.0	99.88	95.47	43.95		53.13	15.52	37.61			2.72				CH	Grey, fat clay
694	9099	1b	T15	-1.89	U1	1.00	1.45	-2.89	-3.34				100.0	99.56	99.42	95.36	24.45	39.41	40.97	24.56	16.41	1.80	1.29	2.68	51.88	97.98	1.078	CL	Grey, brownish grey, lean clay
695	9100	1b	T15	-1.89	D2	2.00	2.45	-3.89	-4.34			100.00	99.54	99.48	99.34	97.21	29.86		39.63	23.22	16.41			2.70				CL	Grey, brownish grey, lean clay
696	9101	2	T15	-1.89	U3	3.00	3.80	-4.89	-5.69			100.00	99.90	99.80	99.36	94.51	27.96	37.64	41.28	25.39	15.89	1.81	1.32	2.68	50.74	97.94	1.030	CL	Grey, brownish grey, lean clay
697	9102	2	T15	-1.89	D4	4.00	4.45	-5.89	-6.34			100.00	99.76	99.50	99.12	97.61	45.72		69.33	28.49	40.84			2.71				CH	Brownish grey, fat clay
698	9103	2	T15	-1.89	D5	5.00	5.45	-6.89	-7.34			100.00	99.88	99.82	99.70	99.28	47.95		70.40	29.95	40.45			2.71				CH	Brownish grey, fat clay
699	9104	2	T15	-1.89	U6	6.00	6.80	-7.89	-8.69			100.00	99.90	99.78	99.24	97.91	44.63	63.01	67.25	26.12	41.13	1.63	1	2.72	63.24	99.64	1.720	CH	Brownish grey, fat clay
700	9105	3b	T15	-1.89	D7	7.00	7.45	-8.89	-9.34				100.0	99.98	99.86	95.39	46.47		49.63	18.45	31.18			2.71				CL	Yellowish grey, brownish grey, lean clay
701	9106	3b	T15	-1.89	D8	8.00	8.45	-9.89	-10.34			100.00	99.96	99.94	99.84	93.37	40.79		47.96	19.10	28.86			2.71				CL	Yellowish grey, brownish grey, lean clay
702	9107	3b	T15	-1.89	U9	9.00	9.80	-10.89	-11.69			100.00	99.84	99.76	98.98	90.53	39.86	36.29	47.35	17.16	30.19	1.86	1.36	2.72	50.00	98.71	1.000	CL	Yellowish grey, brownish grey, lean clay
703	9108	3b	T15	-1.89	D10	10.00	10.45	-11.89	-12.34			100.00	99.89	99.78	99.62	94.73	38.82		47.96	19.78	28.18			2.71				CL	Yellowish grey, brownish grey, lean clay
704	9109	4	T15	-1.89	D11	11.00	11.45	-12.89	-13.34					100.0	99.84	95.83	48.43		53.89	17.79	36.10			2.72				CH	Yellowish grey, light grey, fat clay
705	9110	4	T15	-1.89	U12	12.00	12.70	-13.89	-14.59				100.0	99.92	99.76	95.45	41.86	34.79	55.80	17.06	38.74	1.83	1.36	2.70	49.62	95.36	0.985	CH	Yellowish grey, light grey, fat clay
706	9111	4	T15	-1.89	D13	13.00	13.45	-14.89	-15.34			100.00	99.88	99.78	99.66	97.53	48.84		51.57	19.64	31.93			2.71				CH	Yellowish grey, light grey, fat clay
707	9112	4	T15	-1.89	D14	14.00	14.45	-15.89	-16.34			100.00	99.52	99.26	98.90	96.86	52.29		53.40	17.44	35.96			2.72				CH	Yellowish grey, light grey, fat clay
708	9113	4	T15	-1.89	D15	15.00	15.45	-16.89	-17.34		100.00	99.83	99.69	99.51	98.95	96.40	51.33		51.67	18.99	32.68			2.72				CH	Yellowish grey, light grey, fat clay
709	9114	5	T15	-1.89	D16	16.00	16.45	-17.89	-18.34					100.0	99.96	95.78	39.11		63.47	21.45	42.02			2.70				CH	Grey, fat clay
710	9115	5	T15	-1.89	D17	17.00	17.45	-18.89	-19.34				100.0	99.90	96.72	93.64	44.80		58.60	19.67	38.93			2.71				CH	Grey, fat clay
711	9116	5	T15	-1.89	U18	18.00	18.80	-19.89	-20.69					100.0	99.68	98.36	52.66	41.35	61.86	20.39	41.47	1.79	1.27	2.71	53.14	98.82	1.134	CH	Grey, fat clay
712	9117	5	T15	-1.89	D19	19.00	19.45	-20.89	-21.34					100.0	99.98	98.14	41.12		68.94	18.56	50.38			2.72				CH	Grey, fat clay
713	9118	5	T15	-1.89	D20	20.00	20.45	-21.89	-22.34					100.0	99.83	96.12	40.78		63.80	21.54	42.26			2.71				CH	Grey, fat clay
714	9119	5	T15	-1.89	D21	21.00	21.45	-22.89	-23.34			100.00	99.98	99.96	99.83	99.63	49.00		65.59	29.65	35.94			2.72				CH	Grey, fat clay
715	9120	5	T15	-1.89	U22	22.00	22.80	-23.89	-24.69			100.00	99.95	99.84	99.59	95.37	44.64	44.21	63.11	20.79	42.32	1.71	1.19	2.72	56.26	93.51	1.286	CH	Grey, fat clay
716	9121	5	T15	-1.89	D23	23.00	23.45	-24.89	-25.34					100.0	99.98	96.54	46.72		65.16	21.75	43.41			2.71				CH	Grey, fat clay
717	9122	5	T15	-1.89	D24	24.00	24.45	-25.89	-26.34					100.0	99.98	98.54	49.61		61.58	20.86	40.72			2.72				CH	Grey, fat clay
718	9123	1b	T18	-1.28	D1	1.00	1.45	-2.28	-2.73					100.0	99.86	91.90	20.73		38.33	21.50	16.83			2.68				CL	Grey, brownish grey, lean clay
719	9124	1b	T18	-1.28	D2	2.00	2.45	-3.28	-3.73			100.00	99.98	99.94	99.78	92.84	22.64		49.87	33.10	16.77			2.69				CL	Grey, brownish grey, lean clay
720	9125	1b	T18	-1.28	U3	3.00	3.90	-4.28	-5.18			100.00	98.96	98.62	97.93	68.02	17.03	36.36	39.79	23.93	15.86	1.81	1.33	2.67	50.20	96.31	1.008	CL	Grey, brownish grey, sandy lean clay
721	9126	2	T18	-1.28	D4	4.00	4.45	-5.28	-5.73			100.00	98.92	97.30	85.84	61.79	26.06		39.30	24.60	14.70			2.69				CL	Brownish grey, sandy lean clay
722	9127	2	T18	-1.28	D5	5.00	5.45	-6.28	-6.73			100.00	99.08	97.06	84.36	60.77	26.98		41.69	27.28	14.41			2.68				CL	Brownish grey, sandy lean clay
723	9128	3b	T18	-1.28	U6	6.00	6.90	-7.28	-8.18		100.00	99.01	95.60	90.90	71.72	52.56	22.06	32.97	36.59	22.03	14.56	1.87	1.41	2.69	47.59	97.68	0.908	CL	Brownish grey, sandy lean clay
724	9129	3b	T18	-1.28	D7	7.00	7.45	-8.28	-8.73		100.00	99.69	99.29	98.14	88.05	29.94	9.76		22.30	12.43	9.87			2.66				SC	Yellowish grey, clayey sand
725	9130	3b	T18	-1.28	D8	8.00	8.45	-9.28	-9.73		100.00	95.63	94.94	93.55	82.49	29.47	7.82		19.12	11.58	7.54			2.65				SC	Yellowish grey, clayey sand
726	9131	3b	T18	-1.28	D9	9.00	9.45	-10.28	-10.73	100.00	99.82	99.02	98.56	97.14	67.94	10.19	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
727	9132	3c	T18	-1.28	D10	10.00	10.45	-11.28	-11.73			100.00	99.98	99.76	76.74	9.55	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
728	9133	4	T18	-1.28	U11	11.00	11.90	-12.28	-13.18			100.00	99.50	99.08	98.01	89.29	45.46	30.21	50.70	18.06	32.64	1.93	1.48	2.70	45.18	98.99	0.824	CH	Yellowish grey, light grey, fat clay
729	9134	4	T18	-1.28	D12	12.00	12.45	-13.28	-13.73			100.00	99.90	99.88	99.72	98.46	53.31		58.01	19.04	38.97			2.72				CH	Yellowish grey, light grey, fat clay
730	9135	4	T18	-1.28	D13	13.00	13.45	-14.28	-14.73		100.00	99.38	99.08	98.86	98.39	93.69	44.29		53.20	18.72	34.48			2.71				CH	Yellowish grey, light grey, fat clay
731	9136	4	T18	-1.28	D14	14.00	14.45	-15.28	-15.73					100.0	99.96	98.88	54.59		55.35	19.75	35.60			2.72				CH	Yellowish grey, light grey, fat clay
732	9137	5	T18	-1.28	D15	15.00	15.45	-16.28	-16.73		100.00	99.56	98.98	98.88	98.84	95.86	38.19		68.43	20.76	47.67			2.70				CH	Grey, fat clay
733	9138	5	T18	-1.28	U16	16.00	16.90	-17.28	-18.18			100.00	99.98	99.92	99.84	98.12	49.33	45.09	66.79	21.45	45.34	1.76	1.21	2.71	55.36	98.54	1.240	CH	Grey, fat clay
734	9139	5	T18	-1.28	D17	17.00	17.45	-18.28	-18.73				100.0	99.72	97.94	94.24	53.79		65.45	19.64	45.81			2.71				CH	Grey, fat clay
735	9140	5	T18	-1.28	D18	18.00	18.45	-19.28	-19.73					100.0	98.84	94.27	56.11		66.40	24.16	42.24			2.72				CH	Grey, fat clay

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m^2: 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load $\sqrt{Pi\text{-}1 \times Pi}$ KN/m^2: 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m^2: 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10^{-3}cm^2/s)	Log Average in Nomal consolidated Cv(n) (10^{-3}cm^2/s)	Log Average at Load increment 1 - 2 KG/cm^2: mv (cm^2/KG)	k (10^{-7}cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm^2)
633	9038	0.601		0.587	0.575	0.558	0.534	0.506	0.470	0.429		1.380	0.900	1.370	2.030	3.550	2.980	4.050		0.362	0.290	0.217	0.161	0.091	0.061	0.035	1.194	3.054	0.186	0.305	0.140	0.087	0.037	0.023	0.022	0.014	1.915
636	9041	0.950		0.913	0.892	0.868	0.836	0.788	0.697	0.576		0.860	1.060	0.950	1.090	1.020	0.680	0.730		0.767	0.426	0.261	0.173	0.131	0.131	0.092	0.986	0.797	0.212	0.213	0.400	0.205	0.056	0.029	0.095	0.049	3.340
639	9044	1.126		1.078	1.049	1.017	0.977	0.912	0.732	0.567		1.080	1.070	1.490	2.050	0.970	0.620	0.640		0.910	0.558	0.319	0.199	0.168	0.247	0.125	1.371	0.727	0.252	0.437	0.550	0.259	0.086	0.040	0.104	0.049	3.023
643	9048	1.143		1.116	1.096	1.070	1.027	0.961	0.821	0.675		1.520	2.500	3.010	4.010	1.170	1.130	1.140		0.507	0.376	0.250	0.209	0.166	0.184	0.105	2.602	1.147	0.229	0.792	0.490	0.229	0.072	0.034	0.091	0.042	2.834
648	9053	0.864	0.799	0.785	0.765	0.716	0.651	0.575	0.498		0.823	0.847	0.408	0.311	0.556	0.789	0.385		0.964	0.588	0.149	0.181	0.122	0.071	0.036		0.658	0.479	0.148	0.126	0.255	0.137	0.067	0.036	0.071	0.040	0.840
660	9065	1.240		1.214	1.196	1.173	1.140	1.081	0.853	0.685		1.960	1.420	2.260	3.520	1.270	0.650	0.770		0.463	0.321	0.214	0.152	0.141	0.290	0.118	2.169	0.860	0.181	0.504	0.560	0.250	0.064	0.029	0.119	0.053	3.324
673	9078	1.196	1.147	1.115	1.071	1.010	0.939	0.856	0.766		1.684	0.720	0.678	1.288	1.400	3.527	2.496		0.865	0.718	0.388	0.265	0.156	0.092	0.049		0.937	1.996	0.203	0.378	0.298	0.136	0.122	0.055	0.089	0.042	0.940
680	9085	1.277		1.251	1.227	1.192	1.113	0.956	0.802	0.655		1.010	1.310	0.870	0.660	0.780	0.680	0.630		0.469	0.425	0.320	0.364	0.386	0.205	0.107	1.048	0.685	0.341	0.257	0.490	0.215	0.092	0.040	0.116	0.051	1.454
688	9093	1.193		1.177	1.162	1.143	1.112	1.042	0.859	0.710		2.020	1.640	2.530	2.810	1.360	0.590	0.740		0.310	0.267	0.181	0.143	0.169	0.235	0.104	2.203	0.841	0.161	0.426	0.500	0.228	0.055	0.025	0.114	0.052	3.005
696	9101	1.082	1.058	1.043	1.018	0.970	0.884	0.784	0.683		1.614	1.274	1.300	2.517	1.886	3.684	2.852		0.397	0.318	0.211	0.199	0.179	0.105	0.053		1.388	2.657	0.189	0.761	0.336	0.161	0.069	0.033	0.060	0.029	0.900
699	9104	0.576	0.556	0.543	0.514	0.456	0.346	0.216	0.088		2.688	0.909	0.756	0.718	0.462	0.540	0.520		0.248	0.204	0.186	0.183	0.173	0.103	0.050		1.227	0.553	0.178	0.364	0.423	0.268	0.080	0.050	0.052	0.034	0.880
702	9107	1.142		1.119	1.098	1.064	0.995	0.865	0.739	0.624		2.630	1.210	0.950	1.100	0.860	0.850	1.060		0.422	0.406	0.324	0.343	0.335	0.175	0.086	1.446	0.961	0.333	0.339	0.380	0.177	0.085	0.040	0.086	0.040	1.403
705	9110	0.687		0.669	0.651	0.627	0.598	0.565	0.518	0.454		1.440	1.850	2.090	1.420	1.300	1.350	1.530		0.442	0.437	0.285	0.183	0.103	0.077	0.054	1.677	1.390	0.229	0.394	0.210	0.124	0.052	0.031	0.061	0.036	2.814
711	9116	1.151		1.129	1.106	1.079	1.042	0.967	0.786	0.621		1.770	2.250	2.630	2.240	0.790	0.660	0.680		0.406	0.429	0.262	0.180	0.187	0.241	0.121	2.201	0.708	0.217	0.520	0.550	0.256	0.072	0.033	0.107	0.050	2.888
715	9120	1.267		1.248	1.229	1.203	1.157	1.027	0.828	0.666		1.220	2.630	2.900	4.060	1.010	0.840	1.040		0.325	0.352	0.229	0.213	0.311	0.258	0.116	2.479	0.959	0.221	0.760	0.540	0.238	0.088	0.039	0.119	0.052	2.515
720	9125	1.136	1.085	1.056	1.011	0.957	0.883	0.802	0.712		2.665	2.062	1.418	2.023	1.652	3.507	1.701		0.873	0.686	0.381	0.233	0.157	0.087	0.048		1.983	2.113	0.191	0.532	0.298	0.140	0.112	0.052	0.066	0.032	0.930
723	9128	1.014	0.976	0.946	0.897	0.821	0.727	0.634	0.528		1.149	0.821	0.967	1.221	0.730	1.540	1.438		0.600	0.543	0.396	0.306	0.191	0.093	0.053		0.970	1.185	0.241	0.362	0.352	0.175	0.138	0.068	0.093	0.048	0.850
728	9133	0.812		0.784	0.766	0.743	0.710	0.667	0.612	0.540		0.890	1.290	1.540	1.870	1.430	1.490	1.250		0.619	0.408	0.265	0.193	0.125	0.085	0.057	1.348	1.386	0.226	0.378	0.240	0.132	0.051	0.028	0.080	0.044	2.499
733	9138	1.336		1.307	1.288	1.261	1.214	1.117	0.869	0.692		0.970	0.880	1.050	1.680	0.700	0.520	0.600		0.495	0.344	0.237	0.208	0.224	0.311	0.124	1.108	0.602	0.222	0.295	0.590	0.253	0.078	0.033	0.132	0.057	2.971

No.	Test No.	Unconfined compression test Specimen 1: q_u (KG/cm^2)	Failure Strain ef (%)	Specimen 2: q_u (KG/cm^2)	Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5): Cuu (KN/m^2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10: Ccu (KN/m^2)	fcu (deg.)
633	9038	0.35	3.00	0.49	4.60	14.84	0º09'		
636	9041	1.37	6.60	0.92	5.20	83.63			
639	9044	0.99	5.20	1.23	5.10	22.27	7º48'	22.90	17º14'
643	9048	1.42	4.00	1.50	3.50	40.41	0º35'	38.56	15o37
648	9053	0.18	6.60	0.26	6.60	3.59	1º53'		
660	9065	1.52	3.20	1.77	5.50			28.20	17º14'
665	9070	0.35	6.52	0.30	5.82				
673	9078	0.17	5.06	0.16	9.51	5.83	0º16'		
680	9085	0.83	6.31	0.62	2.71				
688	9093	1.06	2.97	1.23	3.94	63.36	0º49'	25.00	17º23'
696	9101	0.61	7.10	0.59	10.30	16.15	0º20'	19.00	17º42'
699	9104	0.71	3.50	0.47	3.60	19.50	0º53'		
702	9107	0.42	7.50	0.47	4.50	15.72	0º31'	17.83	20º01'
705	9110	1.47	5.28	1.27	8.80				
711	9116	1.51	4.70	1.18	4.70	61.46	0º35'		
715	9120	1.23	2.80	1.11	3.60	38.87	3º08'		
720	9125	0.21	6.00	0.16	6.60	1.63	1º44'	15.20	25º37'
723	9128	0.26	5.30	0.21	3.70				
733	9138	1.48	4.90	1.27	4.90	36.66	4º29'	21.10	17º14'

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

Table 1: General properties (Depth; Percent passed sieve size (mm); Natural moisture content; Atterberg Limits; Bulk density (g/cm³); Specific Gravity; Porosity; Degree of saturation; Void ratio)

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From	Depth GL-(m) To	Depth DL(m) From	Depth DL(m) To	9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density Natural	Bulk density Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Soil group	Description
736	**9141**	5	T18	-1.28	U19	19.00	19.90	-20.28	-21.18			100.00	99.88	99.74	99.62	94.06	43.47	38.12	54.15	17.03	37.12	1.81	1.31	2.71	51.67	96.64	1.069	CH	Grey, fat clay
737	**9142**	5	T18	-1.28	D20	20.00	20.45	-21.28	-21.73			100.00	99.60	99.44	99.00	94.21	51.44		73.27	21.46	51.81			2.72				CH	Grey, fat clay
738	**9143**	5	T18	-1.28	D21	21.00	21.45	-22.28	-22.73					100.0	99.96	96.24	54.10		66.08	20.87	45.21			2.72				CH	Grey, fat clay
739	**9144**	5	T18	-1.28	D22	22.00	22.45	-23.28	-23.73					100.0	99.97	97.24	41.04		68.36	22.49	45.87			2.71				CH	Grey, fat clay
740	**9145**	5	T18	-1.28	D23	23.00	23.45	-24.28	-24.73			100.00	99.98	97.22	97.16	89.97	40.30		54.86	18.57	36.29			2.70				CH	Grey, fat clay
741	**9146**	1a	T20	-0.10	D1	1.00	1.45	-1.10	-1.55			100.00	95.62	94.58	63.30	4.45	0.00							2.66				SP	Grey, poorly graded sand
742	**9147**	1b	T20	-0.10	D2	2.00	2.45	-2.10	-2.55			100.00	99.84	99.49	98.30	96.14	20.27		44.11	27.03	17.08			2.68				CL	Grey, brownish grey, lean clay
743	**9148**	1b	T20	-0.10	U3	3.00	3.90	-3.10	-4.00			100.00	99.90	99.64	98.96	88.00	23.07	33.11	35.66	24.08	11.58	1.79	1.34	2.69	50.17	88.45	1.007	CL	Grey, brownish grey, lean clay
744	**9149**	1b	T20	-0.10	D4	4.00	4.45	-4.10	-4.55			100.00	99.74	99.42	98.78	88.37	19.87		38.32	22.15	16.17			2.68				CL	Grey, brownish grey, lean clay
745	**9150**	2	T20	-0.10	D5	5.00	5.45	-5.10	-5.55				100.0	99.84	99.34	97.61	54.13		69.92	29.00	40.92			2.71				CH	Brownish grey, fat clay
746	**9151**	2	T20	-0.10	U6	6.00	6.90	-6.10	-7.00				100.0	99.88	99.66	98.32	65.57	64.07	72.09	28.65	43.44	1.63	0.99	2.73	63.74	99.49	1.758	CH	Brownish grey, fat clay
747	**9152**	3b	T20	-0.10	D7	7.00	7.45	-7.10	-7.55		100.00	94.50	92.40	89.61	73.27	41.28	13.70		40.46	24.20	16.26			2.67				SC	Yellowish grey, clayey sand
748	**9153**	3b	T20	-0.10	D8	8.00	8.45	-8.10	-8.55	100.00	96.11	93.68	90.48	87.26	76.35	48.21	14.81		39.21	23.56	15.65			2.67				SC	Yellowish grey, clayey sand
749	**9154**	3b	T20	-0.10	U9	9.00	9.90	-9.10	-10.00			100.00	92.92	91.01	89.59	84.86	34.16	26.79	36.39	16.04	20.35	1.80	1.42	2.71	47.59	79.96	0.908	CL	Yellowish grey, brownish grey, lean clay with sand
750	**9155**	3b	T20	-0.10	D10	10.00	10.45	-10.10	-10.55		100.00	99.10	97.91	96.38	93.28	84.92	40.36		44.84	21.81	23.03			2.71				CL	Yellowish grey, brownish grey, lean clay with sand
751	**9156**	3b	T20	-0.10	D11	11.00	11.45	-11.10	-11.55		100.00	98.79	97.29	95.42	88.34	65.85	28.99		48.32	14.77	33.55			2.70				CL	Yellowish grey, brownish grey, sandy lean clay
752	**9157**	4	T20	-0.10	D12	12.00	12.45	-12.10	-12.55		100.00	99.70	98.94	98.21	96.50	90.44	46.49		50.30	18.56	31.74			2.71				CH	Yellowish grey, fat clay
753	**9158**	4	T20	-0.10	D13	13.00	13.45	-13.10	-13.55		100.00	99.29	98.38	97.71	96.87	93.85	46.82		55.63	19.20	36.43			2.72				CH	Yellowish grey, fat clay
754	**9159**	4	T20	-0.10	D14	14.00	14.45	-14.10	-14.55		100.00	98.82	97.52	96.66	95.94	93.48	47.64		52.26	18.86	33.40			2.72				CH	Yellowish grey, fat clay
755	**9160**	4	T20	-0.10	D15	15.00	15.45	-15.10	-15.55		100.00	98.85	97.43	96.16	95.29	92.72	49.31		53.61	19.93	33.68			2.72				CH	Yellowish grey, fat clay
756	**9161**	5	T20	-0.10	U16	16.00	16.90	-16.10	-17.00				100.0	99.94	98.68	95.90	50.84	39.20	55.19	21.95	33.24	1.83	1.31	2.71	51.67	99.38	1.069	CH	Grey, fat clay
757	**9162**	5	T20	-0.10	D17	17.00	17.45	-17.10	-17.55				100.0	99.78	97.27	94.82	46.63		63.53	20.56	42.97			2.71				CH	Grey, fat clay
758	**9163**	5	T20	-0.10	D18	18.00	18.45	-18.10	-18.55			100.00	100.0	99.96	99.90	92.93	39.86		56.15	19.43	36.72			2.70				CH	Grey, fat clay
759	**9164**	5	T20	-0.10	U19	19.00	19.90	-19.10	-20.00				100.0	99.92	99.70	96.05	53.44	47.05	64.08	19.82	44.26	1.74	1.18	2.71	56.46	98.31	1.297	CH	Grey, fat clay
760	**9165**	5	T20	-0.10	D20	20.00	20.45	-20.10	-20.55				100.0	99.98	99.94	95.64	49.01		63.70	33.78	29.92			2.71				CH	Grey, fat clay
761	**9166**	5	T20	-0.10	D21	21.00	21.45	-21.10	-21.55					100.0	99.95	94.43	40.33		65.40	22.54	42.86			2.71				CH	Grey, fat clay
762	**9167**	5	T20	-0.10	D22	22.00	22.45	-22.10	-22.55					100.0	99.85	93.01	42.01		54.23	20.78	33.45			2.70				CH	Grey, fat clay
763	**9168**	5	T20	-0.10	D23	23.00	23.45	-23.10	-23.55					100.0	99.93	93.80	44.36		72.30	25.64	46.66			2.71				CH	Grey, fat clay
764	**9169**	1b	T22	-0.93	D1	1.00	1.45	-1.93	-2.38			100.00	99.84	99.74	99.52	94.58	24.62		40.26	24.40	15.86			2.68				CL	Grey, brownish grey, lean clay
765	**9170**	1b	T22	-0.93	D2	2.00	2.45	-2.93	-3.38			100.00	99.82	99.76	99.56	94.70	20.71		38.65	22.34	16.31			2.69				CL	Grey, brownish grey, lean clay
766	**9171**	2	T22	-0.93	U3	3.00	3.90	-3.93	-4.83			100.00	99.94	99.78	97.37	94.18	46.44	48.91	51.70	20.99	30.71	1.71	1.15	2.71	57.57	97.68	1.357	CH	Brownish grey, fat clay
767	**9172**	2	T22	-0.93	D4	4.00	4.45	-4.93	-5.38			100.00	99.96	99.84	99.60	98.42	47.34		80.88	29.50	51.38			2.71				CH	Brownish grey, fat clay
768	**9173**	2	T22	-0.93	D5	5.00	5.45	-5.93	-6.38				100.0	99.96	99.84	98.76	41.50		60.53	30.29	30.24			2.70				CH	Brownish grey, fat clay
769	**9174**	2	T22	-0.93	U6	6.00	6.90	-6.93	-7.83			100.00	99.80	99.14	97.89	94.23	49.19	54.24	62.38	26.89	35.49	1.68	1.09	2.72	59.92	98.68	1.495	CH	Brownish grey, fat clay
770	**9175**	3b	T22	-0.93	D7	7.00	7.45	-7.93	-8.38		100.00	97.88	94.98	92.17	65.33	43.42	16.14		30.43	14.33	16.10			2.67				SC	Grey, clayey sand
771	**9176**	4	T22	-0.93	D8	8.00	8.45	-8.93	-9.38			100.00	99.90	99.82	99.52	93.59	42.41		59.37	22.58	36.79			2.72				CH	Yellowish grey, brownish grey, fat clay
772	**9177**	4	T22	-0.93	U9	9.00	9.80	-9.93	-10.73			100.00	99.86	99.68	98.46	90.29	40.15	38.72	50.20	18.28	31.92	1.80	1.3	2.71	52.04	96.71	1.085	CH	Yellowish grey, brownish grey, fat clay
773	**9178**	4	T22	-0.93	D10	10.00	10.45	-10.93	-11.38			100.00	99.92	99.80	99.30	94.75	51.92		57.81	23.38	34.43			2.72				CH	Yellowish grey, light grey, fat clay
774	**9179**	4	T22	-0.93	D11	11.00	11.45	-11.93	-12.38				100.0	99.88	99.46	96.40	51.11		54.92	17.78	37.14			2.72				CH	Yellowish grey, light grey, fat clay
775	**9180**	4	T22	-0.93	U12	12.00	12.90	-12.93	-13.83			100.00	99.72	98.30	93.80	80.61	41.34	27.59	52.85	17.18	35.67	1.96	1.54	2.70	42.95	98.93	0.753	CH	Yellowish grey, light grey, fat clay with sand
776	**9181**	4	T22	-0.93	D13	13.00	13.45	-13.93	-14.38			100.00	98.64	98.19	97.82	95.51	50.50		53.26	19.09	34.17			2.72				CH	Yellowish grey, light grey, fat clay
777	**9182**	4	T22	-0.93	D14	14.00	14.45	-14.93	-15.38		100.00	99.91	99.51	99.27	99.09	97.35	54.51		52.00	19.72	32.28			2.72				CH	Yellowish grey, light grey, fat clay
778	**9183**	4	T22	-0.93	D15	15.00	15.45	-15.93	-16.38			100.00	99.90	99.58	99.46	96.99	51.30		53.09	19.56	33.53			2.71				CH	Yellowish grey, light grey, fat clay
779	**9184**	5	T22	-0.93	D16	16.00	16.45	-16.93	-17.38					100.0	99.98	92.45	43.71		60.33	20.40	39.93			2.71				CH	Grey, fat clay
780	**9185**	5	T22	-0.93	D17	17.00	17.45	-17.93	-18.38				100.0	99.98	99.96	95.98	44.86		59.17	20.50	38.67			2.71				CH	Grey, fat clay
781	**9186**	5	T22	-0.93	U18	18.00	18.90	-18.93	-19.83				100.0	99.94	99.84	94.63	38.18	45.43	54.62	21.27	33.35	1.74	1.2	2.70	55.56	98.13	1.250	CH	Grey, fat clay
782	**9187**	5	T22	-0.93	D19	19.00	19.45	-19.93	-20.38				100.0	99.97	99.88	96.14	38.55		74.06	20.89	53.17			2.71				CH	Grey, fat clay
783	**9188**	5	T22	-0.93	D20	20.00	20.45	-20.93	-21.38					100.0	99.94	93.26	35.59		68.42	22.14	46.28			2.70				CH	Grey, fat clay
784	**9189**	5	T22	-0.93	D21	21.00	21.45	-21.93	-22.38				100.0	99.98	99.86	95.05	43.02		56.88	20.56	36.32			2.71				CH	Grey, fat clay
785	**9190**	5	T22	-0.93	U22	22.00	22.90	-22.93	-23.83			100.00	99.96	99.88	99.78	96.77	36.40	43.67	64.93	21.88	43.05	1.77	1.23	2.72	54.77	98.09	1.211	CH	Grey, fat clay
786	**9191**	5	T22	-0.93	D23	23.00	23.45	-23.93	-24.38				100.0	99.97	99.88	97.94	38.16		63.71	21.90	41.81			2.70				CH	Grey, fat clay
787	**9192**	5	T22	-0.93	D24	24.00	24.45	-24.93	-25.38				100.0	99.88	99.70	97.93	35.52		71.06	20.98	50.08			2.70				CH	Grey, fat clay
788	**9193**	5	T22	-0.93	D25	25.00	25.45	-25.93	-26.38					100.0	99.98	95.90	42.96		64.12	21.45	42.67			2.71				CH	Grey, fat clay
789	**9194**	1b	T24	-0.40	D1	1.00	1.45	-1.40	-1.85			100.00	99.88	99.66	99.38	89.10	17.86		40.57	24.42	16.15			2.69				CL	Grey, brownish grey, lean clay
790	**9195**	1b	T24	-0.40	D2	2.00	2.45	-2.40	-2.85		100.00	99.43	99.09	98.85	98.30	91.79	20.04		41.45	24.56	16.89			2.68				CL	Grey, brownish grey, lean clay
791	**9196**	2	T24	-0.40	U3	3.00	3.80	-3.40	-4.20			100.00	99.80	99.50	98.88	93.68	31.61	49.76	52.10	21.99	30.11	1.71	1.14	2.70	57.77	98.21	1.368	CH	Brownish grey, fat clay
792	**9197**	2	T24	-0.40	D4	4.00	4.45	-4.40	-4.85			100.00	99.84	99.76	99.60	96.25	24.96		54.20	21.87	32.33			2.69				CH	Brownish grey, fat clay
793	**9198**	2	T24	-0.40	D5	5.00	5.45	-5.40	-5.85			100.00	99.92	99.68	99.24	93.46	41.14		70.55	24.50	46.05			2.71				CH	Brownish grey, fat clay
794	**9199**	2	T24	-0.40	D6	6.00	6.45	-6.40	-6.85			100.00	99.94	99.86	99.70	97.47	40.16		71.00	22.40	48.60			2.71				CH	Brownish grey, fat clay
795	**9200**	3b	T24	-0.40	U7	7.00	7.70	-7.40	-8.10			100.00	99.88	99.52	94.38	42.26	7.79	27.25	29.43	22.30	7.13	1.87	1.47	2.66	44.75	89.49	0.810	SC	Yellowish grey, clayey sand
796	**9201**	3b	T24	-0.40	D8	8.00	8.45	-8.40	-8.85			100.00	99.90	99.46	89.63	42.31	10.56		27.97	11.87	16.10			2.68				SC	Yellowish grey, clayey sand
797	**9202**	3b	T24	-0.40	D9	9.00	9.45	-9.40	-9.85			100.00	99.96	99.84	82.39	42.02	13.19		36.91	15.47	21.44			2.70				SC	Yellowish grey, clayey sand
798	**9203**	3b	T24	-0.40	U10	10.00	10.80	-10.40	-11.20			100.00	99.98	99.54	88.77	43.66	15.60	20.47	25.26	12.86	12.40	1.96	1.63	2.68	39.17	85.19	0.644	SC	Yellowish grey, clayey sand
799	**9204**	3b	T24	-0.40	D11	11.00	11.45	-11.40	-11.85			100.00	99.98	99.66	84.47	38.64	9.89		22.97	13.24	9.73			2.67				SC	Yellowish grey, clayey sand
800	**9205**	3b	T24	-0.40	D12	12.00	12.45	-12.40	-12.85			100.00	99.96	99.70	87.44	39.45	9.93		22.85	15.30	7.55			2.67				SC	Yellowish grey, clayey sand
801	**9206**	3b	T24	-0.40	D13	13.00	13.45	-13.40	-13.85			100.00	99.58	98.27	78.38	37.32	9.70		21.79	12.56	9.23			2.67				SC	Yellowish grey, clayey sand
802	**9207**	4	T24	-0.40	D14	14.00	14.45	-14.40	-14.85				100.0	99.83	99.72	98.44	51.28		55.21	18.96	36.25			2.72				CH	Yellowish grey, , fat clay
803	**9208**	4	T24	-0.40	D15	15.00	15.45	-15.40	-15.85			100.00	99.35	98.98	98.04	95.86	46.35		54.36	19.94	34.42			2.71				CH	Yellowish grey, , fat clay
804	**9209**	5	T24	-0.40	D16	16.00	16.45	-16.40	-16.85			100.00	99.68	99.00	95.14	74.82	21.15		50.51	33.51	17.00			2.69				CH	Grey, fat clay with sand
805	**9210**	5	T24	-0.40	U17	17.00	17.80	-17.40	-18.20			100.00	99.80	99.20	95.47	73.86	19.70	41.50	57.60	18.06	39.54	1.78	1.26	2.71	53.51	97.71	1.151	CH	Grey, fat clay with sand
806	**9211**	5	T24	-0.40	D18	18.00	18.45	-18.40	-18.85				100.0	99.84	99.74	97.11	45.61		62.72	23.39	39.33			2.70				CH	Grey, fat clay
807	**9212**	5	T24	-0.40	D19	19.00	19.45	-19.40	-19.85				100.0	99.82	97.46	95.16	47.53		69.50	22.45	47.05			2.71				CH	Grey, fat clay
808	**9213**	5	T24	-0.40	U20	20.00	20.80	-20.40	-21.20				100.0	99.90	99.80	95.21	40.31	46.95	54.70	23.42	31.28	1.75	1.19	2.70	55.93	99.89	1.269	CH	Grey, fat clay
809	**9214**	5	T24	-0.40	D21	21.00	21.45	-21.40	-21.85				100.0	99.96	99.80	94.33	40.76		74.18	21.87	52.31			2.71				CH	Grey, fat clay
810	**9215**	5	T24	-0.40	D22	22.00	22.45	-22.40	-22.85				100.0	99.94	99.88	94.34	37.96		73.31	23.56	49.75			2.70				CH	Grey, fat clay
811	**9216**	5	T24	-0.40	D23	23.00	23.45	-23.40	-23.85				100.0	99.88	99.66	97.21	48.52		68.75	20.78	47.97			2.71				CH	Grey, fat clay
812	**9217**	5	T24	-0.40	D24	24.00	24.45	-24.40	-24.85					100.0	99.96	94.87	42.18		66.35	21.54	44.81			2.71				CH	Grey, fat clay
813	**9218**	5	T24	-0.40	D25	25.00	25.45	-25.40	-25.85			100.00	99.96	99.84	99.64	93.48	40.14		70.21	22.74	47.47			2.71				CH	Grey, fat clay
814	**9219**	2	T26	-1.70	D1	1.00	1.45	-2.70	-3.15				100.0	99.94	99.90	99.74	53.91		56.31	21.89	34.42			2.72				CH	Brownish grey, fat clay
815	**9220**	2	T26	-1.70	U2	2.00	2.80	-3.70	-4.50			100.00	99.76	99.14	98.49	94.92	35.03	50.81	58.90	22.45	36.45	1.71	1.13	2.71	58.30	98.49	1.398	CH	Brownish grey, fat clay
816	**9221**	2	T26	-1.70	D3	4.00	4.45	-5.70	-6.15				100.0	99.90	99.86	99.36	49.02		59.58	20.87	38.71			2.72				CH	Brownish grey, fat clay
817	**9222**	2	T26	-1.70	D4	5.00	5.45	-6.70	-7.15				100.0	99.96	99.82	99.10	49.70		65.50	22.45	43.05			2.71				CH	Brownish grey, fat clay
818	**9223**	3c	T26	-1.70	D5	6.00	6.45	-7.70	-8.15			100.00	100.0	99.30	68.58	9.22	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
819	**9224**	3c	T26	-1.70	D6	7.00	7.45	-8.70	-9.15			100.00	99.98	99.14	72.55	10.96	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
820	**9225**	3c	T26	-1.70	D7	8.00	8.45	-9.70	-10.15			100.00	99.96	99.46	70.50	7.61	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
821	**9226**	3c	T26	-1.70	D8	9.00	9.45	-10.70	-11.15			100.00	99.94	99.60	75.88	7.47	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
822	**9227**	3c	T26	-1.70	D9	10.00	10.45	-11.70	-12.15			100.00	99.96	99.68	65.07	7.47	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
823	**9228**	4	T26	-1.70	U10	11.00	11.60	-12.70	-13.30			100.00	99.80	99.42	99.30	97.55	53.51	31.96	64.06	22.30	41.76	1.85	1.4	2.71	48.35	92.53	0.936	CH	Brownish grey, reddish brown,, fat clay
824	**9229**	4	T26	-1.70	D11	12.00	12.45	-13.70	-14.15			100.00	99.96	99.72	99.62	98.13	53.13		79.50	23.83	55.67			2.72				CH	Brownish grey, reddish brown,, fat clay
825	**9230**	4	T26	-1.70	D12	13.00	13.45	-14.70	-15.15			100.00	99.94	99.90	99.84	98.64	48.99		64.42	23.50	40.92			2.71				CH	Brownish grey, reddish brown,, fat clay
826	**9231**	4	T26	-1.70	D13	14.00	14.45	-15.70	-16.15				100.0	99.96	99.84	98.04	48.46		65.79	22.98	42.81			2.72				CH	Brownish grey, reddish brown,, fat clay
827	**9232**	5	T26	-1.70	D14	15.00	15.45	-16.70	-17.15			100.00	99.98	99.88	99.56	98.35	47.66		65.90	21.54	44.36			2.71				CH	Grey, fat clay
828	**9233**	5	T26	-1.70	U15	16.00	16.80	-17.70	-18.50			100.00	99.80	99.60	99.46	95.36	44.12	39.66	58.15	20.68	37.47	1.79	1.28	2.71	52.76	96.22	1.117	CH	Grey, fat clay
829	**9234**	5	T26	-1.70	D16	18.00	18.45	-19.70	-20.15					100.0	99.98	97.52	49.99		54.42	21.78	32.64			2.72				CH	Grey, fat clay
830	**9235**	5	T26	-1.70	U17	19.00	19.45	-20.70	-21.15			100.00	99.78	99.48	99.10	86.63	42.16	47.69	66.11	22.36	43.75	1.73	1.17	2.71	56.82	98.21	1.316	CH	Grey, fat clay
831	**9236**	5	T26	-1.70	D18	21.00	21.45	-22.70	-23.15			100.00	99.74	99.62	99.34	88.59	43.88		55.93	21.74	34.19			2.71				CH	Grey, fat clay
832	**9237**	1b	T29	-1.48	D1	1.00	1.45	-2.48	-2.93				100.0	99.16	98.45	77.17	20.07		36.58	22.56	14.02			2.68				CL	Grey, brownish grey, lean clay with sand
833	**9238**	2	T29	-1.48	U2	2.00	2.80	-3.48	-4.28			100.00	99.94	99.86	99.64	86.91	25.17	48.69	51.61	21.09	30.52	1.73	1.16	2.69	56.88	99.30	1.319	CH	Brownish grey, fat clay
834	**9239**	2	T29	-1.48	D3	4.00	4.45	-5.48	-5.93					100.0	99.46	92.34	24.63		57.80	23.89	33.91			2.69				CH	Brownish grey, fat clay
835	**9240**	2	T29	-1.48	D4	5.00	5.45	-6.48	-6.93				100.0	99.88	99.82	99.34	38.38		86.31	26.04	60.27			2.70				CH	Brownish grey, fat clay
836	**9241**	2	T29	-1.48	U5	6.00	6.80	-7.48	-8.28			100.00	94.36	91.51	91.40	85.84	43.00	66.31	80.96	20.54	60.42	1.60	0.96	2.70	64.45	98.75	1.813	CH	Brownish grey, fat clay
837	**9242**	3b	T29	-1.48	D6	8.00	8.45	-9.48	-9.93			100.00	99.56	99.28	97.85	70.45	25.71		28.41	13.85	14.56			2.68				CL	Yellowish grey, lean clay with sand
838	**9243**	3b	T29	-1.48	U7	9.00	9.70	-10.48	-11.18				100.0	99.86	99.40	83.50	36.31	29.27	35.32	14.69	20.63	1.88	1.45	2.70	46.29	91.68	0.862	CL	Yellowish grey, lean clay with sand
839	**9244**	3b	T29	-1.48	D8	10.00	10.45	-11.48	-11.93			100.00	99.86	99.70	98.72	75.42	30.06		36.96	16.22	20.74			2.70				CL	Yellowish grey, lean clay with sand
840	**9245**	3b	T29	-1.48	D9	11.00	11.45	-12.48	-12.93			100.00	99.92	99.74	98.98	80.29	35.03		38.32	15.08	23.24			2.71				CL	Yellowish grey, lean clay with sand

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

Table 2: Initial void ratio eo and Void ratio e at load P KN/m²

No.	Test No.	Initial Void ratio eo	12.5	25	50	100	200	400	800	1600
736	9141	1.069		1.034	1.013	0.985	0.946	0.881	0.748	0.614
743	9148	1.118	1.081	1.061	1.028	0.972	0.896	0.805	0.709	
746	9151	1.803	1.775	1.760	1.730	1.649	1.421	1.167	0.913	
749	9154	0.657	0.641	0.620	0.597	0.566	0.530	0.489	0.444	
756	9161	1.101		1.088	1.076	1.060	1.032	0.970	0.785	0.608
759	9164	1.258		1.239	1.222	1.201	1.166	1.054	0.837	0.673
766	9171	1.102	1.086	1.070	1.043	0.999	0.921	0.822	0.714	
769	9174	1.828	1.788	1.754	1.694	1.583	1.360	1.120	0.837	
772	9177	1.035	1.021	1.009	0.991	0.962	0.900	0.790	0.673	
775	9180	0.776		0.759	0.745	0.727	0.696	0.646	0.577	0.506
781	9186	1.258		1.228	1.202	1.167	1.107	0.991	0.826	0.684
785	9190	1.365		1.326	1.299	1.262	1.205	1.078	0.865	0.694
791	9196	1.103	1.037	1.018	0.995	0.934	0.855	0.769	0.687	
795	9200	0.672	0.662	0.652	0.639	0.623	0.601	0.576	0.548	
798	9203	0.595		0.567	0.553	0.533	0.507	0.483	0.452	0.415
805	9210	1.101		1.071	1.053	1.025	0.983	0.926	0.782	0.629
815	9220	0.909	0.878	0.855	0.835	0.778	0.668	0.549	0.429	
823	9228	1.037		1.014	0.997	0.974	0.943	0.896	0.811	0.693
828	9233	1.101		1.068	1.050	1.027	0.993	0.945	0.805	0.647
830	9235	1.357		1.333	1.319	1.300	1.261	1.086	0.869	0.704
833	9238	1.188	1.152	1.131	1.099	1.043	0.938	0.817	0.698	
836	9241	0.737	0.716	0.699	0.668	0.609	0.476	0.334	0.190	

Table 3: Cv (Coefficient of Consolidation) at load $\sqrt{P_{i-1} \times P_i}$ KN/m²

No.	Test No.	12.5	25	50	100	200	400	800	1600
736	9141		0.690	0.710	1.080	1.480	1.150	0.630	0.710
743	9148	3.573	1.365	1.530	1.333	2.113	3.158	2.048	
746	9151	2.315	1.282	1.164	1.666	0.217	0.499	0.444	
749	9154	1.154	1.225	0.594	0.999	0.894	1.821	1.512	
756	9161		1.930	1.300	1.170	1.720	0.820	0.610	0.540
759	9164		2.780	2.500	2.590	3.190	0.660	0.490	0.540
766	9171	2.504	1.528	0.981	0.949	1.101	1.747	1.054	
769	9174	1.540	1.129	1.393	0.599	0.299	0.369	0.328	
772	9177	1.254	1.110	0.792	1.242	0.762	0.760	0.530	
775	9180		0.760	1.150	1.780	1.930	1.400	1.270	1.130
781	9186		1.310	1.540	1.550	2.390	1.120	0.910	0.970
785	9190		0.710	1.010	1.290	1.860	0.640	0.610	0.570
791	9196	1.577	0.177	0.434	1.255	1.487	0.281	0.917	
795	9200	0.931	0.847	1.095	0.778	0.631	1.336	0.691	
798	9203		0.600	0.930	1.540	1.830	2.790	3.080	3.310
805	9210		0.820	0.690	1.060	1.500	0.890	0.650	0.640
815	9220	1.201	0.805	0.383	0.547	0.626	0.760	0.805	
823	9228		1.860	4.550	3.590	3.630	1.190	1.130	0.790
828	9233		1.020	1.340	1.070	1.570	1.120	0.510	0.490
830	9235		1.620	1.070	2.010	3.140	0.450	0.640	0.590
833	9238	3.587	1.015	2.049	1.182	1.443	2.454	1.184	
836	9241	1.902	0.599	0.753	0.774	0.478	0.561	0.459	

Table 4: mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m²

No.	Test No.	12.5	25	50	100	200	400	800	1600
736	9141		0.678	0.417	0.284	0.198	0.170	0.183	0.099
743	9148	0.639	0.486	0.280	0.236	0.161	0.097	0.051	
746	9151	0.616	0.486	0.332	0.456	0.639	0.356	0.178	
749	9154	0.209	0.248	0.148	0.104	0.061	0.034	0.019	
756	9161		0.257	0.232	0.153	0.138	0.155	0.246	0.130
759	9164		0.352	0.304	0.189	0.158	0.267	0.278	0.117
766	9171	0.272	0.269	0.223	0.185	0.164	0.104	0.057	
769	9174	0.902	0.838	0.677	0.628	0.631	0.339	0.200	
772	9177	0.232	0.212	0.146	0.118	0.127	0.112	0.060	
775	9180		0.398	0.312	0.208	0.184	0.149	0.106	0.058
781	9186		0.544	0.473	0.322	0.278	0.284	0.215	0.101
785	9190		0.676	0.466	0.318	0.255	0.297	0.270	0.120
791	9196	1.108	0.718	0.191	0.256	0.167	0.090	0.043	
795	9200	0.140	0.134	0.084	0.055	0.037	0.021	0.012	
798	9203		0.725	0.352	0.254	0.171	0.081	0.054	0.032
805	9210		0.560	0.352	0.273	0.212	0.146	0.194	0.112
815	9220	0.465	0.410	0.153	0.218	0.210	0.113	0.057	
823	9228		0.457	0.352	0.229	0.161	0.122	0.114	0.085
828	9233		0.625	0.343	0.230	0.167	0.123	0.187	0.115
830	9235		0.402	0.239	0.169	0.171	0.402	0.275	0.115
833	9238	0.616	0.498	0.275	0.247	0.229	0.133	0.065	
836	9241	0.288	0.259	0.217	0.208	0.230	0.124	0.063	

Table 5: Consolidation parameters, Unconfined compression test, UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5), CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10

No.	Test No.	Log Average in Over consolidated Cv(o) (10^{-3}cm²/s)	Log Average in Nomal consolidated Cv(n) (10^{-3}cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	Log Average at Load increment 1 - 2 KG/cm² k (10^{-7}cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)	Specimen 1 q_u (KG/cm²)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm²)	Specimen 2 Failure Strain ef (%)	Cuu (KN/m²)	fuu (deg.)	Ccu (KN/m²)	fcu (deg.)
736	9141	0.941	0.801	0.237	0.297	0.450	0.217	0.077	0.037	0.043	0.021	2.761	1.18	5.20	1.14	5.80	28.66	1°02'		
743	9148	1.954	2.066	0.195	0.522	0.320	0.151	0.089	0.042	0.076	0.037	0.960	0.53	7.42	0.52	7.91	4.03	0°43'	17.23	22o44'
746	9151	1.511	0.532	0.540	0.424	0.843	0.301	0.083	0.030	0.083	0.030	0.910	0.46	4.79	0.34	4.79	11.15	0°50'		
749	9154	0.943	1.252	0.079	0.170	0.149	0.090	0.068	0.041	0.037	0.023	0.890	0.72	13.60	0.83	13.20	14.52	0°42'	18.05	19°23'
756	9161	1.499	0.646	0.145	0.206	0.590	0.281	0.035	0.017	0.117	0.056	2.816	1.14	3.28	1.20	3.81	58.70		29.00	17°12'
759	9164	2.753	0.559	0.173	0.499	0.540	0.239	0.061	0.027	0.110	0.049	2.705	1.23	4.72	1.17	4.25	36.90	1°46'		
766	9171	1.374	1.266	0.174	0.333	0.358	0.170	0.064	0.030	0.051	0.025	1.090	0.46	4.00	0.35	5.60	4.77	1°51'	17.60	25°28'
769	9174	1.097	0.331	0.630	0.294	0.939	0.332	0.153	0.054	0.136	0.049	1.140	0.37	5.80	0.48	5.70	5.29	2°06'		
772	9177	1.082	0.674	0.122	0.302	0.390	0.192	0.041	0.020	0.034	0.017	1.360	0.40	5.10	0.46	3.80	18.45	1°41'	18.16	18°05'
775	9180	1.316	1.262	0.196	0.358	0.240	0.135	0.045	0.025	0.065	0.037	2.025	1.25	5.70	1.35	3.80			20.60	23°22'
781	9186	1.653	0.996	0.299	0.575	0.470	0.208	0.097	0.043	0.102	0.045	2.168	0.93	5.20	0.89	7.50	20.02	3°17'	26.00	18o50'
785	9190	1.145	0.606	0.285	0.444	0.570	0.241	0.092	0.039	0.138	0.058	2.390	1.22	7.00	1.15	4.80	37.54	1°13'		
791	9196	0.494	0.833	0.207	0.429	0.273	0.130	0.067	0.032	0.019	0.010	0.520	0.22	2.30	0.40	6.30	10.97	0°33'	18.69	19o49'
795	9200	0.905	0.835	0.045	0.073	0.094	0.056	0.032	0.019	0.023	0.014	1.010	0.24	5.70	0.17	3.00	10.16	1°03'		
798	9203	0.951	2.686	0.209	0.352	0.120	0.075	0.043	0.027	0.012	0.008	1.881	0.19	3.30	0.16	2.00	24.71	0°09'		
805	9210	0.974	0.718	0.240	0.301	0.510	0.243	0.072	0.034	0.106	0.050	3.082	1.30	6.60	1.43	6.60	38.48	1°57'	31.70	17°54'
808	9213												0.64	3.90	0.54	4.00	43.26	1°53'		
815	9220	0.718	0.677	0.214	0.284	0.399	0.209	0.081	0.042	0.062	0.033	0.860	0.43	3.30	0.44	3.00	17.50	0°53'	18.79	16°46'
823	9228	3.241	1.020	0.192	0.689	0.390	0.191	0.060	0.029	0.083	0.041	2.486	1.10	4.60	1.17	5.40	20.24	0°24'		
828	9233	1.231	0.654	0.196	0.252	0.520	0.248	0.065	0.031	0.110	0.052	3.500	1.14	3.80	1.29	4.70	32.04	3°51'	39.00	16°42'
830	9235	1.819	0.554	0.170	0.420	0.550	0.233	0.063	0.027	0.126	0.053	2.199	0.88	2.40	1.07	4.00	40.83	0°33'		
833	9238	1.954	1.492	0.238	0.538	0.395	0.180	0.091	0.042	0.063	0.029	0.850	0.21	6.70	0.42	7.50	8.96	0°52'		
836	9241	0.950	0.555	0.218	0.401	0.478	0.275	0.085	0.049	0.056	0.033	0.880	0.45	6.30	0.27	4.50	13.88	1°18'	22.50	15°41'
838	9243												0.42	9.50	0.30	8.50	13.84	0°20'		

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From	GL-(m) To	DL(m) From	DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm3) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo	Soil group	Description
841	9246	4	T29	-1.48	D10	12.00	12.45	-13.48	-13.93			100.00	99.88	99.46	98.72	93.78	44.71		51.02	19.87	31.15			2.71				CH	Yellowish grey, fat clay
842	9247	4	T29	-1.48	D11	13.00	13.45	-14.48	-14.93			100.00	99.30	98.19	96.91	91.19	50.89		50.80	20.28	30.52			2.72				CH	Yellowish grey, fat clay
843	9248	4	T29	-1.48	D12	14.00	14.45	-15.48	-15.93			100.00	99.34	98.98	98.68	96.21	54.34		50.25	19.09	31.16			2.72				CH	Yellowish grey, fat clay
844	9249	5	T29	-1.48	U13	15.00	15.50	-16.48	-16.98				100.0	99.86	99.76	96.35	53.82	39.44	57.78	19.77	38.01	1.80	1.29	2.71	52.40	97.08	1.101	CH	Grey, fat clay
845	9250	5	T29	-1.48	D14	17.00	17.45	-18.48	-18.93					100.0	99.96	97.32	39.47		73.87	20.64	53.23			2.70				CH	Grey, fat clay
846	9251	5	T29	-1.48	D15	18.00	18.45	-19.48	-19.93					100.0	97.54	94.54	42.13		74.66	21.54	53.12			2.71				CH	Grey, fat clay
847	9252	5	T29	-1.48	U16	19.00	19.80	-20.48	-21.28					100.0	99.96	99.88	47.97	42.35	56.58	21.37	35.21	1.75	1.23	2.71	54.61	95.40	1.203	CH	Grey, fat clay
848	9253	5	T29	-1.48	D17	21.00	21.45	-22.48	-22.93					100.0	99.98	95.89	37.43		69.18	22.54	46.64			2.70				CH	Grey, fat clay
849	9254	5	T29	-1.48	D18	22.00	22.45	-23.48	-23.93				100.0	99.86	93.21	87.00	37.52		59.16	21.15	38.01			2.71				CH	Grey, fat clay
850	9255	5	T29	-1.48	D19	23.00	23.45	-24.48	-24.93		100.00	99.91	99.85	99.71	99.63	96.44	41.72		68.59	23.46	45.13			2.71				CH	Grey, fat clay
851	9256	5	T29	-1.48	D20	24.00	24.45	-25.48	-25.93				100.0	99.90	96.82	91.44	44.16		69.76	24.78	44.98			2.71				CH	Grey, fat clay
852	9257	5	T29	-1.48	D21	25.00	25.45	-26.48	-26.93			100.00	99.94	99.76	99.66	97.31	41.66		64.37	24.14	40.23			2.71				CH	Grey, fat clay
853	9258	1b	T32	0.15	D1	1.00	1.45	-0.85	-1.30					100.0	99.78	91.62	17.72		41.76	25.56	16.20			2.68				CL	Grey, brownish grey, lean clay
854	9259	1b	T32	0.15	U2	2.00	2.90	-1.85	-2.75			100.00	99.94	99.64	99.16	66.34	18.04	38.18	37.04	20.56	16.48	1.83	1.32	2.69	50.93	98.94	1.038	CL	Grey, brownish grey, sandy lean clay
855	9260	2	T32	0.15	D3	4.00	4.45	-3.85	-4.30				100.0	99.82	98.04	95.24	53.51		63.59	28.45	35.14			2.72				CH	Brownish grey, fat clay
856	9261	2	T32	0.15	U4	5.00	5.90	-4.85	-5.75				100.0	99.96	99.12	97.10	54.90	53.43	60.02	27.76	32.26	1.69	1.1	2.72	59.56	98.66	1.473	CH	Brownish grey, fat clay
857	9262	3b	T32	0.15	D5	7.00	7.45	-6.85	-7.30			100.00	98.34	96.90	78.10	36.55	9.37		24.28	18.50	5.78			2.66				SC	Yellowish grey, clayey sand
858	9263	3b	T32	0.15	U6	8.00	8.90	-7.85	-8.75			100.00	99.76	99.02	87.83	26.16	4.78	26.24	29.82	24.20	5.62	1.89	1.5	2.65	43.41	90.66	0.767	SC	Yellowish grey, clayey sand
859	9264	3c	T32	0.15	D7	9.00	9.45	-8.85	-9.30			100.00	99.87	99.45	85.81	10.40	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
860	9265	3c	T32	0.15	D8	10.00	10.45	-9.85	-10.30		100.00	99.85	99.69	99.47	86.13	6.58	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
861	9266	3c	T32	0.15	D9	11.00	11.45	-10.85	-11.30			100.00	99.88	99.53	84.97	11.41	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
862	9267	3c	T32	0.15	D10	12.00	12.45	-11.85	-12.30		100.00	99.82	99.76	99.57	85.62	11.32	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
863	9268	3c	T32	0.15	D11	13.00	13.45	-12.85	-13.30			100.00	99.95	99.75	85.98	11.78	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
864	9269	4	T32	0.15	D12	14.00	14.45	-13.85	-14.30			100.00	99.96	99.70	99.06	92.68	41.06		58.24	19.27	38.97			2.70				CH	Yellowish grey, fat clay
865	9270	4	T32	0.15	D13	15.00	15.45	-14.85	-15.30			100.00	99.04	98.60	95.35	87.82	41.92		55.31	22.25	33.06			2.71				CH	Yellowish grey, fat clay
866	9271	5	T32	0.15	D14	16.00	16.45	-15.85	-16.30					100.0	99.93	94.20	37.62		64.12	21.56	42.56			2.70				CH	Grey, Bluish grey, fat clay
867	9272	5	T32	0.15	U15	17.00	17.90	-16.85	-17.75			100.00	99.96	99.80	99.52	93.99	45.00	48.76	60.14	20.33	39.81	1.73	1.16	2.71	57.19	98.91	1.336	CH	Grey, Bluish grey, fat clay
868	9273	5	T32	0.15	D16	19.00	19.45	-18.85	-19.30					100.0	99.96	96.30	49.28		66.15	20.81	45.34			2.72				CH	Grey, Bluish grey, fat clay
869	9274	5	T32	0.15	U17	20.00	20.90	-19.85	-20.75					100.0	99.98	96.56	48.40	41.25	60.30	20.70	39.60	1.74	1.23	2.72	54.77	92.65	1.211	CH	Grey, Bluish grey, fat clay
870	9275	5	T32	0.15	D18	22.00	22.45	-21.85	-22.30					100.0	99.98	99.32	45.79		60.50	21.75	38.75			2.71				CH	Grey, Bluish grey, fat clay
871	9276	5	T32	0.15	D19	23.00	23.45	-22.85	-23.30					100.0	99.96	78.19	47.38		58.37	21.64	36.73			2.71				CH	Grey, Bluish grey, fat clay with sand
872	9277	5	T32	0.15	D20	24.00	24.45	-23.85	-24.30					100.0	99.92	97.46	44.35		58.22	21.54	36.68			2.72				CH	Grey, Bluish grey, fat clay
873	9278	5	T32	0.15	D21	25.00	25.45	-24.85	-25.30			100.00	99.92	99.18	98.78	94.91	38.38		61.94	20.87	41.07			2.71				CH	Grey, Bluish grey, fat clay
874	9279	5	T32	0.15	D22	26.00	26.45	-25.85	-26.30			100.00	99.94	99.12	98.53	95.71	39.61		64.93	21.87	43.06			2.70				CH	Grey, Bluish grey, fat clay
875	9280	1a	T34	0.42	D1	1.00	1.45	-0.58	-1.03			100.00	96.84	90.83	60.64	0.83	0.00							2.66				SP	Grey, poorly graded sand
876	9281	1a	T34	0.42	D2	2.00	2.45	-1.58	-2.03			100.00	98.72	93.36	60.84	4.34	0.00							2.65				SP	Grey, poorly graded sand
877	9282	2	T34	0.42	D3	3.00	3.45	-2.58	-3.03			100.00	99.82	99.36	98.13	87.43	20.83		78.78	29.30	49.48			2.68				CH	Brownish grey, fat clay
878	9283	2	T34	0.42	U4	4.00	4.90	-3.58	-4.48			100.00	99.72	99.08	98.25	92.89	20.01	45.97	50.44	26.98	23.46	1.73	1.19	2.69	55.77	98.06	1.261	CH	Brownish grey, fat clay
879	9284	2	T34	0.42	D5	5.00	5.45	-4.58	-5.03			100.00	99.88	99.72	99.54	98.05	36.47		55.55	27.48	28.07			2.71				CH	Brownish grey, fat clay
880	9285	2	T34	0.42	D6	6.00	6.45	-5.58	-6.03		100.00	99.69	99.31	99.15	98.83	90.21	20.25		52.37	25.45	26.92			2.69				CH	Brownish grey, fat clay
881	9286	3a	T34	0.42	D8	8.00	8.45	-7.58	-8.03		100.00	99.84	99.60	98.94	92.27	26.67	7.70		23.10	13.78	9.32			2.65				SC	Yellowish grey, clayey sand
882	9287	3b	T34	0.42	D9	9.00	9.45	-8.58	-9.03	100.00	99.76	99.70	99.54	99.20	97.22	59.91	23.71		28.71	12.64	16.07			2.68				CL	Yellowish grey, brownish grey, sandy lean clay
883	9288	3b	T34	0.42	U10	10.00	10.90	-9.58	-10.48			100.00	99.96	99.70	98.40	69.79	28.34	34.41	37.78	21.47	16.31	1.87	1.39	2.69	48.32	99.00	0.935	CL	Yellowish grey, brownish grey, sandy lean clay
884	9289	3b	T34	0.42	D11	11.00	11.45	-10.58	-11.03			100.00	98.78	97.06	86.81	44.76	21.68		41.94	24.98	16.96			2.68				CL	Yellowish grey, brownish grey, sandy lean clay
885	9290	3b	T34	0.42	D12	12.00	12.45	-11.58	-12.03			100.00	99.18	97.51	82.47	44.63	20.03		34.18	18.45	15.73			2.67				CL	Yellowish grey, brownish grey, sandy lean clay
886	9291	4	T34	0.42	D13	13.00	13.45	-12.58	-13.03			100.00	99.60	99.36	99.14	97.41	52.52		57.20	21.56	35.64			2.72				CH	Yellowish brown, fat clay
887	9292	4	T34	0.42	D14	14.00	14.45	-13.58	-14.03			100.00	99.58	99.30	99.10	97.53	53.65		57.86	20.41	37.45			2.72				CH	Yellowish brown, fat clay
888	9293	4	T34	0.42	D15	15.00	15.45	-14.58	-15.03		100.00	99.61	98.79	98.41	98.13	95.32	47.22		50.52	20.77	29.75			2.71				CH	Yellowish brown, fat clay
889	9294	5	T34	0.42	U16	16.00	16.90	-15.58	-16.48				100.0	99.98	99.94	97.22	46.57	41.84	60.78	20.56	40.22	1.77	1.25	2.70	53.70	97.39	1.160	CH	Grey, fat clay
890	9295	5	T34	0.42	D17	17.00	17.45	-16.58	-17.03					100.0	99.10	96.94	49.77		67.99	21.21	46.78			2.71				CH	Grey, fat clay
891	9296	5	T34	0.42	D18	18.00	18.45	-17.58	-18.03					100.0	99.98	98.44	47.56		58.43	22.40	36.03			2.72				CH	Grey, fat clay
892	9297	5	T34	0.42	D19	19.00	19.45	-18.58	-19.03					100.0	99.94	98.00	48.31		57.43	20.56	36.87			2.71				CH	Grey, fat clay
893	9298	5	T34	0.42	D20	20.00	20.45	-19.58	-20.03					100.0	99.96	95.02	30.84		59.60	21.87	37.73			2.70				CH	Grey, fat clay
894	9299	5	T34	0.42	D22	22.00	22.45	-21.58	-22.03					100.0	99.88	96.14	33.04		66.34	22.75	43.59			2.71				CH	Grey, fat clay
895	9300	5	T34	0.42	D23	23.00	23.45	-22.58	-23.03				100.0	99.95	99.90	96.03	48.84		63.70	20.78	42.92			2.72				CH	Grey, fat clay
896	9301	5	T34	0.42	D24	24.00	24.45	-23.58	-24.03			100.00	99.92	99.80	99.48	95.36	44.52		71.31	21.56	49.75			2.71				CH	Grey, fat clay
897	9302	5	T34	0.42	D25	25.00	25.45	-24.58	-25.03					100.0	99.96	98.18	47.38		66.79					2.71				CH	Grey, fat clay
898	9303	5	T34	0.42	D26	26.00	26.45	-25.58	-26.03					100.0	99.98	98.34	51.53		68.71	20.60	48.11			2.72				CH	Grey, fat clay
899	9304	1b	T46	-0.80	D1	1.00	1.45	-1.80	-2.25			100.00	99.66	98.66	97.18	85.95	18.36		46.57	33.50	13.07			2.69				CL	Grey, brownish grey, lean clay
900	9305	1b	T46	-0.80	U2	2.00	2.90	-2.80	-3.70			100.00	99.76	98.94	97.61	63.95	17.52	40.92	41.22	24.24	16.98	1.79	1.27	2.68	52.61	98.80	1.110	CL	Grey, brownish grey, sandy lean clay
901	9306	2	T46	-0.80	D3	3.00	3.45	-3.80	-4.25					100.0	99.96	98.44	31.42		64.40	25.46	38.94			2.70				CH	Brownish grey, fat clay
902	9307	2	T46	-0.80	D4	4.00	4.45	-4.80	-5.25			100.00	98.38	98.03	96.40	91.09	40.02		61.30	24.61	36.69			2.71				CH	Brownish grey, fat clay
903	9308	2	T46	-0.80	U5	5.00	5.90	-5.80	-6.70			100.00	99.34	98.37	92.43	70.04	37.71	60.04	68.91	26.89	42.02	1.64	1.02	2.70	62.22	98.43	1.647	CH	Brownish grey, fat clay with sand
904	9309	3b	T46	-0.80	D6	6.00	6.45	-6.80	-7.25			100.00	97.70	96.21	75.91	32.91	0.00		24.09	13.54	10.55			2.66				SC	Yellowish grey, light grey, clayey sand
905	9310	3b	T46	-0.80	D7	7.00	7.45	-7.80	-8.25			100.00	99.18	97.32	69.10	34.80	0.00		24.84	12.91	11.93			2.65				SC	Yellowish grey, light grey, clayey sand
906	9311	3b	T46	-0.80	D8	8.00	8.45	-8.80	-9.25			100.00	99.92	99.86	98.08	57.75	15.42		35.89	19.45	16.44			2.67				CL	Grey, sandy lean clay
907	9312	3b	T46	-0.80	D9	9.00	9.45	-9.80	-10.25			100.00	99.94	99.54	98.96	55.75	17.46		32.82	16.91	15.91			2.68				CL	Grey, sandy lean clay
908	9313	3b	T46	-0.80	D10	10.00	10.45	-10.80	-11.25			100.00	99.92	99.34	98.23	68.82	19.67		39.36	23.20	16.16			2.67				CL	Grey, sandy lean clay
909	9314	3b	T46	-0.80	U11	11.00	11.90	-11.80	-12.70				100.0	99.56	92.81	55.17	11.77	34.30	37.36	26.69	10.67	1.86	1.38	2.65	47.92	98.80	0.920	CL	Grey, sandy lean clay
910	9315	3b	T46	-0.80	D12	12.00	12.45	-12.80	-13.25			100.00	99.60	97.69	94.64	64.92	13.57		37.09	19.50	17.59			2.67				CL	Grey, sandy lean clay
911	9316	3b	T46	-0.80	D13	13.00	13.45	-13.80	-14.25				100.0	99.38	91.01	50.13	11.70		42.96	26.64	16.32			2.65				CL	Grey, sandy lean clay
912	9317	5	T46	-0.80	D14	14.00	14.45	-14.80	-15.25	100.00	99.88	99.86	99.84	99.82	97.42	95.08	50.29		66.15	22.48	43.67			2.71				CH	Grey, fat clay
913	9318	5	T46	-0.80	D15	15.00	15.45	-15.80	-16.25				100.0	99.86	93.35	87.26	47.80		65.05	21.89	43.16			2.71				CH	Grey, fat clay
914	9319	5	T46	-0.80	U16	16.00	16.90	-16.80	-17.70				100.0	99.96	99.88	96.26	46.23	42.16	61.65	22.40	39.25	1.79	1.26	2.71	53.51	99.26	1.151	CH	Grey, fat clay
915	9320	5	T46	-0.80	D17	17.00	17.45	-17.80	-18.25				100.0	99.80	99.43	94.83	35.33		65.62	20.56	45.06			2.71				CH	Grey, fat clay
916	9321	5	T46	-0.80	D18	18.00	18.45	-18.80	-19.25				100.0	99.83	99.58	94.40	36.10		59.86	22.56	37.30			2.70				CH	Grey, fat clay
917	9322	5	T46	-0.80	D19	19.00	19.45	-19.80	-20.25				100.0	99.95	97.30	95.18	37.07		58.18	20.79	37.39			2.71				CH	Grey, fat clay
918	9323	5	T46	-0.80	D20	20.00	20.45	-20.80	-21.25				100.0	99.98	97.14	94.23	37.28		64.99	21.74	43.25			2.70				CH	Grey, fat clay
919	9324	5	T46	-0.80	D21	21.00	21.45	-21.80	-22.25				100.0	99.98	99.66	95.59	42.54		65.27	22.45	42.82			2.71				CH	Grey, fat clay
920	9325	5	T46	-0.80	D22	22.00	22.45	-22.80	-23.25				100.0	99.96	99.50	95.36	40.61		61.82	20.64	41.18			2.71				CH	Grey, fat clay
921	9326	5	T46	-0.80	D23	23.00	23.45	-23.80	-24.25		100.00	99.87	99.85	99.69	99.47	92.37	38.49		65.29	20.87	44.42			2.70				CH	Grey, fat clay
922	9327	1b	T48	-0.33	D1	1.00	1.45	-1.33	-1.78				100.0	99.68	98.80	71.85	18.30		41.91	26.54	15.37			2.68				CL	Grey, brownish grey, lean clay with sand
923	9328	1b	T48	-0.33	D2	2.00	2.45	-2.33	-2.78			100.00	99.64	99.22	98.43	70.87	16.10		44.73	28.01	16.72			2.67				CL	Grey, brownish grey, lean clay with sand
924	9329	2	T48	-0.33	U3	3.00	3.90	-3.33	-4.23			100.00	99.84	99.58	98.72	91.04	37.88	61.32	72.39	24.96	47.43	1.62	1	2.70	62.96	97.39	1.700	CH	Brownish grey, fat clay
925	9330	2	T48	-0.33	D4	4.00	4.45	-4.33	-4.78					100.0	99.96	99.12	46.45		78.70	23.87	54.83			2.71				CH	Brownish grey, fat clay
926	9331	2	T48	-0.33	D5	5.00	5.45	-5.33	-5.78					100.0	99.84	97.72	47.85		80.04	25.55	54.49			2.72				CH	Brownish grey, fat clay
927	9332	3b	T48	-0.33	U6	6.00	6.90	-6.33	-7.23			100.00	98.90	97.16	96.99	34.10	8.40	23.98	27.04	18.47	8.57	1.87	1.51	2.65	43.02	84.17	0.755	SC	Yellowish grey, light grey, clayey sand
928	9333	3b	T48	-0.33	D7	7.00	7.45	-7.33	-7.78			100.00	99.88	97.64	69.19	46.16	19.65		25.82	17.50	8.32			2.67				SC	Yellowish grey, light grey, clayey sand
929	9334	3b	T48	-0.33	D8	8.00	8.45	-8.33	-8.78			100.00	99.16	98.19	89.12	32.12	7.88		25.42	12.11	13.31			2.66				SC	Yellowish grey, light grey, clayey sand
930	9335	3b	T48	-0.33	U9	9.00	9.90	-9.33	-10.23				100.0	97.90	72.23	47.40	9.06	21.73	24.25	11.73	12.52	1.86	1.53	2.65	42.26	78.67	0.732	SC	Yellowish grey, light grey, clayey sand
931	9336	3b	T48	-0.33	D10	10.00	10.45	-10.33	-10.78				100.0	98.56	68.22	43.54	8.85		24.16	12.79	11.37			2.66				SC	Yellowish grey, light grey, clayey sand
932	9337	3b	T48	-0.33	D11	11.00	11.45	-11.33	-11.78			100.00	99.96	98.42	68.78	45.66	8.87		26.30	16.13	10.17			2.65				SC	Yellowish grey, light grey, clayey sand
933	9338	3b	T48	-0.33	D12	12.00	12.45	-12.33	-12.78				100.0	98.28	68.95	45.47	9.02		25.56	11.84	13.72			2.66				SC	Yellowish grey, light grey, clayey sand
934	9339	3c	T48	-0.33	D14	14.00	14.45	-14.33	-14.78		100.00	99.83	99.25	96.23	68.32	10.43	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
935	9340	3c	T48	-0.33	D15	15.00	15.45	-15.33	-15.78				100.0	99.78	53.02	11.34	0.00							2.66				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
936	9341	3c	T48	-0.33	D16	16.00	16.45	-16.33	-16.78			100.00	99.80	98.72	78.70	11.82	0.00							2.65				SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
937	9342	4	T48	-0.33	D17	17.00	17.45	-17.33	-17.78			100.00	99.86	98.58	91.38	57.26	33.69		40.09	14.09	26.00			2.70				CL	Yellowish grey, Reddish brown, sandy lean clay
938	9343	4	T48	-0.33	D18	18.00	18.45	-18.33	-18.78				100.0	98.70	90.47	57.05	32.84		33.10	13.81	19.29			2.70				CL	Yellowish grey, Reddish brown, sandy lean clay
939	9344	5	T48	-0.33	U19	19.00	19.80	-19.33	-20.13					100.0	99.94	97.94	43.72	49.15	63.61	18.58	45.03	1.73	1.16	2.72	57.36	99.40	1.345	CH	Grey, fat clay
940	9345	5	T48	-0.33	D20	20.00	20.45	-20.33	-20.78					100.0	99.88	97.26	45.05		65.98	19.86	46.12			2.71				CH	Grey, fat clay
941	9346	5	T48	-0.33	D21	21.00	21.45	-21.33	-21.78					100.0	99.84	96.94	43.14		61.94	20.56	41.38			2.72				CH	Grey, fat clay
942	9347	5	T48	-0.33	U22	22.00	22.80	-22.33	-23.13					100.0	99.98	97.54	50.91	47.57	65.22	21.95	43.27	1.74	1.18	2.72	56.62	99.15	1.305	CH	Grey, fat clay
943	9348	5	T48	-0.33	D23	23.00	23.45	-23.33	-23.78					100.0	99.94	96.66	48.48		66.31	21.93	44.38			2.71				CH	Grey, fat clay
944	9349	5	T48	-0.33	D24	24.00	24.45	-24.33	-24.78					100.0	99.85	96.85	40.03		67.37	20.76	46.61			2.70				CH	Grey, fat clay
945	9350	5	T48	-0.33	D25	25.00	25.45	-25.33	-25.78					100.0	99.80	97.38	49.93		65.82	19.87	45.95			2.71				CH	Grey, fat clay

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m2: 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √(Pi-1 x Pi) KN/m2: 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m2: 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10-3cm2/s)	Log Average in Nomal consolidated Cv(n) (10-3cm2/s)	Log Average at Load increment 1 - 2 KG/cm2: mv (cm2/KG)	k (10-7cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm2)	Unconfined compression test Specimen 1 qu (KG/cm2)	Failure Strain ef (%)	Specimen 2 qu (KG/cm2)	Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m2)	fcu (deg.)
844	9249	0.978		0.965	0.955	0.941	0.916	0.877	0.740	0.609		2.410	1.170	1.470	1.820	0.950	0.820	0.740		0.255	0.208	0.147	0.131	0.103	0.188	0.098	1.657	0.832	0.139	0.222	0.440	0.222	0.028	0.014	0.114	0.058	2.852	0.45	5.70						
847	9252	1.151		1.124	1.100	1.066	1.010	0.914	0.773	0.636		2.040	1.590	1.570	1.870	1.070	0.930	1.100		0.499	0.452	0.330	0.273	0.245	0.191	0.100	1.757	1.031	0.300	0.511	0.460	0.214	0.087	0.040	0.100	0.046	2.121	1.10	5.20	1.15	6.60	60.00		22.15	21o04'
854	9259	1.023	0.989	0.972	0.945	0.897	0.826	0.740	0.649		1.777	1.164	1.533	1.555	2.530	4.268	2.543		0.555	0.418	0.219	0.192	0.145	0.087	0.046		1.469	2.556	0.167	0.603	0.301	0.149	0.074	0.036	0.062	0.031	0.970	0.22	12.85	0.30	11.03	13.09	0°37'	17.20	23°25'
855	9260																																											21.60	17°07'
856	9261	1.444	1.417	1.397	1.358	1.289	1.148	0.976	0.807		1.795	1.384	1.002	1.145	0.783	0.992	0.733		0.528	0.454	0.382	0.340	0.344	0.210	0.103		1.355	0.898	0.342	0.487	0.561	0.230	0.099	0.040	0.062	0.026	0.920	0.63	3.90	0.59	3.80	15.15	1°08'		
858	9263	0.804		0.772	0.760	0.743	0.724	0.697	0.664	0.621		0.638	0.714	0.936	0.530	0.610	1.047	0.929		0.226	0.158	0.059	0.035	0.024	0.015	0.010	0.690	0.841	0.045	0.104	0.143	0.079	0.021	0.012	0.024	0.014	2.280					53.78	0°49'		
867	9272	1.240		1.224	1.210	1.189	1.148	1.025	0.819	0.659		2.410	2.220	5.010	4.870	1.030	1.190	1.390		0.277	0.248	0.195	0.188	0.295	0.268	0.115	3.380	1.194	0.192	0.935	0.530	0.237	0.061	0.027	0.112	0.050	2.513	0.97	3.10			49.52	0°18'	33.50	18°25'
869	9274	1.365		1.341	1.318	1.292	1.250	1.119	0.911	0.743		1.620	2.620	3.290	3.190	1.220	1.180	1.100		0.408	0.406	0.228	0.185	0.298	0.258	0.115	2.583	1.166	0.205	0.659	0.560	0.237	0.077	0.033	0.130	0.055	2.460	1.14	4.30	1.12	3.50	37.00	0°07'		
878	9283	1.153	1.122	1.101	1.066	1.015	0.942	0.853	0.751		0.702	1.438	0.810	1.643	3.104	1.719	1.351		0.519	0.445	0.302	0.218	0.158	0.096	0.055		1.077	1.932	0.186	0.666	0.337	0.157	0.082	0.038	0.064	0.031	1.110	0.30	3.30	0.35	5.30	14.81	1°11'	19.00	26°27'
883	9288	1.830	1.794	1.771	1.745	1.685	1.576	1.428	1.274		0.769	0.489	0.242	0.427	0.622	0.720	0.631		0.801	0.661	0.296	0.338	0.308	0.210	0.109		0.444	0.656	0.323	0.181	0.511	0.181	0.079	0.028	0.072	0.026	1.090	0.77	7.60	0.88	6.70	17.34	1°39'		
889	9294	1.231		1.207	1.184	1.152	1.103	1.000	0.803	0.638		0.540	0.650	0.830	1.360	0.650	0.570	0.640		0.446	0.415	0.290	0.232	0.250	0.259	0.120	0.793	0.619	0.259	0.276	0.550	0.247	0.089	0.040	0.158	0.071	2.661	1.11	5.70	1.10	6.30	49.56	0°20'	22.00	19°02'
900	9305	1.072	1.024	0.998	0.961	0.905	0.830	0.742	0.647		2.136	1.290	1.070	1.908	1.906	3.521	1.290		0.804	0.617	0.302	0.234	0.156	0.091	0.049		1.434	2.016	0.191	0.601	0.313	0.151	0.100	0.048	0.076	0.038	0.950	0.13	10.70	0.19	10.60	4.49	0°18'		
903	9308	1.493	1.464	1.439	1.398	1.311	1.119	0.932	0.742		1.407	1.444	1.067	0.798	0.375	0.457	0.411		0.567	0.533	0.410	0.436	0.479	0.233	0.118		1.294	0.487	0.457	0.346	0.631	0.253	0.085	0.034	0.072	0.030	0.700	0.39	4.30	0.30	4.30	12.83	0°22'		
909	9314	1.788	1.756	1.736	1.712	1.677	1.607	1.488	1.343		2.938	1.060	0.652	0.546	1.334	1.611	1.890		0.696	0.573	0.270	0.197	0.194	0.166	0.101		1.026	1.596	0.195	0.212	0.479	0.172	0.055	0.020	0.039	0.014	1.540	0.31	3.80	0.68	6.60	38.97	1°12'		
914	9319	1.316		1.296	1.281	1.260	1.225	1.056	0.845	0.683		1.470	0.820	2.130	2.280	0.540	0.440	0.480		0.356	0.257	0.183	0.159	0.394	0.271	0.115	1.555	0.485	0.170	0.373	0.540	0.233	0.060	0.026	0.148	0.064	2.187	1.10	4.70	1.05	3.80	40.82	3°34'		
924	9329	1.554	1.514	1.470	1.388	1.272	1.124	0.976	0.822		1.467	0.697	0.662	0.813	0.793	1.129	0.965		0.817	0.865	0.838	0.592	0.377	0.189	0.098		0.878	0.915	0.473	0.395	0.512	0.200	0.242	0.095	0.154	0.062	0.710	0.50	5.70	0.52	6.70	4.58	1°05'	22.50	17o47'
930	9335	0.611		0.580	0.568	0.551	0.527	0.495	0.455	0.408		2.661	1.253	2.049	2.301	1.516	3.442	2.152		0.201	0.140	0.053	0.040	0.026	0.016	0.009	1.991	2.239	0.046	0.328	0.155	0.097	0.028	0.018	0.027	0.017	2.340	0.62	5.80	0.58	6.60	27.98	0°29'		
939	9344	1.267		1.215	1.177	1.116	1.021	0.905	0.780	0.642		1.210	1.140	0.810	0.710	0.630	0.720	0.650		0.927	0.692	0.570	0.456	0.297	0.169	0.101	1.038	0.676	0.510	0.386	0.460	0.203	0.161	0.071	0.110	0.049	1.802	0.32	3.80	0.44	4.40	20.51	0°11'	20.75	19°50'
942	9347	1.345		1.318	1.295	1.256	1.198	1.046	0.843	0.674		1.980	1.480	1.240	1.190	0.520	0.430	0.500		0.465	0.405	0.335	0.263	0.358	0.261	0.120	1.442	0.482	0.297	0.361	0.560	0.239	0.088	0.038	0.132	0.056	2.087	0.13	4.30	0.10	6.60	23.79	0°28'		
945	9350																																											17.55	23°34'

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth GL-(m) From	Depth GL-(m) To	Depth DL(m) From	Depth DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits: Liquid limit W_L(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm^3) Natural	Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
946	9351	1a	T50	1.50	D1	1.00	1.45	0.50	0.05			100.00	87.40	71.80	39.20	3.46	0.00							2.66			
947	9352	1a	T50	1.50	D2	2.00	2.45	-0.50	-0.95			100.00	85.40	71.95	40.41	3.91	0.00							2.65			
948	9353	1a	T50	1.50	D3	3.00	3.45	-1.50	-1.95			100.00	84.07	71.82	38.01	0.51	0.00							2.66			
949	9354	2	T50	1.50	D4	4.00	4.45	-2.50	-2.95		100.00	99.89	99.81	98.49	98.35	96.86	37.29		87.87	21.54	66.33			2.70			
950	9355	2	T50	1.50	U5	5.00	5.80	-3.50	-4.30				100.0	99.80	99.30	92.13	30.27	39.33	53.02	19.42	33.60	1.76	1.26	2.70	53.34	92.91	1.143
951	9356	2	T50	1.50	D6	6.00	6.45	-4.50	-4.95			100.00	99.74	99.58	99.52	98.60	47.68		73.74	30.88	42.86			2.71			
952	9357	2	T50	1.50	D7	7.00	7.45	-5.50	-5.95			100.00	99.40	99.28	99.18	98.35	43.81		73.32	25.40	47.92			2.71			
953	9358	2	T50	1.50	D8	8.00	8.45	-6.50	-6.95				100.0	99.88	97.78	96.88	51.60		83.87	27.45	56.42			2.72			
954	9359	2	T50	1.50	U9	9.00	9.70	-7.50	-8.20				100.0	99.94	99.78	98.62	48.10	47.50	68.47	23.64	44.83	1.74	1.18	2.72	56.62	99.00	1.305
955	9360	3c	T50	1.50	D10	10.00	10.45	-8.50	-8.95		100.00	99.45	99.23	98.34	56.51	10.78	0.00							2.66			
956	9361	3c	T50	1.50	D11	11.00	11.45	-9.50	-9.95			100.00	99.68	95.09	42.45	9.50	0.00							2.65			
957	9362	3c	T50	1.50	D12	12.00	12.45	-10.50	-10.95			100.00	99.10	95.35	56.14	8.35	0.00							2.66			
958	9363	3c	T50	1.50	D13	13.00	13.45	-11.50	-11.95			100.00	99.10	95.35	56.14	9.48	0.00							2.65			
959	9364	3c	T50	1.50	D14	14.00	14.45	-12.50	-12.95			100.00	97.56	93.70	58.75	11.28	0.00							2.66			
960	9365	4	T50	1.50	D15	15.00	15.45	-13.50	-13.95					100.0	99.91	98.38	47.03		60.15	20.24	39.91			2.71			
961	9366	4	T50	1.50	U16	16.00	16.70	-14.50	-15.20			100.00	99.76	99.72	99.68	94.62	50.57	34.85	61.06	21.37	39.69	1.77	1.31	2.70	51.48	88.69	1.061
962	9367	4	T50	1.50	D17	17.00	17.45	-15.50	-15.95					100.0	99.96	97.42	43.48		62.58	20.58	42.00			2.71			
963	9368	5	T50	1.50	D18	18.00	18.45	-16.50	-16.95			100.00	99.78	98.86	94.45	90.11	42.97		61.81	22.91	38.90			2.71			
964	9369	5	T50	1.50	U19	19.00	19.80	-17.50	-18.30					100.0	99.93	92.04	43.64	40.35	54.09	21.59	32.50	1.79	1.28	2.70	52.58	98.24	1.109
965	9370	5	T50	1.50	D20	20.00	20.45	-18.50	-18.95			100.00	99.92	99.82	99.64	92.59	40.06		61.49	19.54	41.95			2.70			
966	9371	5	T50	1.50	D21	21.00	21.45	-19.50	-19.95			100.00	99.96	99.90	99.86	94.17	44.97		59.18	20.76	38.42			2.72			
967	9372	5	T50	1.50	D22	22.00	22.45	-20.50	-20.95				100.0	99.96	99.82	95.01	46.86		68.67	19.58	49.09			2.71			
968	9373	5	T50	1.50	U23	23.00	23.80	-21.50	-22.30				100.0	99.94	99.78	96.67	48.09	40.56	60.97	18.54	42.43	1.75	1.25	2.72	54.04	93.81	1.176
969	9374	5	T50	1.50	D24	24.00	24.45	-22.50	-22.95					100.0	99.94	97.72	43.04		64.00	21.64	42.36			2.71			
970	9375	1b	T52	0.35	D1	1.00	1.45	-0.65	-1.10			100.00	99.60	99.22	98.01	58.85	14.33		40.43	24.02	16.41			2.68			
971	9376	1b	T52	0.35	D2	2.00	2.45	-1.65	-2.10			100.00	99.68	98.90	94.71	57.05	14.24		39.51	23.50	16.01			2.67			
972	9377	1b	T52	0.35	U3	3.00	3.90	-2.65	-3.55			100.00	99.78	99.24	98.07	55.10	13.32	39.98	40.23	23.69	16.54	1.78	1.27	2.68	52.61	96.53	1.110
973	9378	2	T52	0.35	D4	4.00	4.45	-3.65	-4.10		100.00	99.85	99.73	99.59	99.35	87.31	19.53		51.04	24.45	26.59			2.69			
974	9379	2	T52	0.35	D5	5.00	5.45	-4.65	-5.10			100.00	99.60	99.28	98.76	86.91	17.38		52.64	26.01	26.63			2.67			
975	9380	2	T52	0.35	U6	6.00	6.90	-5.65	-6.55			100.00	99.92	99.60	99.24	92.31	20.56	47.18	52.62	26.81	25.81	1.70	1.16	2.69	56.88	96.22	1.319
976	9381	2	T52	0.35	D7	7.00	7.45	-6.65	-7.10				100.0	99.94	99.64	89.40	20.41		57.79	21.93	35.86			2.68			
977	9382	2	T52	0.35	D8	8.00	8.45	-7.65	-8.10				100.0	99.88	99.38	92.30	20.91		50.64	24.03	26.61			2.71			
978	9383	3b	T52	0.35	U9	9.00	9.90	-8.65	-9.55			100.00	99.86	99.32	93.48	51.21	25.35	21.27	33.92	10.93	22.99	1.94	1.6	2.69	40.51	84.02	0.681
979	9384	3b	T52	0.35	D10	10.00	10.45	-9.65	-10.10					100.0	97.38	55.70	33.94		41.86	16.01	25.85			2.70			
980	9385	3b	T52	0.35	D11	11.00	11.45	-10.65	-11.10				100.0	99.82	97.44	57.08	35.81		41.83	15.68	26.15			2.71			
981	9386	3b	T52	0.35	U12	12.00	12.90	-11.65	-12.55			100.00	99.78	97.37	80.82	42.50	13.56	23.79	27.83	12.19	15.64	1.97	1.59	2.68	40.69	92.94	0.686
982	9387	4	T52	0.35	D13	13.00	13.45	-12.65	-13.10		100.00	99.83	99.67	99.55	99.39	98.30	53.28		52.19	21.05	31.14			2.72			
983	9388	4	T52	0.35	D14	14.00	14.45	-13.65	-14.10	100.00	98.30	97.32	96.74	96.20	95.78	93.98	47.51		53.15	20.42	32.73			2.71			
984	9389	4	T52	0.35	D15	15.00	15.45	-14.65	-15.10		100.00	99.91	99.59	99.37	99.11	97.35	50.98		52.75	21.50	31.25			2.72			
985	9390	5	T52	0.35	D16	16.00	16.45	-15.65	-16.10					100.0	99.86	89.04	42.88		62.35	18.45	43.90			2.71			
986	9391	5	T52	0.35	D17	17.00	17.45	-16.65	-17.10					100.0	99.87	91.97	40.87		69.04	20.46	48.58			2.70			
987	9392	5	T52	0.35	U18	18.00	18.80	-17.65	-18.45				100.0	99.96	99.90	96.68	48.10	39.25	62.41	16.35	46.06	1.79	1.29	2.70	52.22	96.96	1.093
988	9393	5	T52	0.35	D19	19.00	19.45	-18.65	-19.10			100.00	99.88	99.70	99.30	88.22	40.31		66.05	19.45	46.60			2.71			
989	9394	5	T52	0.35	D20	20.00	20.45	-19.65	-20.10			100.00	99.76	98.92	98.30	88.82	38.24		62.83	21.68	41.15			2.70			
990	9395	5	T52	0.35	U21	21.00	21.80	-20.65	-21.45			100.00	99.98	99.82	99.26	95.01	48.52	48.55	75.39	22.77	52.62	1.72	1.16	2.70	57.04	98.71	1.328
991	9396	5	T52	0.35	D22	22.00	22.45	-21.65	-22.10				100.0	99.94	99.58	92.71	49.32		70.53	20.47	50.06			2.72			
992	9397	5	T52	0.35	D23	23.00	23.45	-22.65	-23.10					100.0	99.90	94.53	42.72		67.51	19.87	47.64			2.70			
993	9398	5	T52	0.35	D24	24.00	24.45	-23.65	-24.10		100.00	90.80	87.11	86.03	84.12	79.71	37.63		60.64	20.90	39.74			2.71			
994	9399	1b	T55	-0.03	D1	1.00	1.45	-1.03	-1.48		100.00	99.32	99.22	99.10	98.88	89.43	17.08		38.76	22.32	16.44			2.68			
995	9400	1b	T55	-0.03	U2	2.00	2.90	-2.03	-2.93			100.00	99.84	99.38	98.90	87.66	22.31	40.44	38.74	23.31	15.43	1.79	1.27	2.69	52.79	97.30	1.118
996	9401	2	T55	-0.03	D3	4.00	4.45	-4.03	-4.48			100.00	99.96	99.88	99.78	95.49	30.06		70.22	20.57	49.65			2.70			
997	9402	2	T55	-0.03	U4	5.00	5.90	-5.03	-5.93			100.00	99.94	99.50	95.86	81.71	45.57	56.79	71.44	21.64	49.80	1.66	1.06	2.71	60.89	98.84	1.557
998	9403	3b	T55	-0.03	D5	7.00	7.45	-7.03	-7.48	100.00	99.00	98.01	89.93	87.43	76.68	52.66	17.49		49.71	18.71	31.00			2.68			
999	9404	3b	T55	-0.03	U6	8.00	8.90	-8.03	-8.93			100.00	99.90	99.62	97.33	69.24	35.88	49.38	63.74	12.73	51.01	1.72	1.15	2.70	57.41	98.91	1.348
##	9405	3b	T55	-0.03	D7	10.00	10.45	-10.03	-10.48			100.00	99.90	99.82	98.36	87.30	40.94		69.17	14.50	54.67			2.71			
##	9406	3b	T55	-0.03	D8	11.00	11.45	-11.03	-11.48				100.0	99.60	97.87	72.07	31.22		64.21	15.58	48.63			2.70			
##	9407	5	T55	-0.03	D9	12.00	12.45	-12.03	-12.48				100.0	98.70	95.17	86.32	47.59		68.48	21.87	46.61			2.71			
##	9408	5	T55	-0.03	U10	13.00	13.90	-13.03	-13.93				100.0	99.50	95.68	87.72	47.24	45.02	65.63	21.35	44.28	1.77	1.22	2.72	55.16	99.56	1.230
##	9409	5	T55	-0.03	D11	15.00	15.45	-15.03	-15.48					100.0	99.78	93.09	44.21		69.44	20.75	48.69			2.71			
##	9410	5	T55	-0.03	D12	16.00	16.45	-16.03	-16.48				100.0	99.88	99.32	92.15	22.85		62.82	22.56	40.26			2.69			
##	9411	5	T55	-0.03	U13	17.00	17.90	-17.03	-17.93					100.0	99.96	94.48	50.93	43.25	65.68	20.18	45.50	1.73	1.21	2.71	55.36	94.52	1.240
##	9412	5	T55	-0.03	D14	19.00	19.45	-19.03	-19.48					100.0	99.96	95.88	43.98		59.94	21.89	38.05			2.71			
##	9413	5	T55	-0.03	D15	20.00	20.45	-20.03	-20.48					100.0	99.88	93.79	45.78		66.83	19.29	47.54			2.72			
##	9414	5	T55	-0.03	D16	21.00	21.45	-21.03	-21.48					100.0	99.84	92.29	47.38		61.95	22.46	39.49			2.71			
##	9415	5	T55	-0.03	D17	22.00	22.45	-22.03	-22.48			100.00	99.86	99.82	99.78	90.96	43.36		61.95	19.97	41.98			2.70			
##	9416	5	T55	-0.03	D18	23.00	23.45	-23.03	-23.48					100.0	99.27	92.30	45.00		60.79	20.89	39.90			2.71			
##	9417	5	T55	-0.03	D19	24.00	24.45	-24.03	-24.48					100.0	97.52	87.98	32.39		64.12	21.56	42.56			2.70			
##	9418	1b	T57	-1.21	D1	1.00	1.45	-2.21	-2.66					100.0	99.80	89.82	19.91		45.52	29.60	15.92			2.69			
##	9419	1b	T57	-1.21	D2	2.00	2.45	-3.21	-3.66			100.00	97.40	96.35	95.21	86.24	14.24		47.13	31.50	15.63			2.68			
##	9420	2	T57	-1.21	U3	3.00	3.80	-4.21	-5.01			100.00	99.88	98.96	96.51	89.21	38.55	42.45	51.63	16.30	35.33	1.78	1.25	2.70	53.70	98.81	1.160
##	9421	2	T57	-1.21	D4	4.00	4.45	-5.21	-5.66				100.0	99.30	97.53	90.57	39.00		68.28	29.48	38.80			2.71			
##	9422	2	T57	-1.21	D5	5.00	5.45	-6.21	-6.66			100.00	99.84	99.34	97.97	91.62	36.96		69.66	18.50	51.16			2.70			
##	9423	3b	T57	-1.21	U6	6.00	6.80	-7.21	-8.01			100.00	99.96	98.72	78.56	34.85	7.10	24.03	26.70	19.20	7.50	1.93	1.56	2.66	41.35	90.67	0.705
##	9424	3b	T57	-1.21	D7	7.00	7.45	-8.21	-8.66		100.00	94.52	91.14	89.46	80.05	38.38	0.00		25.23	13.37	11.86			2.67			
##	9425	3b	T57	-1.21	D8	8.00	8.45	-9.21	-9.66	100.00	96.53	94.67	93.80	92.32	80.71	39.90	0.00		24.59	16.02	8.57			2.68			
##	9426	3b	T57	-1.21	U9	9.00	9.60	-10.21	-10.81			100.00	99.44	93.47	76.79	27.28	4.67	20.23	23.50	13.02	10.48	1.89	1.57	2.67	41.21	77.05	0.701
##	9427	3b	T57	-1.21	D10	10.00	10.45	-11.21	-11.66			100.00	99.32	96.22	75.24	34.81	5.32		23.22	14.50	8.72			2.65			
##	9428	3b	T57	-1.21	D11	11.00	11.45	-12.21	-12.66			100.00	99.88	98.66	75.38	40.45	9.82		25.58	13.78	11.80			2.66			
##	9429	3b	T57	-1.21	D12	12.00	12.45	-13.21	-13.66			100.00	99.86	98.26	74.32	40.61	7.90		24.38	14.50	9.88			2.65			
##	9430	3b	T57	-1.21	D13	13.00	13.45	-14.21	-14.66			100.00	99.44	98.13	73.64	45.51	11.30		23.28	12.64	10.64			2.67			
##	9431	5	T57	-1.21	D14	14.00	14.45	-15.21	-15.66				100.0	99.92	99.44	93.45	43.43		54.72	18.54	36.18			2.71			
##	9432	5	T57	-1.21	U15	15.00	15.80	-16.21	-17.01				100.0	99.88	99.56	94.60	47.93	46.35	65.65	22.60	43.05	1.73	1.18	2.70	56.29	97.16	1.288
##	9433	5	T57	-1.21	D16	16.00	16.45	-17.21	-17.66				100.0	99.84	99.49	95.38	41.85		58.02	21.56	36.46			2.70			
##	9434	5	T57	-1.21	D17	17.00	17.45	-18.21	-18.66				100.0	99.82	99.53	95.39	50.02		66.09	24.05	42.04			2.72			
##	9435	5	T57	-1.21	U18	18.00	18.80	-19.21	-20.01					100.0	99.92	97.56	55.75	49.80	68.56	20.04	48.52	1.72	1.15	2.71	57.57	99.45	1.357
##	9436	5	T57	-1.21	D19	19.00	19.45	-20.21	-20.66				100.0	98.20	97.83	93.72	40.94		52.54	23.46	29.08			2.70			
##	9437	5	T57	-1.21	D20	20.00	20.45	-21.21	-21.66				100.0	99.80	95.67	91.71	47.44		61.06	22.57	38.49			2.71			
##	9438	5	T57	-1.21	D21	21.00	21.45	-22.21	-22.66					100.0	99.93	95.88	41.82		59.90	20.56	39.34			2.70			
##	9439	5	T57	-1.21	D22	22.00	22.45	-23.21	-23.66					100.0	99.85	95.18	43.90		70.48	21.84	48.64			2.71			
##	9440	5	T57	-1.21	D23	23.00	23.45	-24.21	-24.66					100.0	99.94	95.88	39.97		61.52	23.74	37.78			2.70			
##	9441	1a	T59	1.52	D1	1.00	1.45	0.52	0.07			100.00	98.36	86.02	63.46	10.44	0.00							2.65			
##	9442	1a	T59	1.52	D2	2.00	2.45	-0.48	-0.93			100.00	98.11	85.09	60.53	5.97	0.00							2.66			
##	9443	1a	T59	1.52	D3	3.00	3.45	-1.48	-1.93			100.00	98.76	82.22	60.08	7.63	0.00							2.65			
##	9444	1a	T59	1.52	D4	4.00	4.45	-2.48	-2.93			100.00	98.76	82.22	60.08	7.63	0.00							2.66			
##	9445	2	T59	1.52	U5	5.00	5.80	-3.48	-4.28			100.00	99.96	99.80	99.40	90.61	20.45	45.64	51.15	24.73	26.42	1.73	1.19	2.68	55.60	97.70	1.252
##	9446	2	T59	1.52	D6	6.00	6.45	-4.48	-4.93			100.00	99.90	99.68	98.98	92.07	24.32		58.07	31.20	26.87			2.69			
##	9447	2	T59	1.52	D7	7.00	7.45	-5.48	-5.93			100.00	99.96	99.72	99.66	99.36	50.40		84.29	26.13	58.16			2.72			
##	9448	2	T59	1.52	D8	8.00	8.45	-6.48	-6.93				100.0	99.84	98.68	96.02	44.46		89.50	24.87	64.63			2.71			
##	9449	3b	T59	1.52	U9	9.00	9.70	-7.48	-8.18			100.00	99.88	99.62	98.58	43.36	21.44	21.62	51.35	14.00	37.35	2.05	1.69	2.69	37.19	98.24	0.592
##	9450	3b	T59	1.52	D10	10.00	10.45	-8.48	-8.93			100.00	99.96	99.94	99.68	42.56	23.26		29.74	14.62	15.12			2.68			
##	9451	3b	T59	1.52	D11	11.00	11.45	-9.48	-9.93					100.0	99.54	45.55	20.98		29.68	14.47	15.21			2.68			
##	9452	3b	T59	1.52	D12	12.00	12.45	-10.48	-10.93		100.00	99.88	99.42	99.22	98.21	44.98	30.99		34.48	19.20	15.28			2.69			
##	9453	3b	T59	1.52	D13	13.00	13.45	-11.48	-11.93		100.00	99.88	99.42	99.22	98.21	44.98	30.99		36.08	19.20	16.88			2.70			
##	9454	3c	T59	1.52	D14	14.00	14.45	-12.48	-12.93				100.0	99.72	75.99	10.94	0.00							2.65			
##	9455	3c	T59	1.52	D15	15.00	15.45	-13.48	-13.93				100.0	99.52	73.07	11.72	0.00							2.66			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

Test No.	Initial Void ratio eo	Void ratio e at load P KN/m^2: 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load $\sqrt{Pi\text{-}1 \times Pi}$ KN/m^2: 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m^2: 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) ($10^{-3}cm^2/s$)	Log Average in Nomal consolidated Cv(n) ($10^{-3}cm^2/s$)	Log Average at Load increment 1 - 2 KG/cm^2: mv (cm^2/KG)	k (10^{-7}cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm^2)	Unconfined compression test Specimen 1 q_u (KG/cm^2)	Failure Strain ef (%)	Specimen 2 q_u (KG/cm^2)	Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m^2)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m^2)	fcu (deg.)	Soil group	Description
9351																																												SP	Grey, brownish grey, Poorly graded sand
9352																																												SP	Grey, brownish grey, Poorly graded sand
9353																																												SP	Grey, brownish grey, Poorly graded sand
9354																																												CH	Brownish grey, fat clay
9355	1.219	1.147	1.094	1.023	0.944	0.862	0.775	0.684		0.412	0.284	0.436	0.776	0.808	2.028	1.175		1.280	1.115	0.630	0.349	0.182	0.096	0.050		0.371	1.106	0.252	0.254	0.302	0.136	0.223	0.101	0.103	0.049	0.540	0.45	9.50	0.20	8.50	8.44	0°09'	22.80	18°05'	CH	Brownish grey, fat clay
9356																																												CH	Brownish grey, fat clay
9357																																												CH	Brownish grey, fat clay
9358																																												CH	Brownish grey, fat clay
9359	1.708	1.658	1.631	1.603	1.513	1.335	1.116	0.901		1.458	0.846	0.451	0.438	0.442	0.564	1.116		1.086	0.842	0.298	0.486	0.482	0.297	0.145		0.823	0.590	0.484	0.264	0.713	0.263	0.067	0.025	0.103	0.039	0.930							43.25		CH	Brownish grey, fat clay
9360																																												SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
9361																																												SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
9362																																												SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
9363																																												SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
9364																																												SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
9365																																												CH	Brownish grey, reddish brown, light grey, fat clay
9366	1.061		1.040	1.023	0.999	0.969	0.919	0.788	0.657		1.380	1.460	1.280	1.580	0.900	0.710	0.570		0.412	0.339	0.239	0.150	0.128	0.177	0.095	1.421	0.714	0.189	0.269	0.440	0.213	0.045	0.022	0.118	0.057	2.693	1.62	3.30			31.31	1°04'			CH	Brownish grey, reddish brown, light grey, fat clay
9367																																												CH	Brownish grey, reddish brown, light grey, fat clay
9368																																												CH	Grey, fat clay
9369	1.288		1.264	1.242	1.208	1.162	1.044	0.834	0.665		1.280	1.990	2.070	1.940	0.820	0.640	0.660		0.426	0.386	0.304	0.210	0.280	0.271	0.121	1.788	0.702	0.253	0.506	0.560	0.245	0.077	0.034	0.126	0.055	2.495	0.91	4.20	1.09	9.40	36.28	1°28'	39.60	17o09'	CH	Grey, fat clay
9370																																												CH	Grey, fat clay
9371																																												CH	Grey, fat clay
9372																																												CH	Grey, fat clay
9373																																												CH	Grey, fat clay
9374																																												CH	Grey, fat clay
9375																																												CL	Grey, brownish grey, sandy lean clay
9376																																												CL	Grey, brownish grey, sandy lean clay
9377	0.956	0.934	0.916	0.891	0.855	0.807	0.747	0.676		1.246	1.512	0.839	0.881	1.793	1.801	1.086		0.344	0.308	0.197	0.141	0.094	0.059	0.035		1.086	1.519	0.115	0.264	0.238	0.122	0.059	0.030	0.044	0.023	1.220	0.31	5.90	0.42	7.00	3.70	0°49'	15.80	23o21'	CL	Grey, brownish grey, sandy lean clay
9378																																												CH	Brownish grey, fat clay
9379																																												CH	Brownish grey, fat clay
9380	0.974	0.955	0.940	0.915	0.877	0.822	0.748	0.660		1.622	2.667	2.611	3.375	1.515	3.383	2.219		0.310	0.269	0.197	0.150	0.109	0.073	0.043		2.485	2.249	0.128	0.563	0.290	0.147	0.057	0.029	0.053	0.027	1.300	0.63	5.30	0.67	8.00	11.71	1°15'			CH	Brownish grey, fat clay
9381																																												CH	Brownish grey, fat clay
9382																																												CH	Brownish grey, fat clay
9383	0.566	0.556	0.547	0.533	0.515	0.491	0.462	0.427		1.164	0.805	0.773	0.816	0.914	0.964	1.207		0.128	0.122	0.085	0.058	0.036	0.023	0.014		0.877	1.021	0.046	0.107	0.116	0.074	0.031	0.020	0.023	0.015	1.180	0.71	5.90	1.51	15.30	28.36	1°36'			CL	Yellowish grey, reddish brown, sandy lean clay
9384																																												CL	Yellowish grey, reddish brown, sandy lean clay
9385																																												CL	Yellowish grey, reddish brown, sandy lean clay
9386	0.594		0.578	0.570	0.561	0.545	0.523	0.498	0.465		4.630	4.180	3.960	3.810	3.570	3.380	3.450		0.402	0.213	0.114	0.103	0.071	0.042	0.028	4.134	3.466	0.108	0.421	0.110	0.069	0.026	0.016	0.006	0.004	2.571	0.46	8.00	0.44	5.30	25.22	0°31'			SC	Yellowish grey, reddish brown, clayey sand
9387																																												CH	Yellowish grey, light grey, fat clay
9388																																												CH	Yellowish grey, light grey, fat clay
9389																																												CH	Yellowish grey, light grey, fat clay
9390																																												CH	Grey, fat clay
9391																																												CH	Grey, fat clay
9392	1.061		1.041	1.024	0.999	0.972	0.891	0.737	0.581		1.000	0.920	1.450	1.760	0.800	0.620	0.760		0.392	0.329	0.247	0.136	0.211	0.213	0.117	1.238	0.722	0.183	0.292	0.520	0.252	0.062	0.030	0.108	0.052	2.713	1.32	4.20	1.31	3.50	46.91	1°53'	22.00	19o37'	CH	Grey, fat clay
9393																																												CH	Grey, fat clay
9394																																												CH	Grey, fat clay
9395	1.231		1.218	1.201	1.176	1.143	1.006	0.802	0.639		2.220	2.840	2.910	2.760	0.940	0.620	0.860		0.245	0.299	0.229	0.154	0.329	0.268	0.118	2.668	0.794	0.188	0.527	0.540	0.242	0.062	0.028	0.121	0.054	2.397	1.04	4.50	0.95	2.90	41.43	0°56'			CH	Grey, fat clay
9396																																												CH	Grey, fat clay
9397																																												CH	Grey, fat clay
9398																																												CH	Grey, fat clay with sand
9399																																												CL	Grey, brownish grey, lean clay
9400	1.134	1.095	1.072	1.036	0.976	0.899	0.818	0.731		1.529	0.978	0.620	1.321	1.350	2.268	2.262		0.668	0.530	0.307	0.255	0.165	0.087	0.046		0.975	1.739	0.205	0.394	0.289	0.136	0.106	0.050	0.070	0.034	0.820	0.35	6.70	0.22	3.90			15.72	24o48'	CL	Grey, brownish grey, lean clay
9401																																												CH	Brownish grey, fat clay
9402																																				0.28	11.31	0.29	12.67	9.59	0°09'			CH	Brownish grey, fat clay with sand
9403																																												CH	Bluish grey, yellowish grey, sandy fat clay
9404	1.261	1.219	1.208	1.171	1.114	1.001	0.856	0.708		1.342	0.335	0.454	0.416	0.667	0.499	0.598		0.757	0.477	0.332	0.260	0.256	0.163	0.084		0.540	0.584	0.258	0.239	0.492	0.218	0.080	0.035	0.074	0.033	1.040	0.35	6.20	0.32	5.70	12.91	0°29'	16.44	21o43'	CH	Bluish grey, yellowish grey, sandy fat clay
9405																																												CH	Bluish grey, yellowish grey, fat clay
9406																																												CH	Bluish grey, yellowish grey, fat clay with sand
9407																																												CH	Grey, fat clay
9408	1.203		1.176	1.164	1.144	1.115	1.013	0.812	0.608		3.580	2.654	4.480	6.140	1.245	0.582	0.925		0.236	0.171	0.088	0.063	0.113	0.111	0.056	4.021	0.875	0.074	0.598	0.677	0.307	0.011	0.005	0.128	0.059	3.180	1.25	4.20	2.00	4.40	33.80	0°39'	22.00	15°20'	CH	Grey, fat clay
9409																																												CH	Grey, fat clay
9410																																												CH	Grey, fat clay
9411	1.297		1.272	1.250	1.205	1.154	1.013	0.829	0.672		1.610	1.150	2.010	1.630	0.710	0.680	0.730		0.440	0.388	0.397	0.235	0.338	0.240	0.112	1.569	0.706	0.306	0.554	0.520	0.226	0.090	0.039	0.117	0.051	2.056	0.76	2.43	0.69	2.96	46.23	1°24'			CH	Grey, fat clay
9412																																												CH	Grey, fat clay
9413																																												CH	Grey, fat clay
9414																																												CH	Grey, fat clay
9415																																												CH	Grey, fat clay
9416																																												CH	Grey, fat clay
9417																																												CH	Grey, fat clay
9418																																												CL	Grey, brownish grey, lean clay
9419																																												CL	Grey, brownish grey, lean clay
9420	1.172	1.110	1.054	0.995	0.926	0.853	0.775	0.692		0.740	0.789	0.598	1.031	1.386	3.307	1.905		1.074	1.020	0.518	0.300	0.158	0.085	0.045		0.704	1.732	0.217	0.344	0.277	0.128	0.190	0.087	0.067	0.032	0.740	0.09	6.20	0.16	6.60	6.71	0°12'	17.20	23°25'	CH	Brownish grey,Grey, fat clay
9421																																												CH	Brownish grey,Grey, fat clay
9422																																												CH	Brownish grey,Grey, fat clay
9423																																												SC	Yellowish grey, clayey sand
9424																																												SC	Yellowish grey, clayey sand
9425																																												SC	Yellowish grey, clayey sand
9426																																												SC	Yellowish grey, clayey sand
9427																																												SC	Yellowish grey, clayey sand
9428																																												SC	Yellowish grey, clayey sand
9429																																												SC	Yellowish grey, clayey sand
9430																																												SC	Yellowish grey, clayey sand
9431																																												CH	Grey, fat clay
9432	1.269		1.242	1.219	1.191	1.152	1.047	0.863	0.710		2.080	5.000	6.000	3.680	1.070	1.150	1.270		0.489	0.413	0.247	0.180	0.250	0.235	0.107	3.893	1.160	0.211	1.000	0.510	0.225	0.078	0.034	0.102	0.045	2.583	0.92	3.10	1.23	4.70	32.69	1°36'	46.89		CH	Grey, fat clay
9433																																												CH	Grey, fat clay
9434																																												CH	Grey, fat clay
9435	1.399		1.370	1.346	1.311	1.263	1.061	0.855	0.687		1.250	2.610	3.440	3.530	0.580	0.650	0.930		0.473	0.417	0.297	0.212	0.467	0.262	0.119	2.239	1.055	0.251	0.872	0.560	0.233	0.102	0.043	0.151	0.063	1.915	0.53	3.15	0.63	3.15	61.27	0°31'			CH	Grey, fat clay
9436																																												CH	Grey, fat clay
9437																																												CH	Grey, fat clay
9438																																												CH	Grey, fat clay
9439																																												CH	Grey, fat clay
9440																																												CH	Grey, fat clay
9441																																												SP-SC	Grey, poorly graded sand with clay (or silty clay)
9442																																												SP-SC	Grey, poorly graded sand with clay (or silty clay)
9443																																												SP-SC	Grey, poorly graded sand with clay (or silty clay)
9444																																												SP-SC	Grey, poorly graded sand with clay (or silty clay)
9445	0.977	0.915	0.903	0.866	0.819	0.753	0.685	0.611		0.580	0.340	0.746	0.648	1.494	1.302	0.530		0.993	0.592	0.292	0.187	0.129	0.067	0.037		0.528	0.904	0.155	0.264	0.247	0.125	0.081	0.041	0.062	0.033	0.840	0.31	4.40	0.28	9.50	4.98	0°35'	15.97	22o31'	CH	Brownish grey,Grey, fat clay
9446																																												CH	Brownish grey,Grey, fat clay
9447																																												CH	Brownish grey,Grey, fat clay
9448																																												CH	Brownish grey,Grey, fat clay
9449	0.611	0.594	0.582	0.565	0.542	0.514	0.481	0.442		1.407	0.939	0.846	1.530	1.478	2.846	2.083		0.219	0.186	0.110	0.072	0.046	0.026	0.016		1.144	2.061	0.058	0.215	0.129	0.080	0.041	0.025	0.026	0.016	1.080	0.39	4.90	0.46	5.70	30.35				SC	Yellowish grey, light grey, clayey sand
9450																																												SC	Yellowish grey, light grey, clayey sand
9451																																												SC	Yellowish grey, light grey, clayey sand
9452																																												SC	Yellowish grey, light grey, clayey sand
9453																																												SC	Yellowish grey, light grey, clayey sand
9454																																												SP-SC	Yellowish grey, reddish brown, poorly graded sand with clay (or silty cl
9455																																												SP-SC	Yellowish grey, reddish brown, poorly graded sand with clay (or silty cl

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio e0
##	9456	3c	T59	1.52	D16	16.00	16.45	-14.48	- -14.93				100.0	99.72	73.95	12.31	0.00							2.65			
##	9457	3c	T59	1.52	D17	17.00	17.45	-15.48	- -15.93				100.0	99.80	77.42	10.27	0.00							2.66			
##	9458	3c	T59	1.52	D18	18.00	18.45	-16.48	- -16.93				100.0	99.70	73.62	10.16	0.00							2.66			
##	9459	3c	T59	1.52	D19	19.00	19.45	-17.48	- -17.93				100.0	99.60	73.66	11.80	0.00							2.65			
##	9460	5	T59	1.52	U20	20.00	20.80	-18.48	- -19.28			100.00	99.14	98.35	97.11	92.95	44.17	40.20	51.25	19.00	32.25	1.80	1.28	2.71	52.76
##	9461	5	T59	1.52	D21	21.00	21.45	-19.48	- -19.93				100.0	99.92	99.84	91.49	40.43		59.40	22.30	37.10			2.70	
##	9462	5	T59	1.52	D22	22.00	22.45	-20.48	- -20.93				100.0	98.94	98.39	86.78	36.07		54.97	21.50	33.47			2.73	
##	9463	5	T59	1.52	U23	23.00	23.80	-21.48	- -22.28				100.0	99.88	93.73	45.56	35.80	52.37	18.74	33.63	1.84	1.35	2.70	50.00	96.66
##	9464	5	T59	1.52	D24	24.00	24.45	-22.48	- -22.93				100.0	98.30	97.20	89.46	40.83		60.84	22.01	38.83			2.70	
##	9465	5	T59	1.52	D25	25.00	25.45	-23.48	- -23.93					100.0	98.72	93.67	47.28		68.15	18.90	49.25			2.72	
##	9466	5	T59	1.52	D26	26.00	26.45	-24.48	- -24.93					100.0	99.88	96.82	45.38		63.39	19.54	43.85			2.71	
##	9467	5	T59	1.52	D27	27.00	27.45	-25.48	- -25.93					100.0	99.89	95.52	44.31		69.08	20.46	48.62			2.71	
##	9468	1a	T61	0.54	D1	1.00	1.45	-0.46	- -0.91			100.00	82.05	78.61	65.74	12.17	0.00							2.66	
##	9469	1a	T61	0.54	D2	2.00	2.45	-1.46	- -1.91		100.00	95.43	83.22	72.91	36.98	12.05	0.00							2.65	
##	9470	2	T61	0.54	U3	3.00	3.80	-2.46	- -3.26			100.00	99.32	99.20	99.02	95.32	22.54	47.88	52.90	26.50	26.40	1.70	1.15	2.68	57.08
##	9471	2	T61	0.54	D4	4.00	4.45	-3.46	- -3.91			100.00	99.44	99.36	99.22	95.37	21.73		55.01	17.50	37.51			2.69	
##	9472	2	T61	0.54	D5	5.00	5.45	-4.46	- -4.91			100.00	99.32	99.20	99.02	95.32	22.54		52.10	21.40	30.70			2.68	
##	9473	2	T61	0.54	U6	6.00	6.90	-5.46	- -6.36			100.00	98.92	97.38	94.56	89.72	17.11	50.28	53.66	23.60	30.06	1.68	1.12	2.67	58.05
##	9474	2	T61	0.54	D7	7.00	7.45	-6.46	- -6.91				100.0	99.72	99.50	93.19	21.72		56.32	18.50	37.82			2.69	
##	9475	2	T61	0.54	D8	8.00	8.45	-7.46	- -7.91			100.00	99.36	98.35	96.87	87.49	17.13		55.88	22.99	32.89			2.67	
##	9476	3b	T61	0.54	U9	9.00	9.90	-8.46	- -9.36			100.00	99.96	99.30	88.77	58.50	21.57	20.70	34.61	13.57	21.04	2.05	1.7	2.69	36.79
##	9477	3b	T61	0.54	D10	10.00	10.45	-9.46	- -9.91			100.00	99.90	99.68	94.94	50.75	28.21		34.67	15.88	18.79			2.70	
##	9478	3b	T61	0.54	D11	11.00	11.45	-10.46	- -10.91		100.00	99.20	97.71	96.60	74.27	35.84	0.00							2.66	
##	9479	3b	T61	0.54	D12	12.00	12.45	-11.46	- -11.91			100.00	99.58	98.13	75.29	32.21	0.00							2.65	
##	9480	3b	T61	0.54	D13	13.00	13.45	-12.46	- -12.91		100.00	99.94	99.68	98.68	77.94	31.86	0.00							2.66	
##	9481	4	T61	0.54	U14	14.00	14.50	-13.46	- -13.96			100.00	99.58	99.06	98.43	95.24	52.17	31.00	50.29	18.36	31.93	1.88	1.44	2.71	46.87
##	9482	4	T61	0.54	D15	15.00	15.45	-14.46	- -14.91	100.00	95.63	94.94	94.18	93.90	91.53	85.38	38.27		52.89	17.88	35.01			2.71	
##	9483	5	T61	0.54	D16	16.00	16.45	-15.46	- -15.91				100.0	99.94	97.64	46.62			65.22	20.56	44.66			2.72	
##	9484	5	T61	0.54	D17	17.00	17.45	-16.46	- -16.91				100.0	99.86	94.73	46.97			69.77	19.80	49.97			2.71	
##	9485	5	T61	0.54	U18	18.00	18.80	-17.46	- -18.26				100.0	99.62	87.59	38.39	41.44	75.96	21.84	54.12	1.78	1.26	2.72	53.68	97.25
##	9486	5	T61	0.54	D19	9.00	19.45	-8.46	- -18.91		100.00	99.91	99.87	99.79	99.71	96.28	46.30		60.91	20.41	40.50			2.71	
##	9487	5	T61	0.54	D20	20.00	20.45	-19.46	- -19.91				100.0	99.94	99.74	96.41	49.15		57.42	21.56	35.86			2.71	
##	9488	5	T61	0.54	D21	21.00	21.45	-20.46	- -20.91			100.00	99.84	99.74	99.48	96.30	46.74		59.50					2.72	
##	9489	5	T61	0.54	D22	22.00	22.45	-21.46	- -21.91		100.00	99.50	99.10	98.76	98.54	95.78	48.10		63.53	20.74	42.79			2.71	
##	9490	5	T61	0.54	D23	23.00	23.45	-22.46	- -22.91			100.00	99.98	99.92	99.84	96.55	43.19		59.24	19.85	39.39			2.71	
##	9491	5	T61	0.54	D24	24.00	24.45	-23.46	- -23.91				100.0	99.96	99.80	96.73	43.78		67.02	18.64	48.38			2.71	
##	9492	5	T61	0.54	D25	25.00	25.45	-24.46	- -24.91			100.00	99.98	99.90	97.06	92.30	46.51		66.66	21.47	45.19			2.71	
##	9493	5	T61	0.54	D26	26.00	26.45	-25.46	- -25.91				100.0	99.82	97.36	93.68	44.79		67.37	22.13	45.24			2.72	
##	9494	5	T61	0.54	D27	27.00	27.45	-26.46	- -26.91				100.0	99.90	99.78	95.91	43.50		63.04	22.46	40.58			2.71	
##	9495	5	T61	0.54	D28	28.00	28.45	-27.46	- -27.91			100.00	99.78	99.68	99.56	96.39	44.21		60.05	20.80	39.25			2.72	
##	9496	5	T61	0.54	D29	29.00	29.45	-28.46	- -28.91				100.0	99.80	96.85	47.22			59.25	21.75	37.50			2.71	
##	9497	5	T61	0.54	D30	30.00	30.45	-29.46	- -29.91		100.00	99.76	99.66	99.59	99.42	95.71	38.08		67.63	20.49	47.14			2.70	
##	9498	2	B4	-1.23	D1	1.00	1.45	-2.23	- -2.68			100.00	99.94	99.74	99.44	89.50	30.89		54.58	19.39	35.19			2.70	
##	9499	2	B4	-1.23	D2	2.00	2.45	-3.23	- -3.68			100.00	99.86	99.58	99.22	89.00	31.47		55.82	20.24	35.58			2.70	
##	9500	2	B4	-1.23	U3	3.00	3.80	-4.23	- -5.03			100.00	99.98	99.80	99.56	90.30	30.90	51.40	53.93	21.24	32.69	1.71	1.13	2.70	58.14
##	9501	2	B4	-1.23	D4	4.00	4.45	-5.23	- -5.68			100.00	99.88	99.46	99.04	95.22	39.34		52.78	20.81	31.97			2.71	
##	9502	2	B4	-1.23	D5	5.00	5.45	-6.23	- -6.68			100.00	99.92	99.62	99.28	95.31	38.31		54.94	21.62	33.32			2.69	
##	9503	3b	B4	-1.23	D6	6.00	6.45	-7.23	- -7.68			100.00	99.46	97.91	81.75	31.49	5.49		29.46	11.20	18.26			2.65	
##	9504	3b	B4	-1.23	U7	7.00	7.80	-8.23	- -9.03				100.0	99.56	95.98	43.29	13.77	23.68	30.00	13.95	16.05	2.01	1.63	2.69	39.39
##	9505	3b	B4	-1.23	D8	8.00	8.45	-9.23	- -9.68			100.00	99.96	98.68	74.37	49.05	17.73		32.60	10.87	21.73			2.68	
##	9506	3b	B4	-1.23	D9	9.00	9.45	-10.23	- -10.68			100.00	99.86	99.48	83.92	36.77	6.34		29.75	11.23	18.52			2.65	
##	9507	3b	B4	-1.23	D10	10.00	10.45	-11.23	- -11.68			100.00	99.98	99.38	86.32	40.09	5.23		30.85	10.84	20.01			2.66	
##	9508	3b	B4	-1.23	D11	11.00	11.45	-12.23	- -12.68				100.0	99.24	93.74	29.51	0.00		29.87	11.29	18.58			2.65	
##	9509	3b	B4	-1.23	D12	12.00	12.45	-13.23	- -13.68			100.00	99.82	99.26	88.56	31.67	0.00		28.08	10.24	17.84			2.65	
##	9510	5	B4	-1.23	D13	13.00	13.45	-14.23	- -14.68			100.00	99.92	99.86	99.78	97.64	44.33		55.04	20.15	34.89			2.70	
##	9514	5	B4	-1.23	U14	14.00	14.90	-15.23	- -16.13			100.00	99.94	99.84	99.62	94.82	50.18	41.64	62.26	19.05	43.21	1.78	1.26	2.72	53.68
##	9512	5	B4	-1.23	D15	15.00	15.45	-16.23	- -16.68				100.0	99.62	97.19	92.87	41.63		62.31	21.36	40.95			2.71	
##	9513	5	B4	-1.23	D16	16.00	16.45	-17.23	- -17.68				100.0	99.62	99.42	96.06	40.81		58.66	21.68	36.98			2.70	
##	9511	5	B4	-1.23	U17	17.00	17.90	-18.23	- -19.13				100.0	99.86	99.70	96.63	53.03	49.02	62.00	24.07	37.93	1.72	1.15	2.71	57.57
##	9515	5	B4	-1.23	D18	18.00	18.45	-19.23	- -19.68			100.00	99.68	99.12	98.59	86.78	35.53		57.11	21.36	35.75			2.70	
##	9516	5	B4	-1.23	D19	19.00	19.45	-20.23	- -20.68			100.00	99.80	99.32	98.92	89.82	35.31		58.65	22.14	36.51			2.70	
##	9517	5	B4	-1.23	U20	20.00	20.70	-21.23	- -21.93				100.0	99.80	99.08	96.05	53.97	45.94	70.72	25.98	44.74	1.75	1.2	2.71	55.71
##	9518	5	B4	-1.23	D21	21.00	21.45	-22.23	- -22.68				100.0	99.90	99.30	96.80	52.16		55.30	21.54	33.76			2.72	
##	9519	5	B4	-1.23	D22	22.00	22.45	-23.23	- -23.68				100.0	99.62	87.23	76.38	41.63		59.75	20.65	39.10			2.71	
##	9520	5	B4	-1.23	D23	23.00	23.45	-24.23	- -24.68				100.0	99.80	92.73	38.29			65.39	21.24	44.15			2.70	
##	9521	5	B4	-1.23	D24	24.00	24.45	-25.23	- -25.68				100.0	99.90	99.88	92.73	36.52		62.02	22.25	39.77			2.71	
##	9522	5	B4	-1.23	D25	25.00	25.45	-26.23	- -26.68				100.0	99.86	99.68	91.15	37.37		66.19	21.10	45.09			2.70	
##	9523	5	B4	-1.23	D26	26.00	26.45	-27.23	- -27.68				100.0	99.98	99.90	90.69	36.00		60.98	20.10	40.88			2.71	
##	9524	1a	B7	1.01	D1	1.00	1.45	0.01	- -0.44			100.0	99.16	91.80	44.04	0.54	0.00							2.65	
##	9525	1a	B7	1.01	D2	2.00	2.45	-0.99	- -1.44			100.0	99.38	91.66	49.98	0.26	0.00							2.65	
##	9526	1b	B7	1.01	U3	3.00	3.90	-1.99	- -2.89			100.0	98.86	98.48	97.89	48.98	0.00	33.50	34.92	15.29	19.63	1.85	1.39	2.69	48.32
##	9527	1b	B7	1.01	D4	4.00	4.45	-2.99	- -3.44			100.0	98.78	98.38	97.85	48.40	9.04		37.61	16.33	21.28			2.69	
##	9528	2	B7	1.01	D5	5.00	5.45	-3.99	- -4.44			100.0	99.94	99.04	97.87	90.49	19.16		48.77	24.69	24.08			2.70	
##	9529	2	B7	1.01	U6	6.00	6.90	-4.99	- -5.89		100.0	98.38	98.36	98.28	98.06	85.94	20.57	35.33	36.57	21.72	14.85	1.85	1.37	2.69	49.08
##	9530	2	B7	1.01	D7	7.00	7.45	-5.99	- -6.44			100.0	99.68	99.34	98.88	74.91	16.57		39.13	23.04	16.09			2.69	
##	9531	3b	B7	1.01	D8	8.00	8.45	-6.99	- -7.44				100.0	99.22	92.27	79.32	10.65		27.74	16.21	11.53			2.70	
##	9532	3b	B7	1.01	U9	9.00	9.80	-7.99	- -8.79			100.0	97.44	93.56	77.30	46.23	18.48	29.40	34.20	16.39	17.81	1.93	1.49	2.69	44.60
##	9533	3b	B7	1.01	D10	10.00	10.45	-8.99	- -9.44			100.0	99.98	99.88	99.22	42.09	18.72		33.18	15.53	17.65			2.69	
##	9534	3b	B7	1.01	D11	11.00	11.45	-9.99	- -10.44			100.0	99.98	99.42	97.83	42.50	21.10		31.86	16.54	15.32			2.70	
##	9536	3c	B7	1.01	D13	13.00	13.45	-11.99	- -12.44			100.0	99.86	99.00	68.32	5.06	0.00							2.65	
##	9537	3c	B7	1.01	D14	14.00	14.45	-12.99	- -13.44			100.0	99.60	99.04	72.02	7.18	0.00							2.66	
##	9538	3c	B7	1.01	D15	15.00	15.45	-13.99	- -14.44			100.0	99.88	98.88	66.28	4.00	0.00							2.65	
##	9539	3c	B7	1.01	D16	16.00	16.45	-14.99	- -15.44				100.0	99.64	70.80	8.96	0.00							2.65	
##	9540	5	B7	1.01	D17	17.00	17.45	-15.99	- -16.44			100.0	99.92	99.78	99.64	97.13	43.44		58.61	20.65	37.96			2.70	
##	8968	5	B7	1.01	U18	18.00	18.90	-16.99	- -17.89				100.0	99.98	99.91	96.16	51.21	42.65	63.11	20.34	42.77	1.75	1.23	2.71	54.61
##	9542	5	B7	1.01	D19	19.00	19.45	-17.99	- -18.44				100.0	99.94	95.88	42.89			62.47	21.95	40.52			2.70	
##	9543	5	B7	1.01	D20	20.00	20.45	-18.99	- -19.44				100.0	99.93	99.83	95.96	40.54		61.18	21.65	39.53			2.71	
##	9544	5	B7	1.01	D21	21.00	21.45	-19.99	- -20.44				100.0	99.82	99.60	99.42	34.69		63.21	20.54	42.67			2.70	
##	9545	5	B7	1.01	U22	22.00	22.90	-20.99	- -21.89				100.0	99.94	99.92	97.44	42.27	47.77	65.85	18.19	47.66	1.75	1.18	2.72	56.62
##	9546	5	B7	1.01	D23	23.00	23.45	-21.99	- -22.44				100.0	99.98	99.88	96.60	38.53		60.05	23.46	36.59			2.70	
##	9547	5	B7	1.01	D24	24.00	24.45	-22.99	- -23.44				100.0	99.88	99.76	96.35	46.52		73.49	21.68	51.81			2.71	
##	9548	5	B7	1.01	D25	25.00	25.45	-23.99	- -24.44			100.0	99.96	99.86	99.74	95.49	41.71		65.56	21.08	44.48			2.70	
##	9549	5	B7	1.01	D26	26.00	26.45	-24.99	- -25.44				100.0	99.96	99.88	95.92	41.03		70.39	20.57	49.82			2.71	
##	9550	5	B7	1.01	D27	27.00	27.45	-25.99	- -26.44			100.0	99.90	99.74	99.58	97.19	53.08		56.87	21.36	35.51			2.70	
##	9551	5	B7	1.01	D28	28.00	28.45	-26.99	- -27.44				100.0	99.92	99.68	96.17	44.64		62.33	23.33	39.00			2.71	
##	9552	5	B7	1.01	D29	29.00	29.45	-27.99	- -28.44				100.0	99.84	96.82	43.86			65.56	22.36	43.20			2.72	
##	9553	5	B7	1.01	D30	30.00	30.45	-28.99	- -29.44			100.0	99.98	99.92	99.84	97.40	44.18		59.19	21.34	37.85			2.71	
##	9554	1a	B9	0.81	D1	1.00	1.45	-0.19	- -0.64			100.0	98.62	97.87	97.01	46.22	0.00		39.38	12.68	26.70			2.68	
##	9555	1a	B9	0.81	D2	2.00	2.45	-1.19	- -1.64			100.0	98.90	97.97	96.91	41.32	0.00		36.59	12.29	24.30			2.68	
##	9556	1b	B9	0.81	U3	3.00	3.90	-2.19	- -3.09			100.0	99.26	98.76	97.99	60.03	13.69	35.91	38.79	15.96	22.83	1.83	1.35	2.69	49.82
##	9557	1b	B9	0.81	D4	4.00	4.45	-3.19	- -3.64			100.0	99.58	99.34	99.00	67.04	15.55		47.16	16.47	30.69			2.69	
##	9558	2	B9	0.81	D5	5.00	5.45	-4.19	- -4.64			100.0	99.92	99.66	99.54	97.83	41.20		63.05	22.21	40.84			2.71	
##	9559	2	B9	0.81	U6	6.00	6.80	-5.19	- -5.99				100.0	99.90	98.58	87.14	41.27	66.99	67.95	23.24	44.71	1.58	0.95	2.70	64.81
##	9560	2	B9	0.81	D7	7.00	7.45	-6.19	- -6.64			100.0	99.78	97.98	97.37	93.34	39.31		71.77	22.64	49.13			2.70	
##	9561	2	B9	0.81	D8	8.00	8.45	-7.19	- -7.64				100.0	99.66	99.36	97.45	39.54		65.31	26.75	38.56			2.71	

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √Pi×1 x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(e) (10⁻⁴cm²/s)	Log Average in Normal consolidated Cv(e) (10⁻⁴cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁶cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)
##	9456																																				
##	9457																																				
##	9458																																				
##	9459																																				
##	9460	1.085		1.068	1.055	1.034	1.009	0.956	0.786	0.619		1.720	2.120	2.290	2.730	0.950	0.580	0.470		0.317	0.257	0.204	0.126	0.134	0.226	0.123	2.185	0.637	0.161	0.397	0.550	0.264	0.051	0.024	0.128	0.061	3.196
##	9461																																				
##	9462																																				
##	9463	1.327		1.300	1.279	1.242	1.193	1.059	0.874	0.713		1.840	1.830	3.320	2.390	0.920	0.810	0.940		0.475	0.370	0.327	0.221	0.315	0.234	0.112	2.274	0.888	0.269	0.754	0.530	0.228	0.080	0.034	0.113	0.049	2.145
##	9464																																				
##	9465																																				
##	9466																																				
##	9467																																				
##	9468																																				
##	9469																																				
##	9470	0.995	0.959	0.934	0.902	0.858	0.811	0.751	0.681		2.138	0.843	0.889	0.934	1.845	2.371	0.889		0.575	0.487	0.255	0.174	0.095	0.059	0.035		1.170	1.381	0.128	0.273	0.234	0.117	0.066	0.033	0.044	0.023	0.870
##	9471																																				
##	9472																																				
##	9473	1.081	1.044	1.032	0.999	0.951	0.877	0.791	0.701		0.866	0.984	0.591	0.469	1.112	1.103	0.658		0.624	0.411	0.276	0.199	0.155	0.089	0.047		0.796	0.784	0.175	0.217	0.299	0.144	0.057	0.027	0.033	0.016	0.770
##	9474																																				
##	9475																																				
##	9476	0.592		0.578	0.567	0.552	0.533	0.504	0.472	0.434		2.210	1.340	2.150	3.790	4.380	4.110	3.510		0.345	0.283	0.186	0.127	0.096	0.053	0.033	2.216	3.983	0.154	0.438	0.130	0.082	0.037	0.023	0.017	0.011	2.158
##	9477																																				
##	9478																																				
##	9479																																				
##	9480																																				
##	9481	0.993		0.970	0.948	0.910	0.870	0.796	0.703	0.601		0.601	0.746	2.420	2.330	1.780	1.210	1.080		0.465	0.446	0.392	0.214	0.201	0.133	0.077	1.261	1.325	0.289	0.683	0.340	0.171	0.074	0.037	0.080	0.040	2.063
##	9482																																				
##	9483																																				
##	9484																																				
##	9485	1.345		1.322	1.305	1.273	1.222	1.107	0.910	0.735		1.960	2.870	1.090	1.340	0.740	0.550	0.580		0.388	0.302	0.278	0.228	0.265	0.246	0.120	1.693	0.618	0.252	0.303	0.580	0.247	0.073	0.031	0.128

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From	Depth (m) GL-(m) To	Depth (m) DL(m) From	Depth (m) DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Atterberg Limits Plastic limit Wp(%)	Atterberg Limits Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
##	9562	3b	B9	0.81	U9	9.00	9.80	-8.19	-8.99				100.0	99.68	94.64	60.51	39.05	31.09	40.86	15.24	25.62	1.89	1.44	2.69	46.47	96.35	0.868
##	9563	3b	B9	0.81	D10	10.00	10.45	-9.19	-9.64			100.0	98.88	97.18	78.48	35.13	7.71		36.48	11.21	25.27			2.68			
##	9564	3b	B9	0.81	D11	11.00	11.45	-10.19	-10.64			100.0	99.92	98.80	85.60	44.99	0.00		31.04	12.92	18.12			2.67			
##	9565	3b	B9	0.81	U12	12.00	12.50	-11.19	-11.69				100.0	99.78	97.41	48.55	0.00	26.26	31.75	15.40	16.35	1.98	1.57	2.69	41.62	99.07	0.713
##	9566	3b	B9	0.81	D13	13.00	13.45	-12.19	-12.64			100.0	99.42	97.79	83.47	49.78	21.51		31.27	13.69	17.58			2.68			
##	9567	3b	B9	0.81	D14	14.00	14.45	-13.19	-13.64			100.0	99.58	97.85	72.14	45.25	12.30		30.17	12.32	17.85			2.68			
##	9568	4	B9	0.81	D15	15.00	15.45	-14.19	-14.64			100.0	99.24	98.80	98.39	95.46	38.64		57.80	23.24	34.56			2.70			
##	9569	4	B9	0.81	D16	16.00	16.45	-15.19	-15.64			100.0	99.72	99.46	99.20	96.50	44.54		58.17	26.45	31.72			2.71			
##	9570	4	B9	0.81	U17	17.00	17.60	-16.19	-16.79				100.0	99.98	99.84	97.90	53.39	40.45	66.32	23.83	42.49	1.80	1.28	2.72	52.94	97.80	1.125
##	9571	5	B9	0.81	D18	18.00	18.45	-17.19	-17.64				100.0	99.98	99.88	96.54	41.47		62.74	21.88	40.86			2.71			
##	9572	5	B9	0.81	D19	19.00	19.45	-18.19	-18.64					100.0	99.96	97.32	44.31		56.05	21.00	35.05			2.70			
##	9573	5	B9	0.81	D20	20.00	20.45	-19.19	-19.64				100.0	99.92	99.86	96.76	41.16		67.93	22.35	45.58			2.71			
##	9574	5	B9	0.81	U21	21.00	21.80	-20.19	-20.99				100.0	99.96	99.90	93.61	49.64	45.34	69.55	20.02	49.53	1.74	1.2	2.70	55.56	97.93	1.250
##	9575	5	B9	0.81	D22	22.00	22.45	-21.19	-21.64					100.0	99.94	96.04	43.74		66.02	20.26	45.76			2.71			
##	9576	5	B9	0.81	D23	23.00	23.45	-22.19	-22.64				100.0	99.96	97.50	95.10	51.91		58.92	24.00	34.92			2.72			
##	9577	5	B9	0.81	D24	24.00	24.45	-23.19	-23.64					100.0	99.90	96.92	47.85		69.06	22.54	46.52			2.71			
##	9578	5	B9	0.81	U25	25.00	25.70	-24.19	-24.89			100.0	99.94	99.84	99.54	97.37	51.39	47.82	62.98	22.22	40.76	1.73	1.17	2.70	56.67	98.71	1.308
##	9579	5	B9	0.81	D26	26.00	26.45	-25.19	-25.64					100.0	99.90	94.53	44.07		59.85	23.84	36.01			2.70			
##	9580	5	B9	0.81	D27	27.00	27.45	-26.19	-26.64				100.0	99.92	92.75	86.09	45.51		66.95	23.67	43.28			2.71			
##	9581	5	B9	0.81	D28	28.00	27.45	-27.19	-26.64				100.0	99.88	99.82	94.45	41.57		63.33	21.30	42.03			2.70			
##	9582	5	B9	0.81	D29	29.00	29.45	-28.19	-28.64				100.0	99.92	92.65	85.91	44.60		64.64	20.12	44.52			2.71			
##	9583	5	B9	0.81	D30	30.00	30.45	-29.19	-29.64					100.0	99.94	92.60	43.14		58.18	21.67	36.51			2.70			
##	9584	1a	B11	3.25	D1	1.00	1.45	2.25	1.80			100.0	99.45	97.73	77.18	11.95	0.00							2.64			
##	9585	1a	B11	3.25	D2	2.00	2.45	1.25	0.80			100.0	99.31	96.33	61.38	11.40	0.00							2.64			
##	9586	1b	B11	3.25	U3	3.00	3.90	0.25	-0.65		100.0	98.60	96.63	95.66	90.30	39.73	0.00	37.57	33.02	21.70	11.32	1.81	1.32	2.69	50.93	97.36	1.038
##	9587	1b	B11	3.25	D4	4.00	4.45	-0.75	-1.20		100.0	98.51	96.07	94.23	89.18	39.70	0.00		30.54	19.12	11.42			2.65			
##	9588	1b	B11	3.25	D5	5.00	5.45	-1.75	-2.20			100.0	99.56	99.16	98.53	49.15	0.00		33.85	19.46	14.39			2.67			
##	9589	2	B11	3.25	U6	6.00	6.90	-2.75	-3.65			100.0	99.88	99.62	98.96	85.64	0.00	37.71	42.27	21.10	21.17	1.82	1.32	2.68	50.74	98.12	1.030
##	9590	2	B11	3.25	D7	7.00	7.45	-3.75	-4.20			100.0	99.34	99.02	97.75	90.40	0.00		46.94	19.69	27.25			2.70			
##	9591	2	B11	3.25	D8	8.00	8.45	-4.75	-5.20			100.0	99.74	99.50	99.08	87.27	0.00		47.33	22.97	24.36			2.71			
##	9592	2	B11	3.25	U9	9.00	9.80	-5.75	-6.55			100.0	99.36	99.88	99.80	99.42	19.91	51.02	53.98	25.23	28.75	1.71	1.13	2.70	58.14	99.17	1.389
##	9593	2	B11	3.25	D10	10.00	10.45	-6.75	-7.20			100.0	99.90	99.86	99.84	99.54	20.58		53.33	27.93	25.40			2.71			
##	9594	3a	B11	3.25	D11	11.00	11.45	-7.75	-8.20		100.0	98.70	88.55	77.96	43.66	9.95	0.00							2.64			
##	9595	3a	B11	3.25	D12	12.00	12.45	-8.75	-9.20		100.0	99.03	97.76	95.30	83.27	10.71	0.00							2.65			
##	9596	3a	B11	3.25	D13	13.00	13.45	-9.75	-10.20			100.0	99.72	89.27	84.49	11.32	0.00							2.65			
##	9597	3b	B11	3.25	D14	14.00	14.45	-10.75	-11.20				100.0	99.96	99.86	94.03	0.00		69.92	20.50	49.42			2.70			
##	9598	3b	B11	3.25	U15	15.00	15.80	-11.75	-12.55			100.0	98.60	98.36	98.16	90.84	31.97	53.74	64.69	19.87	44.82	1.68	1.09	2.71	59.77	98.00	1.486
##	9599	3b	B11	3.25	D16	16.00	16.45	-12.75	-13.20			100.0	99.92	99.80	99.68	93.36	43.92		61.96	20.55	41.41			2.70			
##	9600	3b	B11	3.25	D17	17.00	17.45	-13.75	-14.20		100.0	98.91	98.65	98.49	98.25	94.69	40.74		39.78	20.57	19.21			2.71			
##	9601	3b	B11	3.25	D18	18.00	18.45	-14.75	-15.20			100.0	99.60	99.16	96.60	86.98	37.23		38.06	21.28	16.78			2.70			
##	9602	4	B11	3.25	D19	19.00	19.45	-15.75	-16.20			100.0	99.96	99.68	98.42	91.94	55.45		59.33	22.88	36.45			2.71			
##	9603	4	B11	3.25	D20	20.00	20.45	-16.75	-17.20			100.0	99.80	99.42	99.08	93.57	46.01		58.15	20.28	37.87			2.72			
##	9604	4	B11	3.25	D21	21.00	21.45	-17.75	-18.20			100.0	99.00	98.56	98.28	91.66	41.73		55.54	20.87	34.67			2.71			
##	9605	4	B11	3.25	D22	22.00	22.45	-18.75	-19.20			100.0	99.58	98.86	98.37	88.89	0.00		65.51	20.43	45.08			2.69			
##	9606	4	B11	3.25	D23	23.00	23.45	-19.75	-20.20			100.0	99.70	98.90	98.50	90.42	24.68		66.61	19.33	47.28			2.69			
##	9607	5	B11	3.25	U24	24.00	24.90	-20.75	-21.65			100.0	99.96	99.74	99.42	96.24	45.66	44.50	72.22	21.00	51.22	1.77	1.22	2.71	54.98	98.77	1.221
##	9608	5	B11	3.25	D25	25.00	25.45	-21.75	-22.20			100.0	99.90	99.22	98.76	97.14	41.26		57.71	22.08	35.63			2.71			
##	9609	5	B11	3.25	D26	26.00	26.45	-22.75	-23.20			100.0	99.94	99.54	99.14	94.52	38.76		67.62	21.25	46.37			2.70			
##	9610	5	B11	3.25	U27	27.00	27.90	-23.75	-24.65			100.0	99.36	98.60	97.46	89.12	29.72	38.74	63.29	22.01	41.28	1.82	1.31	2.70	51.48	98.58	1.061
##	9611	5	B11	3.25	D28	28.00	28.45	-24.75	-25.20			100.0	99.66	99.44	99.08	91.61	0.00		56.07	21.34	34.73			2.70			
##	9980	1a	B12	2.86	D1	1.00	1.45	1.86	-1.41			100.0	94.36	88.22	78.38	9.03	0.00							2.64			
##	9981	1a	B12	2.86	D2	2.00	2.45	0.86	-0.41			100.0	93.53	86.05	77.08	9.10	0.00							2.64			
##	9982	1a	B12	2.86	U3	3.00	3.80	-0.14	-0.94			100.0	93.52	85.94	76.10	10.23	0.00							2.65			
##	9983	1b	B12	2.86	D4	4.00	4.45	-1.14	-1.59			100.0	99.84	99.48	98.76	66.60	0.00		37.91	16.50	21.41			2.68			
##	9984	1b	B12	2.86	D5	5.00	5.45	-2.14	-2.59			100.0	99.64	99.12	98.03	65.11	0.00		36.88	15.93	20.95			2.67			
##	9985	1b	B12	2.86	U6	6.00	6.90	-3.14	-4.04			100.0	95.80	89.59	89.57	69.47	0.00	35.97	41.49	16.77	24.72	1.84	1.35	2.66	49.24	98.64	0.970
##	9986	1b	B12	2.86	D7	7.00	7.45	-4.14	-4.59			100.0	93.88	88.08	80.73	61.50	0.00		46.30	17.07	29.23			2.68			
##	9987	2	B12	2.86	D8	8.00	8.45	-5.14	-5.59			100.0	99.10	98.66	98.40	96.22	36.82		56.33	21.25	35.08			2.71			
##	9988	2	B12	2.86	U9	9.00	9.80	-6.14	-6.94			100.0	99.74	99.58	99.52	98.86	41.79	55.50	63.43	26.06	37.37	1.65	1.06	2.70	60.74	96.86	1.547
##	9989	2	B12	2.86	D10	10.00	10.45	-7.14	-7.59			100.0	98.46	98.24	98.06	96.92	48.32		62.98	22.94	40.04			2.71			
##	9990	2	B12	2.86	D11	11.00	11.45	-8.14	-8.59			100.0	94.00	93.85	93.74	93.38	0.00		63.83	21.46	42.37			2.72			
##	9991	3a	B12	2.86	D12	12.00	12.45	-9.14	-9.59			100.0	97.30	92.80	82.76	10.22	0.00							2.64			
##	9992	3a	B12	2.86	D13	13.00	13.45	-10.14	-10.59			100.0	98.62	91.56	81.28	6.96	0.00							2.65			
##	9993	3b	B12	2.86	D14	14.00	14.45	-11.14	-11.59			100.0	97.48	96.51	91.88	67.26	35.64		38.91	15.97	22.94			2.69			
##	9994	3b	B12	2.86	D15	15.00	15.45	-12.14	-12.59			100.0	97.00	95.68	90.38	67.30	31.84		38.32	16.80	21.52			2.70			
##	9995	4	B12	2.86	D16	16.00	16.45	-13.14	-13.59				100.0	99.82	97.86	91.07	49.84		67.36	22.64	44.72			2.71			
##	9996	4	B12	2.86	D17	17.00	17.45	-14.14	-14.59				100.0	99.92	99.44	94.65	55.31		64.33	23.74	40.59			2.72			
##	9997	4	B12	2.86	D18	18.00	18.45	-15.14	-15.59			100.0	99.64	99.62	99.50	97.57	36.60		59.58	21.97	37.61			2.70			
##	9998	4	B12	2.86	D19	19.00	19.45	-16.14	-16.59			100.0	99.80	99.72	99.58	97.59	35.96		57.37	22.99	34.38			2.71			
##	9999	4	B12	2.86	D20	20.00	20.45	-17.14	-17.59				100.0	99.66	99.24	95.35	50.56		61.25	23.14	38.11			2.70			
##	###	4	B12	2.86	D21	21.00	21.45	-18.14	-18.59			100.0	99.90	99.22	98.62	94.26	41.10		58.34	18.74	39.60			2.71			
##	###	5	B12	2.86	D22	22.00	22.45	-19.14	-19.59				100.0	99.98	99.90	99.18	43.73		65.01	21.54	43.47			2.70			
##	###	5	B12	2.86	D23	23.00	23.45	-20.14	-20.59				100.0	99.94	98.46	95.17	35.71		67.46	23.52	43.94			2.72			
##	###	5	B12	2.86	D24	24.00	24.45	-21.14	-21.59					100.0	99.98	96.50	34.67		63.55	22.50	41.05			2.71			
##	###	5	B12	2.86	U25	25.00	25.90	-22.14	-23.04				100.0	99.98	99.94	98.98	48.77	46.21	70.82	23.81	47.01	1.75	1.2	2.71	55.71	99.55	1.258
##	###	5	B12	2.86	D26	26.00	26.45	-23.14	-23.59				100.0	99.94	99.46	97.43	34.93		57.34	23.01	34.33			2.70			
##	###	5	B12	2.86	U27	27.00	27.80	-24.14	-24.94				100.0	99.92	99.80	94.31	44.61	40.88	62.18	23.32	38.86	1.78	1.26	2.71	53.55	96.19	1.153
##	###	5	B12	2.86	D28	28.00	28.70	-25.14	-25.84				100.0	99.94	97.46	95.82	32.48		58.99	22.53	36.46			2.72			
##	9612	1b	B13	0.40	D1	1.00	1.45	-0.60	-1.05			100.0	99.88	99.28	98.66	81.20	17.47		44.09	21.90	22.19			2.69			
##	9613	1b	B13	0.40	U2	2.00	2.90	-1.60	-2.50			100.0	99.90	99.56	99.10	80.33	20.28	41.47	43.50	21.31	22.19	1.79	1.27	2.70	52.96	99.44	1.126
##	9614	2	B13	0.40	D3	4.00	4.45	-3.60	-4.05			100.0	99.86	99.58	99.36	98.47	49.34		75.14	20.14	55.00			2.71			
##	9615	2	B13	0.40	U4	5.00	5.80	-4.60	-5.40			100.0	99.94	99.64	99.52	99.00	50.28	65.77	74.23	28.29	45.94	1.61	0.97	2.70	64.08	99.54	1.784
##	9616	3b	B13	0.40	D5	6.00	6.45	-5.60	-6.05			100.0	99.94	98.70	95.03	58.63	17.21		32.37	16.71	15.66			2.69			
##	9618	3b	B13	0.40	D7	8.00	8.45	-7.60	-8.05				100.0	99.82	98.50	56.97	29.02		32.67	14.29	18.38			2.69			
##	9619	3b	B13	0.40	U8	9.00	9.80	-8.60	-9.40			100.0	99.94	99.32	95.45	57.86	27.29	22.29	33.17	11.53	21.64	2.03	1.66	2.69	38.27	96.71	0.620
##	9620	3b	B13	0.40	D9	10.00	10.45	-9.60	-10.05				100.0	99.44	97.33	57.58	27.99		34.41	16.30	18.11			2.70			
##	9623	3b	B13	0.40	D12	13.00	13.45	-12.60	-13.05			100.0	99.8	99.14	94.28	57.45	27.75		31.97	15.24	16.73			2.70			
##	9624	3c	B13	0.40	D13	14.00	14.45	-13.60	-14.05			100.0	99.98	99.58	72.79	10.48	0.00		28.27	10.92	17.35			2.66			
##	9625	3c	B13	0.40	D14	15.00	15.45	-14.60	-15.05			100.0	99.96	99.52	70.67	11.57	0.00		30.21	9.74	20.47			2.65			
##	9626	3c	B13	0.40	D15	16.00	16.45	-15.60	-16.05			100.0	99.94	99.44	62.89	11.85	0.00		29.49	11.38	18.11			2.66			
##	9627	3c	B13	0.40	D16	17.00	17.45	-16.60	-17.05			100.0	99.94	99.58	74.78	10.26	0.00		31.21	9.74	21.47			2.66			
##	9628	3c	B13	0.40	D17	18.00	18.45	-17.60	-18.05			100.0	99.98	99.68	71.06	10.87	0.00		28.52	9.19	19.33			2.67			
##	9629	5	B13	0.40	D18	19.00	19.45	-18.60	-19.05			100.0	99.66	98.84	93.01	57.22	27.73		33.09	12.57	20.52			2.69			
##	9630	5	B13	0.40	U19	20.00	20.80	-19.60	-20.40			100.0	99.92	99.48	98.70	96.27	43.58	44.99	61.44	21.81	39.63	1.76	1.21	2.71	55.36	98.32	1.240
##	9631	5	B13	0.40	D20	22.00	22.45	-21.60	-22.05			100.0	99.98	99.48	98.88	96.70	43.90		64.28	23.41	40.87			2.70			
##	9632	5	B13	0.40	D21	23.00	23.45	-22.60	-23.05			100.0	99.88	99.76	99.68	97.29	42.75		64.17	20.78	43.39			2.71			
##	9633	5	B13	0.40	D22	25.00	25.45	-24.60	-25.05			100.0	99.90	99.84	99.80	93.03	0.00		55.05	21.01	34.04			2.71			
##	9634	2	B14	-1.18	D1	1.00	1.45	-2.18	-2.63			100.0	99.88	99.82	99.74	98.86	38.17		50.20	17.39	32.81			2.72			
##	9635	2	B14	-1.18	D2	2.00	2.45	-3.18	-3.63			100.0	99.94	99.72	99.69	89.78	15.71		50.11	18.13	31.98			2.70			
##	9636	2	B14	-1.18	U3	3.00	3.80	-4.18	-4.98			100.0	99.70	99.44	98.74	93.86	46.94	45.69	51.17	20.50	30.67	1.72	1.18	2.71	56.46	95.47	1.297
##	9637	2	B14	-1.18	D4	4.00	4.45	-5.18	-5.63			100.0	99.77	99.17	97.82	85.59	0.00		63.99	17.52	46.47			2.71			
##	9638	2	B14	-1.18	D5	5.00	5.45	-6.18	-6.63			100.0	99.94	99.70	99.50	96.61	39.95		61.62	26.50	35.12			2.70			
##	9639	3b	B14	-1.18	U6	6.00	6.90	-7.18	-8.08			100.0	98.98	97.63	87.24	27.24	7.15	27.57	33.49	16.52	16.97	1.93	1.51	2.68	43.66	95.34	0.775
##	9640	3b	B14	-1.18	D7	7.00	7.45	-8.18	-8.63			100.0	99.68	99.18	97.10	69.15	18.14		31.91	15.47	16.44			2.70			
##	9641	3b	B14	-1.18	D8	8.00	8.45	-9.18	-9.63			100.0	99.60	99.38	99.04	95.67	43.89		54.41	20.34	34.07			2.72			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficent of Consolidation) at load √Pi x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressbility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10⁻⁴cm²/s)	Log Average in Normal consolidated Cv(n) (10⁻⁴cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁶cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1 +e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Cs	Swelling Ratio SR = Cs/ (1 +e0)	Over consolidation stress Pc (KG/cm²)
##	9562	0.620		0.607	0.599	0.585	0.565	0.534	0.493	0.443		1.650	1.560	4.640	2.420	2.070	1.760	1.740		0.325	0.212	0.174	0.124	0.102	0.067	0.043	2.319	1.851	0.147	0.499	0.170	0.105	0.028	0.017	0.035	0.022	2.402
##	9563																																					
##	9564																																					
##	9565	0.854		0.829	0.816	0.797	0.772	0.745	0.704	0.648		0.869	0.537	0.545	0.530	0.890	0.702	0.426		0.184	0.140	0.070	0.046	0.025	0.019	0.013	0.606	0.643	0.057	0.075	0.186	0.100	0.022	0.012	0.027	0.015	2.670
##	9566																																					
##	9567																																					
##	9568																																					
##	9569																																					
##	9570	1.217		1.183	1.171	1.151	1.123	1.058	0.865	0.670		6.391	1.756	2.394	3.048	1.724	0.492	0.406		0.305	0.207	0.086	0.062	0.073	0.107	0.054	3.008	0.701	0.073	0.314	0.647	0.292	0.029	0.013	0.040	0.018	3.120
##	9571																																					
##	9572																																					
##	9573																																					
##	9574	1.295		1.262	1.241	1.215	1.175	1.033	0.819	0.611		5.356	1.663	4.418	4.291	0.495	0.946	0.722		0.307	0.247	0.120	0.094	0.162	0.123	0.060	3.605	0.697	0.106	0.820	0.692	0.301	0.047	0.021	0.061	0.027	2.300
##	9575																																					
##	9576																																					
##	9577																																					
##	9578	1.195		1.181	1.165	1.138	1.101	1.013	0.824	0.665		2.420	2.220	4.850	3.750	0.870	1.000	0.960		0.265	0.281	0.254	0.173	0.215	0.247	0.114	3.144	0.942	0.210	0.889	0.530	0.241	0.064	0.029	0.109	0.050	2.762
##	9579																																					
##	9580																																					
##	9581																																					
##	9582																																					
##	9583																																					
##	9584																																					
##	9585																																					
##	9586	1.173	1.147	1.133	1.109	1.076

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
##	9642	3b	B14	-1,18	D9	9.00 - 9.45	-10.18 - -10.63		100.0	97.62	97.37	97.16	96.83	93.60	44.09		52.97	20.02	32.95			2.71			
##	9643	3b	B14	-1,18	D10	10.00 - 10.45	-11.18 - -11.63			100.0	99.82	96.95	79.25	34.17	0.00		26.28	13.24	13.04			2.66			
##	9644	3b	B14	-1,18	D11	11.00 - 11.45	-12.18 - -12.63			100.0	94.36	91.51	82.25	48.53	0.00		24.45	17.69	6.76			2.65			
##	9645	3b	B14	-1,18	D12	12.00 - 12.45	-13.18 - -13.63			100.0	99.96	99.18	92.40	31.99	0.00		27.92	12.45	15.47			2.65			
##	9646	3b	B14	-1,18	U13	13.00 - 13.80	-14.18 - -14.98			100.0	99.96	99.18	92.40	33.84	0.00	19.47	24.84	10.34	14.50	1.93	1.62	2.68	39.54	79.79	0.654
##	9647	3b	B14	-1,18	D14	14.00 - 14.45	-15.18 - -15.63	100.0	95.96	93.50	87.82	86.73	85.91	83.13	36.34		58.72	20.24	38.48			2.70			
##	9648	5	B14	-1,18	D15	15.00 - 15.45	-16.18 - -16.63				100.0	99.90	99.60	95.42	50.70		65.14	21.57	43.57			2.73			
##	9649	5	B14	-1,18	U16	16.00 - 16.90	-17.18 - -18.08				100.0	99.90	99.50	95.04	51.80	47.10	64.15	19.82	44.33	1.75	1.19	2.71	56.08	99.95	1.277
##	9650	5	B14	-1,18	D17	17.00 - 17.45	-18.18 - -18.63			100.0	99.98	99.68	99.18	92.24	41.00		59.46	21.91	37.55			2.71			
##	9651	5	B14	-1,18	D18	18.00 - 18.45	-19.18 - -19.63			100.0	99.90	99.54	98.90	91.42	41.65		53.06	21.87	31.19			2.72			
##	9652	5	B14	-1,18	U19	19.00 - 19.90	-20.18 - -21.08				100.0	99.88	99.74	96.97	57.24	44.33	65.19	20.49	44.70	1.74	1.21	2.71	55.36	96.88	1.240
##	9653	5	B14	-1,18	D20	20.00 - 20.45	-21.18 - -21.63			100.0	99.10	98.33	97.43	89.83	37.42		59.48	20.94	38.54			2.71			
##	9654	5	B14	-1,18	D21	21.00 - 21.45	-22.18 - -22.63			100.0	99.92	99.82	99.52	93.55	41.61		51.11	20.35	30.76			2.70			
##	9655	5	B14	-1,18	D22	22.00 - 22.45	-23.18 - -23.63			100.0	99.82	99.64	99.32	93.14	41.78		63.20	21.98	41.22			2.71			
##	9656	5	B14	-1,18	D23	23.00 - 23.45	-24.18 - -24.63			100.0	99.72	99.12	98.62	93.98	36.70		60.40	20.75	39.65			2.70			
##	9657	5	B14	-1,18	D24	24.00 - 24.45	-25.18 - -25.63			100.0	99.70	99.14	98.49	92.99	37.91		72.20	21.65	50.55			2.71			
##	9658	1a	B16	-0,10	D1	1.00 - 1.45	-1.10 - -1.55			100.0	96.04	88.49	44.43	0.98	0.00							2.65			
##	9659	1a	B16	-0,10	D2	2.00 - 2.45	-2.10 - -2.55		100.0	98.55	96.59	90.29	59.27	1.77	0.00							2.64			
##	9660	2	B16	-0,10	U3	3.00 - 3.90	-3.10 - -4.00				100.0	99.96	99.94	99.64	18.57	66.65	68.34	19.54	48.80	1.58	0.95	2.70	64.81	97.70	1.842
##	9661	2	B16	-0,10	D4	5.00 - 5.45	-5.10 - -5.55			100.0	99.50	98.72	97.93	95.03	0.00		63.23	24.77	38.46			2.71			
##	9662	2	B16	-0,10	D5	6.00 - 6.45	-6.10 - -6.55		100.0	99.40	99.00	98.66	98.32	94.05	0.00		62.31	22.73	39.58			2.70			
##	9663	2	B16	-0,10	U6	7.00 - 7.45	-7.10 - -7.55			100.0	98.42	96.06	94.83	85.97	26.69	53.53	56.06	15.48	40.58	1.68	1.09	2.69	59.48	98.09	1.468
##	9664	3b	B16	-0,10	D7	8.00 - 8.45	-8.10 - -8.55			100.0	99.40	98.15	90.08	38.07	0.00		31.08	11.67	19.41			2.68			
##	9665	3b	B16	-0,10	D8	9.00 - 9.45	-9.10 - -9.55				100.0	99.70	77.99	42.04	0.00		30.29	12.84	17.45			2.67			
##	9666	3b	B16	-0,10	U9	10.00 - 10.80	-10.10 - -10.90			100.0	99.84	99.50	98.43	46.83	16.60	20.65	26.76	16.69	10.07	1.92	1.59	2.68	40.69	80.67	0.686
##	9667	3b	B16	-0,10	D10	11.00 - 11.45	-11.10 - -11.55			100.0	99.62	99.06	89.07	31.51	0.00		30.11	10.65	19.46			2.66			
##	9668	3b	B16	-0,10	D11	12.00 - 12.45	-12.10 - -12.55			100.0	99.96	99.70	87.42	28.31	0.00		27.69	11.98	15.71			2.67			
##	9669	3b	B16	-0,10	U12	13.00 - 13.70	-13.10 - -13.80			100.0	99.96	99.70	85.42	29.37	0.00	18.32	26.09	11.65	14.44	2.00	1.69	2.68	36.95	83.78	0.586
##	9670	3b	B16	-0,10	D13	14.00 - 14.45	-14.10 - -14.55			100.0	99.60	99.16	88.79	45.32	0.00		27.73	13.85	13.88			2.64			
##	9671	5	B16	-0,10	U14	15.00 - 15.90	-15.10 - -16.00			100.0	99.98	99.91	99.78	98.43	57.56	43.74	55.87	20.98	34.89	1.76	1.22	2.71	54.98	97.08	1.221
##	9672	5	B16	-0,10	D15	17.00 - 17.45	-17.10 - -17.55			100.0	98.40	96.73	96.05	87.56	31.68		58.22	19.34	38.88			2.70			
##	9673	5	B16	-0,10	D16	18.00 - 18.45	-18.10 - -18.55			100.0	99.96	99.78	99.56	95.46	46.87		66.72	23.33	43.39			2.69			
##	9674	5	B16	-0,10	U17	19.00 - 19.90	-19.10 - -20.00			100.0	99.76	99.54	98.80	97.65	61.31	46.78	66.39	18.88	47.51	1.73	1.18	2.70	56.29	98.06	1.288
##	9675	5	B16	-0,10	D18	21.00 - 21.45	-21.10 - -21.55			100.0	99.84	99.70	99.20	98.01	60.31		67.38	23.33	44.05			2.70			
##	9676	5	B16	-0,10	D19	22.00 - 22.45	-22.10 - -22.55				100.0	99.96	99.90	96.76	43.18		63.60	20.87	42.73			2.71			
##	9677	5	B16	-0,10	D20	24.00 - 24.45	-24.10 - -24.55			100.0	99.48	99.40	99.34	95.35	40.55		56.74	30.81	25.93			2.72			
##	9678	5	B16	-0,10	D21	25.00 - 25.45	-25.10 - -25.55			100.0	99.60	99.58	99.54	95.66	39.74		69.48	21.37	48.11			2.71			
##	9679	1a	B18	1.03	D1	1.00 - 1.45	0.03 - -0.42			100.0	99.54	88.39	33.22	1.54	0.00							2.66			
##	9680	1b	B18	1.03	D2	2.00 - 2.45	-0.97 - -1.42			100.0	99.60	98.80	75.19	30.45	0.00		50.38	22.29	28.09			2.67			
##	9681	2	B18	1.03	U3	3.00 - 3.60	-1.97 - -2.57			100.0	99.72	98.80	97.16	90.01	0.00	50.17	51.52	21.67	29.85	1.69	1.13	2.70	58.14	97.52	1.389
##	9682	2	B18	1.03	D4	5.00 - 5.45	-3.97 - -4.42				100.0	99.94	99.90	96.60	20.33		57.09	20.54	36.55			2.71			
##	9683	2	B18	1.03	U5	6.00 - 6.90	-4.97 - -5.87			100.0	99.94	99.88	99.70	96.41	21.71	51.70	56.60	23.43	33.17	1.64	1.08	2.70	60.00	93.06	1.500
##	9684	2	B18	1.03	D6	7.00 - 8.45	-5.97 - -7.42				100.0	99.76	99.30	46.47			58.74	28.74	30.00			2.71			
##	9934	3b	B18	1.03	U7	9.00 - 9.90	-7.97 - -8.87		100.0	99.75	99.35	98.36	80.46	47.18	20.39	26.07	32.70	11.32	21.38	1.88	1.49	2.69	44.60	87.12	0.805
##	9686	3b	B18	1.03	D8	10.00 - 10.45	-8.97 - -9.42		100.0	99.66	99.10	98.37	81.51	48.51	20.90		31.55	10.24	21.31			2.68			
##	9687	3b	B18	1.03	U9	11.00 - 11.80	-9.97 - -10.77			100.0	99.98	99.64	82.02	49.20	21.76	23.00	29.89	13.47	16.42	1.98	1.61	2.69	40.16	92.21	0.671
##	9688	4	B18	1.03	D10	12.00 - 12.45	-10.97 - -11.42		100.0	99.06	97.91	96.68	93.53	85.64	36.95		53.89	23.28	30.61			2.70			
##	9689	4	B18	1.03	D11	13.00 - 13.45	-11.97 - -12.42				100.0	99.82	99.42	96.11	45.96		50.45	20.17	30.28			2.71			
##	9936	5	B18	1.03	U12	14.00 - 14.80	-12.97 - -13.77				100.0	99.48	97.99	93.76	42.08	38.72	52.76	20.48	32.28	1.78	1.28	2.70	52.58	94.27	1.109
##	9691	5	B18	1.03	D13	16.00 - 16.45	-14.97 - -15.42				100.0	99.40	98.11	93.70	42.21		53.68	21.91	31.77			2.71			
##	9692	5	B18	1.03	D14	17.00 - 17.45	-15.97 - -16.42				100.0	99.20	98.21	92.97	40.72		50.31	23.12	27.19			2.70			
##	9693	5	B18	1.03	U15	18.00 - 18.90	-16.97 - -17.87					100.0	99.96	96.48	45.88	43.55	56.57	21.58	34.99	1.73	1.21	2.71	55.36	95.18	1.240
##	9694	5	B18	1.03	D16	20.00 - 20.45	-18.97 - -19.42				100.0	99.84	97.34	87.04	34.51		62.00	22.67	39.33			2.70			
##	9695	5	B18	1.03	D17	21.00 - 21.45	-19.97 - -20.42				100.0	99.96	99.92	99.48	39.94		66.21	21.74	44.47			2.71			
##	9696	5	B18	1.03	D18	23.00 - 23.45	-21.97 - -22.42					100.0	99.84	94.23	47.91		61.76	26.20	35.56			2.72			
##	9697	5	B18	1.03	D19	24.00 - 24.45	-22.97 - -23.42					100.0	99.90	96.20	47.40		62.90	21.95	40.95			2.70			
##	9698	5	B18	1.03	D20	26.00 - 26.45	-24.97 - -25.42				100.0	99.86	97.16	88.24	31.12		59.42	21.56	37.86			2.71			
##	9699	5	B18	1.03	D21	27.00 - 27.45	-25.97 - -26.42					100.0	99.98	99.54	39.88		71.93	22.71	49.22			2.70			
##	9700	5	B18	1.03	D22	29.00 - 29.45	-27.97 - -28.42					100.0	99.84	94.03	46.65		65.41	20.51	44.90			2.71			
##	9701	5	B18	1.03	D23	30.00 - 30.45	-28.97 - -29.42					100.0	99.90	95.62	43.57		60.39	20.70	39.69			2.70			
##	9702	1a	B20	3.75	D1	1.00 - 1.45	2.75 - 2.30		100.0	99.42	98.48	96.70	87.96	2.32	0.00							2.65			
##	9703	1a	B20	3.75	D2	2.00 - 2.45	1.75 - 1.30			100.0	99.04	95.36	85.24	2.88	0.00							2.66			
##	9704	1a	B20	3.75	D3	3.00 - 3.45	0.75 - 0.30			100.0	98.88	97.52	84.38	2.72	0.00							2.65			
##	9705	1b	B20	3.75	D4	4.00 - 4.45	-0.25 - -0.70			100.0	98.04	97.47	97.24	66.01	12.89		39.44	14.65	24.79			2.69			
##	9706	1b	B20	3.75	U5	5.00 - 5.90	-1.25 - -2.15			100.0	98.50	98.11	97.97	67.25	11.22	30.19	33.66	15.22	18.44	1.82	1.4	2.70	48.16	87.74	0.929
##	9707	2	B20	3.75	U6	7.00 - 7.80	-3.25 - -4.05			100.0	99.98	99.36	99.06	92.58	15.85	55.91	62.98	20.39	42.59			2.69			
##	9708	2	B20	3.75	U7	9.00 - 9.90	-5.25 - -6.15			100.0	99.92	99.68	98.96	88.45	18.00	56.05	66.13	24.36	41.77	1.65	1.06	2.71	60.89	97.56	1.557
##	9709	2	B20	3.75	D8	11.00 - 11.45	-7.25 - -7.70			100.0	99.76	99.62	99.46	98.68	46.77		67.65	21.99	45.66			2.70			
##	9710	3a	B20	3.75	D9	12.00 - 12.45	-8.25 - -8.70			100.0	95.28	91.32	81.38	9.42	0.00							2.65			
##	9711	3a	B20	3.75	D10	13.00 - 13.45	-9.25 - -9.70			100.0	95.94	93.82	82.36	8.46	0.00							2.65			
##	9712	4	B20	3.75	D11	14.00 - 14.45	-10.25 - -10.70			100.0	98.30	97.67	96.69	90.93	37.66		62.25	20.05	42.20			2.70			
##	4	4	B20	3.75	U12	15.00 - 15.90	-11.25 - -12.15			100.0	99.56	99.22	98.45	90.14	31.13	37.38	62.61	18.22	44.39	1.84	1.34	2.71	50.54	99.12	1.022
##	9714	4	B20	3.75	D13	17.00 - 17.45	-13.25 - -13.70		100.0	99.70	98.94	98.39	96.44	86.99	49.60		58.24	20.17	38.07			2.70			
##	9715	4	B20	3.75	D14	18.00 - 18.45	-14.25 - -14.70			100.0	99.86	99.62	99.42	97.79	52.05		62.10	20.75	41.35			2.70			
##	9716	4	B20	3.75	D15	19.00 - 19.45	-15.25 - -15.70			100.0	99.48	99.36	99.14	96.80	52.49		57.98	21.57	36.41			2.72			
##	9717	4	B20	3.75	D16	20.00 - 20.45	-16.25 - -16.70			100.0	99.70	99.54	93.73	88.26	49.62		62.23	22.24	39.99			2.71			
##	9718	4	B20	3.75	D17	21.00 - 21.45	-17.25 - -17.70			100.0	99.86	99.70	99.54	98.07	50.51		61.41	20.03	41.38			2.70			
##	9719	4	B20	3.75	D18	22.00 - 22.45	-18.25 - -18.70			100.0	99.88	99.84	99.74	96.83	0.00		62.44	20.89	41.55			2.71			
##	9720	4	B20	3.75	D19	23.00 - 23.45	-19.25 - -19.70			100.0	99.96	99.94	99.88	96.58	45.35		59.22	21.03	38.19			2.70			
##	9721	5	B20	3.75	D20	24.00 - 24.45	-20.25 - -20.70			100.0	99.96	99.76	99.54	95.94	43.09		56.29	22.90	33.39			2.71			
##	9722	5	B20	3.75	D21	25.00 - 25.45	-21.25 - -21.70				100.0	99.90	99.76	96.63	42.19		58.56	22.40	36.16			2.70			
##	2	5	B20	3.75	U22	26.00 - 26.90	-22.25 - -23.15			100.0	99.50	97.71	96.99	96.16	58.85	47.51	59.66	20.25	39.41	1.70	1.15	2.71	57.57	94.88	1.357
##	9724	5	B20	3.75	D23	27.00 - 27.45	-23.25 - -23.70				100.0	99.94	95.86	42.43			57.52	21.70	35.82			2.70			
##	1	5	B20	3.75	U24	28.00 - 28.45	-24.25 - -24.70				100.0	99.94	99.84	96.55	40.62	40.36	59.44	20.61	38.83	1.80	1.28	2.71	52.76	97.92	1.117
##	9726	9	B20	3.75	D25	29.00 - 29.45	-25.25 - -25.70			100.0	92.38	28.94	18.88	3.18	0.00							2.64			
##	9727	9	B20	3.75	D26	30.00 - 30.45	-26.25 - -26.70			100.0	91.84	23.20	14.38	4.98	0.00							2.65			
##	9728	1b	B22	0.55	D1	1.00 - 1.45	-0.45 - -0.90				100.0	97.49	91.71	79.54	14.58		43.33	22.42	20.91			2.69			
##	9729	1b	B22	0.55	D2	2.00 - 2.45	-1.45 - -1.90				100.0	94.70	87.81	76.45	13.87		40.93	16.54	24.39			2.69			
##	9730	1b	B22	0.55	U3	3.00 - 3.90	-2.45 - -3.35				100.0	97.49	91.71	79.54	14.58	39.54	43.32	16.12	27.20	1.79	1.28	2.70	52.58	96.27	1.109
##	9731	2	B22	0.55	D4	4.00 - 4.45	-3.45 - -3.90			100.0	99.90	98.92	97.99	94.25	48.26		58.48	20.45	38.03			2.71			
##	9732	2	B22	0.55	D5	5.00 - 5.45	-4.45 - -4.90			100.0	99.90	99.80	99.50	96.59	40.16		59.01	21.56	37.45			2.70			
##	9733	2	B22	0.55	U6	6.00 - 6.90	-5.45 - -6.35			100.0	99.96	98.96	98.48	97.14	46.37	67.34	62.50	27.67	34.83	1.60	0.96	2.72	64.70	99.93	1.833
##	9734	2	B22	0.55	D7	7.00 - 7.45	-6.45 - -6.90				100.0	99.00	98.60	97.61	45.12		64.58	22.41	42.17			2.71			
##	9735	2	B22	0.55	D8	8.00 - 8.45	-7.45 - -7.90				100.0	99.90	99.60	96.61	38.94		64.58	20.45	44.13			2.70			
##	9736	3b	B22	0.55	U9	9.00 - 9.90	-8.45 - -9.35			100.0	97.50	92.33	85.74	33.88	6.59		30.46	12.54	17.92			2.68			
##	9737	3b	B22	0.55	D10	10.00 - 10.45	-9.45 - -9.90			100.0	97.46	92.31	83.28	33.28	8.58		29.31	13.46	15.85			2.68			
##	9738	3b	B22	0.55	D11	11.00 - 11.45	-10.45 - -10.90			100.0	99.76	92.66	76.26	36.44	0.00		34.79	11.65	23.14			2.69			
##	9739	3b	B22	0.55	U12	12.00 - 12.90	-11.45 - -12.35			100.0	99.80	92.39	77.50	34.46	14.76	23.94	33.84	13.57	20.27	2.02	1.63	2.69	39.39	99.07	0.650
##	9740	3b	B22	0.55	D13	13.00 - 13.45	-12.45 - -12.90			100.0	99.86	99.42	93.73	40.38	15.30		30.38	12.45	17.93			2.67			
##	9741	3b	B22	0.55	D14	14.00 - 14.45	-13.45 - -13.90			100.0	99.96	99.56	89.84	32.92	15.32		30.81	15.39	15.42			2.67			
##	9742	5	B22	0.55	U15	15.00 - 15.90	-14.45 - -15.35			100.0	99.94	99.64	94.96	50.89	39.00		56.57	12.12	44.45	1.81	1.3	2.71	52.04	97.41	1.085
##	9743	5	B22	0.55	D16	16.00 - 16.45	-15.45 - -15.90			100.0	99.94	99.74	94.45	47.41			57.09	20.40	36.69			2.70			
##	9744	5	B22	0.55	D17	17.00 - 17.45	-16.45 - -16.90			100.0	99.90	99.76	96.19	42.92			58.90	21.85	37.05			2.71			
##	9745	5	B22	0.55	U18	18.00 - 18.50	-17.45 - -17.95			100.0	99.96	99.46	97.33	57.25	53.36		67.53	22.70	44.83	1.69	1.1	2.71	59.42	98.77	1.464
##	9746	5	B22	0.55	D19	19.00 - 19.45	-18.45 - -18.90			100.0	99.93	99.83	94.91	38.50			53.58	21.57	32.01			2.72			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficent of Consolidation) at load √Pi x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressbility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(e) (10⁻⁴cm²/s)	Log Average in Normal consolidated Cv(e) (10⁻⁴cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁷cm/s)	Cc	Compression Ratio CR = Cc/ (1+e0)	Cr	Re-Compression Ratio RR = Cr/ (1+e0)	Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)	Specimen 1 q_u (KG/cm²)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm²)	Specimen 2 Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m²)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m²)	fcu (deg.)	Soil group	Description
##	9642																																																CH	Yellowish brown, fat clay
##	9643																																																SC	Yellowish grey, clayey sand
##	9644																																																SC	Yellowish grey, clayey sand
##	9645																																																SC	Yellowish grey, clayey sand
##	9646																																																SC	Yellowish grey, clayey sand
##	9647																																																CH	Yellowish grey, fat clay with sand
##	9648																																																CH	Grey, fat clay
##	9649	1.186		1.168	1.154	1.134	1.105	1.028	0.816	0.635		1.900	1.930	3.390	5.460	0.820	0.940	0.990		0.325	0.259	0.183	0.137	0.187	0.276	0.131	2.870	0.914	0.159	0.685	0.600	0.274	0.050	0.023	0.123	0.056	3.023	1.35	3.50	1.53	4.90	62.07		25.50	14°34'	CH	Grey, fat clay
##	9650																																																CH	Grey, fat clay
##	9651																																																CH	Grey, fat clay
##	9652	1.258		1.245	1.228	1.203	1.162	1.046	0.843	0.690		3.060	3.580	6.780	4.610	0.960	1.090	1.140		0.245	0.303	0.225	0.185	0.276	0.261	0.109	4.302	1.061	0.204	1.147	0.510	0.226	0.069	0.031	0.110	0.049	2.570	0.66	3.10	0.86	5.60	34.16	2°06'			CH	Grey, fat clay
##	9653																																																CH	Grey, fat clay
##	9654																																																CH	Grey, fat clay
##	9655																																																CH	Grey, fat clay
##	9656																																																CH	Grey, fat clay
##	9657																																																CH	Grey, fat clay
##	9658																																																SP	Light grey, poorly graded sand
##	9659																	

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Atterberg Limits Plastic limit Wp(%)	Atterberg Limits Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio do
##	9747	5	B22	0.55	D20	20.00 - 20.45	19.45 - -19.90				100.0	99.98	99.88	96.48	42.84		63.20	22.84	40.36			2.71			
##	9748	5	B22	0.55	D21	21.00 - 21.45	20.45 - -20.90			100.0	99.98	99.88	99.73	95.82	40.69		61.60	20.75	40.85			2.70			
##	9749	5	B22	0.55	D22	22.00 - 22.45	21.45 - -21.90			100.0	99.96	99.84	99.66	96.27	46.04		58.52	21.73	36.79			2.70			
##	9750	5	B22	0.55	D23	23.00 - 23.45	22.45 - -22.90				100.0	99.96	99.86	96.92	43.96		59.56	22.74	36.82			2.71			
##	9751	5	B22	0.55	D24	24.00 - 24.45	23.45 - -23.90				100.0	99.92	99.82	97.50	39.30		59.62	20.75	38.87			2.72			
##	9752	2	B24	0.55	D1	1.00 - 1.45	0.45 - -0.90			100.0	99.86	99.52	99.16	95.95	34.93		61.73	21.54	40.19			2.70			
##	9753	2	B24	0.55	D2	2.00 - 2.45	1.45 - -1.90		100.0	99.02	98.54	97.97	97.30	86.83	34.33		57.82	22.54	35.28			2.73			
##	9754	2	B24	0.55	U3	3.00 - 3.90	2.45 - -3.35			100.0	99.52	98.90	94.49	90.26	44.79	47.69	64.33	22.64	41.69	1.75	1.18	2.72	56.62	99.40	1.305
##	9755	2	B24	0.55	D4	4.00 - 4.45	3.45 - -3.90			100.0	99.64	99.20	98.64	94.54	46.19		63.71	21.54	42.17			2.70			
##	9756	2	B24	0.55	D5	5.00 - 5.45	4.45 - -4.90			100.0	99.80	99.44	99.16	96.11	43.05		63.16	22.42	40.74			2.71			
##	9757	2	B24	0.55	U6	6.00 - 6.90	5.45 - -6.35			100.0	99.52	99.22	98.66	95.19	24.88	34.23	57.86	20.86	37.00	1.84	1.37	2.69	49.08	95.52	0.964
##	9758	2	B24	0.55	D7	7.00 - 7.45	6.45 - -6.90			100.0	99.58	98.82	98.39	94.59	37.41		59.65	21.74	37.91			2.70			
##	9759	3b	B24	0.55	D8	8.00 - 8.45	7.45 - -7.90			100.0	90.70	82.99	76.78	31.73	6.12		27.76	11.24	16.52			2.65			
##	9760	3b	B24	0.55	D9	9.00 - 9.45	8.45 - -8.90			100.0	91.58	85.41	77.95	33.52	7.72		25.78	10.65	15.13			2.65			
##	9761	3b	B24	0.55	U10	10.00 - 10.70	9.45 - -10.15			100.0	99.84	99.46	98.68	63.06	18.24	34.91	44.39	17.39	27.00	1.82	1.35	2.72	50.37	93.55	1.015
##	9762	3b	B24	0.55	D11	11.00 - 11.45	10.45 - -10.90			100.0	97.50	95.59	92.59	41.46	0.00		21.73	11.24	10.49			2.66			
##	9763	3b	B24	0.55	D12	12.00 - 12.45	11.45 - -11.90			100.0	99.92	99.72	98.58	38.70	8.09		22.55	12.54	10.01			2.65			
##	9764	3b	B24	0.55	D13	13.00 - 13.45	12.45 - -12.90			100.0	99.42	98.37	95.73	41.24	0.00		21.25	11.64	9.61			2.68			
##	9765	5	B24	0.55	U14	14.00 - 14.90	13.45 - -14.35			100.0	99.98	99.82	99.52	96.28	52.67	44.87	66.68	22.84	43.84	1.76	1.21	2.70	55.18	98.42	1.231
##	9766	5	B24	0.55	D15	15.00 - 15.45	14.45 - -14.90				100.0	99.90	99.70	96.37	53.10		54.23	22.47	31.76			2.70			
##	9767	5	B24	0.55	D16	16.00 - 16.45	15.45 - -15.90				100.0	99.94	99.80	95.47	38.99		60.19	21.65	38.54			2.71			
##	9768	5	B24	0.55	D17	17.00 - 17.45	16.45 - -16.90				100.0	99.96	99.92	95.56	39.81		55.79	21.57	34.22			2.70			
##	9769	5	B24	0.55	D18	18.00 - 18.45	17.45 - -17.90				100.0	99.84	98.94	95.95	48.40		57.04	22.34	34.70			2.71			
##	9770	5	B24	0.55	D19	19.00 - 19.45	18.45 - -18.90					100.0	99.92	96.32	44.39		62.06	20.48	41.58			2.70			
##	9771	5	B24	0.55	U20	20.00 - 20.90	19.45 - -20.35				100.0	99.94	99.84	96.71	37.87	45.92	60.60	20.72	39.88	1.73	1.19	2.72	56.26	97.12	1.286
##	9772	5	B24	0.55	D21	21.00 - 21.45	20.45 - -20.90					100.0	99.96	96.26	40.23		56.37	21.57	34.80			2.71			
##	9773	5	B24	0.55	D22	22.00 - 22.45	21.45 - -21.90					100.0	99.94	95.36	45.03		63.26	21.81	41.45			2.70			
##	9774	5	B24	0.55	D23	23.00 - 23.45	22.45 - -22.90					100.0	96.98	94.05	50.47		62.05	20.46	41.59			2.71			
##	9775	5	B24	0.55	D24	24.00 - 24.45	23.45 - -23.90			100.0	99.96	98.7	97.85	92.82	40.28		59.63	22.47	37.16			2.70			
##	9776	1a	B26	0.15	D1	1.00 - 1.45	0.85 - -1.30				100.0	93.90	79.20	3.74	0.00							2.64			
##	9777	1b	B26	0.15	D2	2.00 - 2.45	1.85 - -2.30			100.0	98.04	93.65	64.41	43.15	0.00		26.28	11.54	14.74			2.70			
##	9778	2	B26	0.15	U3	3.00 - 3.90	2.85 - -3.75				100.0	99.80	99.40	98.41	45.19	35.83	52.64	21.76	30.88	1.83	1.35	2.71	50.17	96.42	1.007
##	9779	2	B26	0.15	D4	4.00 - 4.45	3.85 - -4.30			100.0	99.92	99.66	99.40	97.97	34.35		63.19	21.54	41.65			2.72			
##	9780	2	B26	0.15	D5	5.00 - 5.45	4.85 - -5.30				100.0	99.70	99.50	98.80	37.60		59.11	22.45	36.66			2.71			
##	9781	2	B26	0.15	D6	6.00 - 6.45	5.85 - -6.30				100.0	99.82	99.52	98.03	33.50		61.15	20.47	40.68			2.70			
##	9782	3b	B26	0.15	U7	7.00 - 7.90	6.85 - -7.75		100.0	99.77	99.27	97.80	90.88	33.48	8.69	37.30	34.18	11.35	22.83	1.83	1.33	2.68	50.37	98.49	1.015
##	9783	3b	B26	0.15	D8	8.00 - 8.45	7.85 - -8.30		100.0	99.54	98.96	97.83	90.90	33.56	9.32		31.93	12.84	19.09			2.68			
##	9784	3c	B26	0.15	D9	9.00 - 9.45	8.85 - -9.30				100.0	97.94	89.44	78.38	11.08	0.00						2.64			
##	9785	3c	B26	0.15	D10	10.00 - 10.45	9.85 - -10.30				100.0	97.28	83.98	74.64	9.94	0.00						2.65			
##	9786	3c	B26	0.15	D11	11.00 - 11.45	10.85 - -11.30				100.0	96.32	82.08	71.02	8.32	0.00						2.65			
##	9787	4	B26	0.15	D12	12.00 - 12.45	11.85 - -12.30				100.00	98.52	96.69	91.28	87.87	36.71	52.51	19.65	32.86			2.69			
##	9788	4	B26	0.15	U13	13.00 - 13.70	12.85 - -13.55				100.00	98.26	97.06	95.24	91.09	48.04	36.80	53.59	20.79	32.80	1.84	1.35	2.70	50.00	99.36	1.000
##	9789	4	B26	0.15	D14	14.00 - 14.45	13.85 - -14.30				100.00	99.58	98.84	95.86	87.46	41.40		52.41	21.73	30.68			2.69			
##	9790	4	B26	0.15	D15	15.00 - 15.45	14.85 - -15.30				100.00	99.54	98.80	96.39	90.63	48.20		52.73	22.34	30.39			2.70			
##	9791	5	B26	0.15	U16	16.00 - 16.70	15.85 - -16.55				100.0	99.96	99.90	94.13	39.60	44.04	58.22	19.91	38.31	1.75	1.21	2.72	55.52	95.98	1.248
##	9792	5	B26	0.15	D17	17.00 - 17.45	16.85 - -17.30					100.0	99.96	96.00	38.19		56.13	20.34	35.79			2.71			
##	9793	5	B26	0.15	D18	18.00 - 18.45	17.85 - -18.30				100.00	99.74	99.44	98.86	94.19	39.97		58.50	21.67	36.83			2.70			
##	9794	5	B26	0.15	D19	19.00 - 19.45	18.85 - -19.30				100.00	99.82	99.44	98.96	94.80	38.22		57.12	22.70	34.42			2.71			
##	9795	5	B26	0.15	U20	20.00 - 20.80	19.85 - -20.65				100.0	99.96	99.90	98.00	51.65	41.35	57.26	21.74	35.52	1.77	1.25	2.70	53.70	96.25	1.160
##	9796	5	B26	0.15	D21	21.00 - 21.45	20.85 - -21.30				100.0	99.94	99.92	98.50	50.12		59.95	21.57	38.38			2.70			
##	9797	5	B26	0.15	D22	22.00 - 22.45	21.85 - -22.30					100.0	99.98	98.18	49.90		62.56	22.68	39.88			2.72			
##	9798	5	B26	0.15	U23	23.00 - 23.90	22.85 - -23.75				100.0	99.94	99.30	95.63	48.12	46.99	58.53	20.75	37.78	1.74	1.18	2.71	56.46	98.18	1.297
##	9799	5	B26	0.15	D24	24.00 - 24.45	23.85 - -24.30					100.0	99.72	92.16	35.28		59.53	20.91	38.62			2.70			
##	9800	5	B26	0.15	D25	25.00 - 25.45	24.85 - -25.30					100.0	99.86	96.86	45.54		58.03	21.57	36.46			2.71			
##	9801	5	B26	0.15	D26	26.00 - 26.45	25.85 - -26.30					100.0	99.94	95.94	40.64		60.84	22.89	37.95			2.72			
##	9802	5	B26	0.15	D27	27.00 - 27.45	26.85 - -27.30					100.0	99.98	96.16	39.68		64.93	21.94	42.99			2.70			
##	9803	5	B26	0.15	D28	28.00 - 28.45	27.85 - -28.30					100.0	99.96	96.04	42.02		65.23	22.12	43.11			2.70			
##	9804	1a	B28	0.89	D1	1.00 - 1.45	0.11 - -0.56				100.0	91.90	77.20	4.74	0.00							2.65			
##	9805	1b	B28	0.89	U2	2.00 - 2.80	1.11 - -1.91				100.0	99.96	99.76	79.39	42.30	37.42	36.70	15.45	21.25	1.78	1.3	2.68	51.50	94.43	1.062
##	9806	1b	B28	0.89	D3	3.00 - 3.45	2.11 - -2.56			100.00	95.74	93.63	91.14	81.37	20.56		38.23	14.65	23.58			2.69			
##	9807	1b	B28	0.89	D4	4.00 - 4.45	3.11 - -3.56			100.00	95.94	93.89	89.74	83.69	24.34		37.53	15.44	22.09			2.70			
##	9808	1b	B28	0.89	D5	5.00 - 5.45	4.11 - -4.56			100.00	93.90	91.95	87.92	81.61	18.79		43.28	15.61	27.67			2.69			
##	9809	2	B28	0.89	U6	6.00 - 6.90	5.11 - -6.01				100.0	99.80	99.60	99.00	36.03	58.81	66.57	25.45	41.12	1.65	1.04	2.71	61.63	99.24	1.606
##	9810	2	B28	0.89	D7	7.00 - 7.45	6.11 - -6.56				100.0	99.90	99.60	98.92	34.41		65.77	25.66	40.11			2.71			
##	9811	2	B28	0.89	D8	8.00 - 8.45	7.11 - -7.56			100.00	99.96	99.84	99.70	98.98	48.79		56.73	23.54	33.19			2.72			
##	8913	3b	B28	0.89	U9	9.00 - 9.80	8.11 - -8.91		100.00	99.27	98.6	98.24	97.71	45.98	10.36	20.65	29.70	11.64	18.06			2.65			
##	9813	3b	B28	0.89	D10	10.00 - 10.45	9.11 - -9.56			100.00	95.42	88.82	79.06	8.92	0.00							2.66			
##	9814	3b	B28	0.89	D11	11.00 - 11.45	10.11 - -10.56			100.00	93.98	91.82	79.32	10.80	0.00							2.65			
##	9815	3b	B28	0.89	D12	12.00 - 12.45	11.11 - -11.56			100.00	95.76	87.26	72.68	9.50	0.00							2.64			
##	9816	3b	B28	0.89	D13	13.00 - 13.45	12.11 - -12.56			100.00	97.24	96.27	92.79	30.95	0.00		29.13	12.91	16.22			2.65			
##	9817	4	B28	0.89	D14	14.00 - 14.45	13.11 - -13.56		100.00	98.80	95.93	94.68	93.30	88.30	35.87		55.94	21.62	34.32			2.70			
##	9818	5	B28	0.89	U15	15.00 - 15.50	14.11 - -14.61				100.0	99.96	99.56	95.56	52.35	38.95	51.81	20.26	31.55	1.82	1.31	2.71	51.67	98.74	1.069
##	9819	5	B28	0.89	D16	16.00 - 16.45	15.11 - -15.56			100.00	99.96	99.64	99.44	97.19	46.21		56.93	20.97	35.96			2.72			
##	9820	5	B28	0.89	D17	17.00 - 17.45	16.11 - -16.56				100.0	99.88	99.38	97.45	40.76		57.26	21.42	35.84			2.70			
##	9821	5	B28	0.89	D18	18.00 - 18.45	17.11 - -17.56				100.0	99.90	99.78	97.03	44.63		58.88	22.94	35.94			2.71			
##	9822	5	B28	0.89	U19	19.00 - 19.90	18.11 - -19.01			100.00	99.76	99.54	99.18	86.43	17.76	43.57	64.72	21.98	42.74	1.76	1.23	2.71	54.61	98.15	1.203
##	9823	5	B28	0.89	D20	20.00 - 20.45	19.11 - -19.56			100.00	99.94	99.86	99.80	98.46	39.46		66.54	20.84	45.70			2.70			
##	9824	5	B28	0.89	D21	21.00 - 21.45	20.11 - -20.56			100.00	99.94	99.86	99.66	96.81	46.90		55.63	20.02	35.61			2.71			
##	9825	5	B28	0.89	D22	22.00 - 22.45	21.11 - -21.56			100.00	99.84	99.42	99.00	93.75	36.50		62.59	22.34	40.25			2.71			
##	9826	5	B28	0.89	D23	23.00 - 23.45	22.11 - -22.56				100.00	99.88	99.48	97.79	38.15		54.72	21.85	32.87			2.72			
##	9827	5	B28	0.89	D24	24.00 - 24.45	23.11 - -23.56			100.00	99.98	99.92	99.80	97.32	43.11		60.00	20.74	39.26			2.70			
##	9828	5	B28	0.89	D25	25.00 - 25.45	24.11 - -24.56			100.00	99.84	99.62	99.22	94.58	33.39		60.15	15.08	45.07			2.71			
##	9829	5	B28	0.89	D26	26.00 - 26.45	25.11 - -25.56			100.00	99.92	99.78	99.58	92.87	39.28		57.34	22.45	34.89			2.71			
##	9830	5	B28	0.89	D27	27.00 - 27.45	26.11 - -26.56			100.00	99.98	99.92	99.78	98.78	37.49		61.66	21.48	40.18			2.70			
##	9831	5	B28	0.89	D28	28.00 - 28.45	27.11 - -27.56				100.00	99.62	99.24	91.38	45.71		62.25	20.49	41.76			2.70			
##	9832	5	B28	0.89	D29	29.00 - 29.45	28.11 - -28.56			100.00	99.94	99.90	99.74	97.94	44.80		66.70	20.82	45.88			2.72			
##	9833	5	B28	0.89	D30	30.00 - 30.45	29.11 - -29.56				100.00	99.98	99.86	99.66	37.11		59.94	21.69	38.25			2.70			
##	9834	1a	G2	0.47	D1	1.00 - 1.45	0.53 - -0.98			100.00	95.50	85.30	65.54	4.86	0.00							2.64			
##	9835	1a	G2	0.47	D2	2.00 - 2.45	1.53 - -1.98		100.00	83.06	74.76	60.83	42.42	3.82	0.00							2.65			
##	9836	1a	G2	0.47	D3	3.00 - 3.45	2.53 - -2.98		100.00	71.90	64.22	56.47	30.29	2.09	0.00							2.64			
##	9837	1b	G2	0.47	U4	4.00 - 4.80	3.53 - -4.33			100.00	99.14	94.08	78.22	63.81	19.39	42.30	47.52	16.82	30.70	1.76	1.24	2.69	53.90	97.34	1.169
##	9838	1b	G2	0.47	D5	6.00 - 6.45	5.53 - -5.98			100.00	99.32	94.55	79.54	66.59	12.66		46.88	16.79	30.09			2.69			
##	9839	3b	G2	0.47	D6	7.00 - 7.45	6.53 - -6.98			100.00	99.80	99.16	91.92	42.78	14.69		27.66	11.65	16.01			2.67			
##	9840	3b	G2	0.47	U7	8.00 - 8.70	7.53 - -8.23			100.00	99.80	99.16	89.94	40.06	0.00	22.39	27.84	16.93	10.91	2.01	1.64	2.66	38.35	95.75	0.622
##	9841	3b	G2	0.47	D8	9.00 - 9.45	8.53 - -8.98			100.00	99.84	99.14	99.12	43.81	14.72		29.27	12.47	16.80			2.67			
##	9842	3b	G2	0.47	D9	10.00 - 10.45	9.53 - -9.98			100.00	99.94	99.06	96.03	44.71	16.22		27.86	13.62	14.24			2.68			
##	9843	4	G2	0.47	D10	11.00 - 11.45	10.53 - -10.98		100.00	99.69	99.07	98.57	96.82	90.00	41.13		52.94	19.71	33.23			2.71			
##	9844	4	G2	0.47	D11	12.00 - 12.45	11.53 - -11.98			100.00	99.98	99.80	99.00	87.20	45.23		53.03	21.34	31.69			2.72			
##	9845	4	G2	0.47	D12	13.00 - 13.45	12.53 - -12.98		100.00	99.90	99.52	99.16	97.99	89.66	43.87		54.56	22.65	31.91			2.70			
##	9846	5	G2	0.47	D13	14.00 - 14.45	13.53 - -13.98			100.00	99.82	98.54	95.58	91.05	21.38		64.26	20.57	43.69			2.70			
##	9847	5	G2	0.47	U14	15.00 - 15.80	14.53 - -15.33			100.00	99.98	99.68	99.00	91.73	47.84	40.98	60.91	21.19	39.72	1.80	1.28	2.71	52.76	99.18	1.117
##	9848	5	G2	0.47	D15	17.00 - 17.45	16.53 - -16.98			100.00	99.60	99.12	93.69	41.50			62.71	22.58	40.13			2.71			
##	9849	5	G2	0.47	D16	18.00 - 18.45	17.53 - -17.98			100.00	99.98	99.84	99.68	92.76	51.37		63.05	23.42	39.63			2.70			
##	9850	5	G2	0.47	U17	19.00 - 19.45	18.53 - -18.98			100.00	99.96	99.76	99.60	94.48	48.49	44.83	66.02	22.88	43.14	1.75	1.21	2.70	55.18	98.33	1.231
##	9851	5	G2	0.47	D18	21.00 - 21.45	20.53 - -20.98			100.00	99.90	98.82	94.91	89.71	25.21		63.90	21.58	42.32			2.71			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficent of Consolidation) at load √Pi x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(e) (10⁻⁷cm²/s)	Log Average in Normal consolidated Cv(e) (10⁻⁷cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁷cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1 +e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1 +e0)	Over consolidation stress Pc (KG/cm²)
9747																																					
9748																																					
9749																																					
9750																																					
9751																																					
9752																																					
9753																																					
9754	1.232	1.209	1.192	1.166	1.110	0.956	0.792	0.617		2.161	0.437	1.160	1.081	0.521	0.734	0.789		0.419	0.357	0.231	0.254	0.342	0.183	0.098		1.031	0.756	0.295	0.431	0.581	0.260	0.070	0.032	0.060	0.027	0.990
9755																																					
9756																																					
9757	1.096	1.043	1.012	0.970	0.918	0.855	0.783	0.704		5.347	3.089	0.986	1.768	2.044	3.544	1.733		0.878	0.702	0.352	0.217	0.132	0.075	0.042		2.535	2.171	0.170	0.488	0.265	0.126	0.110	0.053	0.066	0.033	0.970
9758																																					
9759																																					
9760																																					
9761	1.000		0.986	0.966	0.935	0.876	0.767	0.646	0.545		1.000	1.060	1.160	0.780	0.710	0.630	0.810		0.287	0.403	0.317	0.309	0.300	0.177	0.079	1.071	0.729	0.313	0.297	0.340	0.170	0.076	0.038	0.072	0.036	1.623
9762																																					
9763																																					
9764																																					
9765	1.252		1.203	1.185	1.157	1.117	1.035	0.931	0.784		5.273	3.895	3.808	4.223	1.557	3.679	0.703		0.444	0.300	0.129	0.089	0.093	0.058	0.041	4.263	1.591	0.107	0.704	0.487	0.216	0.040	0.018	0.058	0.026	3.140
9766																																					
9767																																					
9768																																					
9769																																					
9770																																					
9771	1.211		1.178	1.156	1.130	1.091	1.025	0.824	0.650		5.230	4.990	5.290	5.600	0.950	1.240	1.160		0.615	0.398	0.248	0.184	0.160	0.261	0.125	5.273	1.110	0.214	1.148	0.580	0.262	0.079	0.036	0.102	0.046	3.191
9772																																					
9773																																					
9774																																					
9775																																					
9776																

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Atterberg Limits Plastic limit Wp(%)	Atterberg Limits Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
##	9852	5	G2	0.47	D19	22.00 - 22.45	-21.53 - -21.98				100.00	99.80	98.06	92.65	41.28		65.50	22.19	43.31			2.70			
##	9853	1b	G3	-0.41	D1	1.00 - 1.45	-1.41 - -1.86				100.00	93.36	73.94	39.17	0.00		32.96	13.24	19.72			2.66			
##	9854	1b	G3	-0.41	U2	2.00 - 2.60	-2.41 - -3.01				100.00	90.70	75.34	34.85	0.00	29.67	31.59	12.50	19.09	1.89	1.46	2.67	45.33	95.56	0.829
##	9855	2	G3	-0.41	D3	4.00 - 4.45	-4.41 - -4.86				100.00	89.52	83.68	63.36	15.03		45.57	20.39	25.18			2.69			
##	9856	2	G3	-0.41	U4	5.00 - 5.90	-5.41 - -6.31				100.00	99.76	97.21	89.86	64.16	17.31	44.73	48.77	21.49	27.28	1.77	1.22	2.70	54.81	99.56
##	9857	3b	G3	-0.41	D5	6.00 - 6.45	-6.41 - -6.86			100.00	98.60	98.56	97.99	90.58	43.70	15.18		27.04	12.88	14.16			2.66		
##	9858	3b	G3	-0.41	D6	7.00 - 7.45	-7.41 - -7.86				100.00	99.92	99.08	85.64	40.35	12.31		24.39	12.59	11.80			2.67		
##	9859	3b	G3	-0.41	U7	8.00 - 8.90	-8.41 - -9.31				100.00	99.80	98.94	90.47	43.53	6.97	21.37	26.06	11.92	14.14	2.05	1.69	2.68	36.95	97.73
##	9860	3b	G3	-0.41	D8	9.00 - 9.45	-9.41 - -9.86				100.00	99.98	99.28	89.61	47.19	17.23		28.08	14.66	13.42			2.67		
##	9861	3b	G3	-0.41	D9	10.00 - 10.45	-10.41 - -10.86				100.00	99.58	98.07	79.12	40.60	10.43		24.77	11.53	13.24			2.66		
##	9862	4	G3	-0.41	D10	11.00 - 11.45	-11.41 - -11.86			100.00	99.14	94.68	93.34	90.80	85.70	33.84		53.59	19.54	34.05			2.69		
##	9863	4	G3	-0.41	D11	12.00 - 12.45	-12.41 - -12.86			100.00	99.30	95.09	94.01	90.53	85.57	35.32		54.52	19.20	35.32			2.70		
##	9864	5	G3	-0.41	D12	13.00 - 13.45	-13.41 - -13.86					100.00	99.96	99.94	98.43	39.12		58.83	21.88	36.95			2.71		
##	9865	5	G3	-0.41	U13	14.00 - 14.90	-14.41 - -15.31					100.00	99.96	99.94	98.43	43.57	47.22	56.80	21.68	35.12	1.70	1.15	2.70	57.41	94.58
##	9866	5	G3	-0.41	D14	16.00 - 16.45	-16.41 - -16.86					100.00	99.91	98.33	41.38			60.34	22.51	37.83			2.72		
##	9867	5	G3	-0.41	D15	17.00 - 17.45	-17.41 - -17.86				100.00	99.56	98.96	89.82	40.48			59.17	22.34	36.83			2.71		
##	9868	5	G3	-0.41	D16	19.00 - 19.45	-19.41 - -19.86				100.00	99.92	99.42	95.14	38.21			62.04	21.19	40.85			2.70		
##	9869	5	G3	-0.41	D17	20.00 - 20.45	-20.41 - -20.86				100.00	99.96	99.84	98.36	35.16			60.39	23.93	36.46			2.71		
##	9870	5	G3	-0.41	D18	21.00 - 21.45	-21.41 - -21.86					100.00	99.72	99.20	39.89			63.40	22.84	40.56			2.72		
##	9871	1b	G4	-0.35	D1	1.00 - 1.45	-1.35 - -1.80				100.00	98.74	98.62	92.55	69.15	21.95		40.63	22.46	18.17			2.69		
##	9872	1b	G4	-0.35	U2	2.00 - 2.90	-2.35 - -3.25				100.00	99.92	99.06	96.41	66.37	23.75	40.88	42.79	18.91	23.88	1.80	1.28	2.69	52.43	99.79
##	9873	2	G4	-0.35	D3	4.00 - 4.45	-4.35 - -4.80				100.00	99.58	98.84	98.09	95.52	31.07		62.66	23.69	38.97			2.69		
##	9874	2	G4	-0.35	U4	5.00 - 5.45	-5.35 - -5.80				100.00	98.96	97.85	97.11	95.21	47.28	61.12	69.58	29.41	40.17	1.62	1.01	2.70	62.59	98.64
##	9875	2	G4	-0.35	D5	7.00 - 7.45	-7.35 - -7.80				100.00	99.32	99.22	99.18	92.46	40.73		62.75	23.75	39.00			2.70		
##	9876	3b	G4	-0.35	U6	8.00 - 8.90	-8.35 - -9.25				100.00	98.94	98.09	89.97	49.32	27.29	24.23	37.08	15.67	21.41	1.99	1.6	2.69	40.51	95.71
##	9877	3b	G4	-0.35	D7	9.00 - 9.45	-9.35 - -9.80				100.00	99.98	99.12	89.55	46.32	17.58		31.30	13.67	17.63			2.66		
##	9878	3b	G4	-0.35	D8	10.00 - 10.45	-10.35 - -10.80				100.00	99.98	97.12	89.68	44.59	14.68		28.55	14.11	14.44			2.67		
##	9879	4	G4	-0.35	U9	11.00 - 11.80	-11.35 - -12.15				100.00	96.36	93.55	88.48	85.56	17.29	34.74	57.06	19.64	37.42	1.87	1.39	2.69	48.32	99.95
##	9880	4	G4	-0.35	D10	12.00 - 12.45	-12.35 - -12.80			100.00	99.85	95.84	93.27	91.07	85.73	36.64		59.52	20.01	39.51			2.69		
##	9881	4	G4	-0.35	D11	13.00 - 13.45	-13.35 - -13.80				100.00	95.34	93.01	91.63	85.69	39.41		60.07	19.54	40.53			2.70		
##	9882	5	G4	-0.35	D12	14.00 - 14.45	-14.35 - -14.80				100.00	99.98	99.90	99.84	94.93	47.40		59.65	20.34	39.31			2.71		
##	9883	5	G4	-0.35	U13	15.00 - 15.90	-15.35 - -16.25					100.00	99.90	99.40	95.15	40.62	41.79	58.68	21.04	37.64	1.78	1.26	2.71	53.51	98.39
##	9884	5	G4	-0.35	D14	17.00 - 17.45	-17.35 - -17.80					100.00	99.78	99.60	96.35	36.96		58.33	22.42	35.91			2.72		
##	9885	5	G4	-0.35	D15	18.00 - 18.45	-18.35 - -18.80					100.00	99.84	99.46	94.88	41.97		59.68	21.51	38.17			2.71		
##	9886	5	G4	-0.35	D16	20.00 - 20.45	-20.35 - -20.80				100.00	99.70	99.48	99.24	96.00	28.60		63.37	20.65	42.72			2.70		
##	9887	5	G4	-0.35	D17	21.00 - 21.45	-21.35 - -21.80					100.00	99.96	99.94	99.24	49.01		62.81	23.25	39.56			2.71		
##	9888	5	G4	-0.35	D18	23.00 - 23.45	-23.35 - -23.80					100.00	99.96	99.90	98.64	45.88		60.73	20.54	40.19			2.70		
##	9889	2	G5	0.42	D1	1.00 - 1.45	-0.58 - -1.03					100.00	99.92	98.56	95.31	20.66		52.09	21.91	30.18			2.69		
##	9890	2	G5	0.42	U2	2.00 - 2.80	-1.58 - -2.38				100.00	99.84	99.80	99.08	90.18	20.02	44.34	51.63	22.45	29.18	1.76	1.22	2.69	54.65	98.98
##	9891	2	G5	0.42	D3	4.00 - 4.45	-3.58 - -4.03				100.00	99.98	99.88	99.60	92.55	21.78		54.27	22.09	32.18			2.70		
##	9892	2	G5	0.42	U4	6.00 - 6.80	-5.58 - -6.38				100.00	99.92	99.82	99.20	96.07	50.71	63.04	64.02	21.29	42.73	1.62	0.99	2.71	63.46	98.35
##	9893	3b	G5	0.42	D5	7.00 - 7.45	-6.58 - -7.03				100.00	94.04	87.95	78.03	38.38	6.44		25.36	11.94	13.42			2.66		
##	9894	3b	G5	0.42	D6	8.00 - 8.45	-7.58 - -8.03				100.00	93.72	81.27	75.99	36.32	0.00		32.88	14.30	18.58			2.67		
##	9895	3b	G5	0.42	U7	9.00 - 9.80	-8.58 - -9.38				100.00	93.72	84.99	76.92	34.48	17.28	23.45	31.97	14.19	17.78	2.03	1.64	2.69	39.02	98.56
##	9896	3b	G5	0.42	D8	10.00 - 10.45	-9.58 - -10.03				100.00	94.04	87.95	78.03	38.38	6.44		30.87	14.30	16.57			2.67		
##	9897	3b	G5	0.42	D8	10.00 - 10.45	-9.58 - -10.03				100.00	93.92	84.85	78.03	40.98	6.74		31.56	13.23	18.33			2.71		
##	9898	4	G5	0.42	D9	11.00 - 11.45	-10.58 - -11.03			100.00	99.50	99.20	99.10	98.98	97.18	17.87		52.67	20.53	32.14			2.70		
##	9899	4	G5	0.42	D10	12.00 - 12.45	-11.58 - -12.03			100.00	99.35	98.95	98.73	98.61	97.01	45.17		50.67	21.13	29.54			2.71		
##	9900	4	G5	0.42	D11	13.00 - 13.45	-12.58 - -13.03				100.00	99.84	99.60	99.40	94.07	44.13		59.56	22.51	37.05			2.70		
##	9901	5	G5	0.42	D12	14.00 - 14.45	-13.58 - -14.03				100.00	99.58	98.84	98.09	95.52	30.94		57.98	21.39	36.59			2.71		
##	9902	5	G5	0.42	U13	15.00 - 15.80	-14.58 - -15.38				100.00	99.96	99.78	99.66	96.41	45.18	44.15	62.95	20.05	42.90	1.77	1.23	2.70	54.44	99.75
##	9903	5	G5	0.42	D14	17.00 - 17.45	-16.58 - -17.03				100.00	99.92	99.87	99.75	97.44	19.65		57.39	22.16	35.23			2.72		
##	9904	5	G5	0.42	D15	18.00 - 18.45	-17.58 - -18.03			100.00	99.32	97.57	96.63	96.26	94.35	38.78		57.08	20.70	36.38			2.70		
##	9905	5	G5	0.42	D16	20.00 - 20.45	-19.58 - -20.03			100.00	99.85	99.69	99.59	99.53	96.13	43.24		59.00	21.15	37.85			2.71		
##	9906	5	G5	0.42	D17	21.00 - 21.45	-20.58 - -21.03				100.00	99.90	99.72	99.42	94.21	16.68		65.71	22.81	42.90			2.71		
##	9907	5	G5	0.42	D18	22.00 - 22.45	-21.58 - -22.03					100.00	99.96	99.74	96.19	51.95		58.93	21.94	36.99			2.72		
##	9908	5	G5	0.42	D19	23.00 - 23.45	-22.58 - -23.03				100.00	99.72	99.56	99.42	94.69	43.90		62.32	20.46	41.86			2.70		
##	9909	5	G5	0.42	D20	24.00 - 24.45	-23.58 - -24.03				100.00	99.78	98.46	94.27	90.52	34.46		62.63	21.73	40.90			2.70		
##	9910	5	G5	0.42	D21	25.00 - 25.45	-24.58 - -25.03				100.00	99.48	99.24	98.82	92.63	37.78		56.42	20.64	35.78			2.71		
##	9911	1b	G6	1.05	D1	1.00 - 1.45	0.05 - -0.40				100.00	99.92	95.78	89.77	67.58	10.37		46.99	16.39	30.60			2.69		
##	9912	1b	G6	1.05	U2	2.00 - 2.80	-0.95 - -1.75				100.00	96.40	91.89	83.34	64.34	10.33	36.93	40.46	16.89	23.57	1.80	1.31	2.69	51.29	94.34
##	9913	2	G6	1.05	D3	4.00 - 4.45	-2.95 - -3.40			100.00	99.50	99.20	99.06	98.98	97.34	44.37		65.68	22.14	43.54			2.71		
##	9914	2	G6	1.05	D4	5.00 - 5.45	-3.95 - -4.40				100.00	99.92	98.78	97.50	94.28	33.45		72.74	23.57	49.17			2.70		
##	9915	2	G6	1.05	U5	6.00 - 6.80	-4.95 - -5.75				100.00	99.84	99.66	99.64	98.76	50.19	59.17	69.31	24.30	45.01	1.63	1.02	2.71	62.36	96.77
##	9916	2	G6	1.05	D6	8.00 - 8.45	-6.95 - -7.40				100.00	99.96	99.46	98.78	97.40	23.52		68.81	23.09	45.72			2.70		
##	9917	3b	G6	1.05	U7	9.00 - 9.80	-7.95 - -8.75				100.00	99.98	99.38	99.36	24.64	0.00	23.91	26.39	11.24	15.15	1.97	1.59	2.65	40.01	94.99
##	9918	3b	G6	1.05	D8	10.00 - 10.45	-8.95 - -9.40			100.00	99.81	97.57	96.87	93.98	43.89	8.55		23.99	12.76	11.23			2.67		
##	9919	3c	G6	1.05	D9	11.00 - 11.45	-9.95 - -10.40				100.00	92.30	84.24	70.40	8.72	0.00							2.64		
##	9920	3c	G6	1.05	D10	12.00 - 12.45	-10.95 - -11.40				100.00	92.66	82.84	71.36	10.68	0.00							2.65		
##	9921	3c	G6	1.05	D11	13.00 - 13.45	-11.95 - -12.40				100.00	92.86	81.92	66.98	9.64	0.00							2.64		
##	9922	3c	G6	1.05	D12	14.00 - 14.45	-12.95 - -13.40				100.00	90.44	78.48	65.44	4.30	0.00							2.65		
##	9923	5	G6	1.05	D13	15.00 - 15.45	-13.95 - -14.40					100.00	99.96	99.94	96.58	41.71		58.00	22.32	35.68			2.71		
##	9924	5	G6	1.05	U14	16.00 - 16.80	-14.95 - -15.75					100.00	99.90	99.82	94.61	46.54	38.65	63.30	22.51	40.79	1.79	1.29	2.70	52.22	95.48
##	9925	5	G6	1.05	D15	18.00 - 18.45	-16.95 - -17.40					100.00	99.44	93.33	43.23			60.76	19.40	41.36			2.72		
##	9926	5	G6	1.05	D16	19.00 - 19.45	-17.95 - -18.40					100.00	99.70	94.22	40.33			53.50	23.56	29.94			2.71		
##	9927	5	G6	1.05	U17	20.00 - 20.80	-18.95 - -19.75				100.00	99.94	94.24	93.81	90.88	45.23	45.42	61.73	22.06	39.67	1.72	1.18	2.71	56.46	94.90
##	9928	5	G6	1.05	D18	22.00 - 22.45	-20.95 - -21.40				100.00	99.98	99.60	99.32	95.96	41.85		60.89	21.61	39.28			2.70		
##	9929	5	G6	1.05	D19	23.00 - 23.45	-21.95 - -22.40					100.00	99.90	99.76	96.47	39.84		62.72	22.35	40.37			2.71		
##	9930	1a	G7	4.12	D1	1.00 - 1.45	3.12 - 2.67				100.00	95.75	85.21	77.26	4.39	0.00							2.65		
##	9931	1a	G7	4.12	D2	2.00 - 2.45	2.12 - 1.67				100.00	94.86	85.41	76.94	3.43	0.00							2.64		
##	9932	1a	G7	4.12	D3	3.00 - 3.45	1.12 - 0.67				100.00	94.86	86.36	79.40	0.90	0.00							2.66		
##	9933	1b	G7	4.12	D4	4.00 - 4.45	0.12 - -0.33				100.00	99.74	98.70	94.95	73.02	11.32		37.73	15.54	22.19			2.69		
##	9934	1b	G7	4.12	D5	5.00 - 5.45	-0.88 - -1.33			100.00	99.45	98.67	97.23	94.22	71.29	8.90		40.71	14.92	25.79			2.70		
##	9935	1b	G7	4.12	U6	6.00 - 6.90	-1.88 - -2.78				100.00	99.80	99.20	97.91	72.14	14.55	37.19	40.24	16.20	24.04	1.82	1.33	2.69	50.57	97.79
##	9936	1b	G7	4.12	D7	7.00 - 7.45	-2.88 - -3.33				100.00	99.66	99.06	97.79	74.83	21.58		37.69	13.25	24.44			2.69		
##	9937	2	G7	4.12	D8	8.00 - 8.45	-3.88 - -4.33				100.00	99.90	99.44	98.68	93.19	20.02		63.66	23.02	40.64			2.70		
##	9938	2	G7	4.12	D9	9.00 - 9.45	-4.88 - -5.33				100.00	99.90	99.44	98.68	93.19	20.02		65.63	22.69	42.94			2.69		
##	9939	2	G7	4.12	U10	10.00 - 10.80	-5.88 - -6.68					100.00	99.98	99.96	96.88	54.36	61.51	64.57	23.24	41.33	1.61	1	2.71	63.10	97.48
##	9940	2	G7	4.12	D11	11.00 - 11.45	-6.88 - -7.33					100.00	99.98	99.92	98.12	41.30		65.04	24.44	40.60			2.72		
##	9941	3b	G7	4.12	D12	12.00 - 12.45	-7.88 - -8.33				100.00	99.28	98.66	92.44	35.05	9.50		27.93	11.64	16.29			2.68		
##	9942	4	G7	4.12	D13	13.00 - 13.45	-8.88 - -9.33					100.00	94.72	91.23	86.34	9.18		54.14	20.71	33.43			2.70		
##	9943	4	G7	4.12	D14	14.00 - 14.45	-9.88 - -10.33				100.00	98.82	95.93	93.05	86.20	14.27		59.02	23.81	35.21			2.70		
##	9944	4	G7	4.12	D15	15.00 - 15.45	-10.88 - -11.33				100.00	99.10	95.83	90.20	86.34	14.36		59.11	22.49	36.62			2.69		
##	9945	4	G7	4.12	D16	16.00 - 16.45	-11.88 - -12.33				100.00	98.84	98.35	97.60	93.95	46.87		60.88	22.94	37.94			2.70		
##	9946	4	G7	4.12	D17	17.00 - 17.45	-12.88 - -13.33			100.00	99.85	98.95	98.67	98.51	97.51	42.72		59.39	22.71	36.68			2.70		
##	9947	5	G7	4.12	D18	18.00 - 18.45	-13.88 - -14.33				100.00	99.94	93.84	90.44	47.16			54.44	21.93	32.51			2.69		
##	9948	5	G7	4.12	D19	19.00 - 19.45	-14.88 - -15.33					100.00	97.78	95.06	47.72			59.37	23.41	35.96			2.70		
##	9949	5	G7	4.12	U20	20.00 - 20.90	-15.88 - -16.78				100.00	99.80	99.70	99.64	96.03	49.50	43.87	60.55	18.15	42.40	1.72	1.2	2.71	55.71	94.51
##	9950	5	G7	4.12	D21	21.00 - 21.45	-16.88 - -17.33					100.00	99.96	99.90	97.02	38.44		61.58	18.42	43.16			2.70		
##	9951	5	G7	4.12	D22	22.00 - 22.45	-17.88 - -18.33					100.00	99.96	99.92	96.84	40.78		59.47	22.15	37.32			2.72		
##	9952	5	G7	4.12	U23	23.00 - 23.80	-18.88 - -19.68				100.00	99.84	99.80	99.76	96.29	45.46	41.54	57.43	20.67	36.76	1.75	1.24	2.71	54.23	95.00
##	9953	5	G7	4.12	D24	24.00 - 24.45	-19.88 - -20.33				100.00	99.98	99.90	94.96	92.59	43.77		65.30	24.12	41.18			2.71		
##	9954	5	G7	4.12	D25	25.00 - 25.45	-20.88 - -21.33					100.00	99.94	98.14	95.71	43.40		64.70	22.59	42.11			2.70		
##	9955	5	G7	4.12	U26	26.00 - 26.90	-21.88 - -22.78				100.00	99.80	99.70	99.56	95.68	40.44	43.46	67.42	22.68	44.74	1.75	1.22	2.71	54.98	96.46
##	9956	5	G7	4.12	D27	27.00 - 27.45	-22.88 - -23.33					100.00	99.94	99.88	95.86	38.71		59.32	21.31	38.01			2.70		

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficent of Consolidation) at load √Pi x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressibility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10⁻⁴cm²/s)	Log Average in Normal consolidated Cv(n) (10⁻⁴cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁶cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1 +e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1 +e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1 +e0)	Over consolidation stress Pc (KG/cm²)
##	9852																																				
##	9853																																				
##	9854																																				
##	9855																																				
##	9856	1.343	1.307	1.292	1.276	1.229	1.160	1.074	0.974		0.845	0.257	0.281	0.777	1.312	0.947	0.605		0.677	0.480	0.157	0.216	0.163	0.101	0.059		0.467	0.909	0.188	0.256	0.333	0.142	0.054	0.023	0.052	0.023	1.190
##	9857																																				
##	9858																																				
##	9859	1.819	1.784	1.776	1.758	1.675	1.567	1.419	1.265		0.769	2.002	0.263	0.427	0.622	0.720	0.631		0.795	0.485	0.208	0.464	0.306	0.209	0.108		0.645	0.656	0.377	0.181	0.509	0.181	0.070	0.025	0.090	0.032	1.040
##	9860																																				
##	9861																																				
##	9862																																				
##	9863																																				
##	9864																																				
##	9865	1.143		1.093	1.072	1.031	0.975	0.880	0.708	0.543		1.880	2.140	2.440	2.660	1.050	0.860	0.870		0.937	0.416	0.395	0.281	0.245	0.241	0.126	2.261	0.923	0.333	0.848	0.550	0.257	0.096	0.045	0.104	0.049	2.495
##	9866																																				
##	9867																																				
##	9868																																				
##	9869																																				
##	9870																																				
##	9871																																				
##	9872	1.010	0.991	0.975	0.947	0.904	0.837	0.753	0.658		1.545	0.912	0.623	1.114	1.140	1.246	1.572		0.307	0.283	0.226	0.170	0.135	0.085	0.047		0.994	1.307	0.152	0.328	0.314	0.156	0.065	0.032	0.054	0.027	1.120
##	9873																																				
##	9874	1.848	1.823	1.793	1.731	1.632	1.452	1.239	1.015		1.121	0.602	0.288	0.405	0.629	0.756	0.462		0.568	0.633	0.698	0.568	0.511	0.304	0.159		0.579	0.546	0.539	0.286	0.742	0.261	0.149	0.052	0.099	0.036	0.990
##	9875																																				
##	9876	1.068		1.036	1.016	0.983	0.932	0.862	0.

SUMMARY TABLE OF PHYSICO-MECHANICAL PROPERTIES OF SOIL SAMPLES

LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION PROJECT

No.	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From	Depth (m) GL-(m) To	Depth (m) DL(m) From	Depth (m) DL(m) To	Percent passed sieve size (mm) 9.5	4.75	2.00	0.85	0.425	0.25	0.075	< 0.005	Natural moisture content W (%)	Atterberg Limits Liquid limit WL(%)	Atterberg Limits Plastic limit Wp(%)	Atterberg Limits Plasticity index Ip (%)	Bulk density (g/cm³) Natural	Bulk density (g/cm³) Dry	Specific Gravity	Porosity n (%)	Degree of saturation G (%)	Void ratio eo
##	9957	1b	G10	3.23	D1	1.00	1.45	2.23	1.78				100.00	99.96	99.90	66.69	29.95		58.82	20.67	38.15			2.69			
##	9958	1b	G10	3.23	D2	2.00	2.45	1.23	0.78				100.00	99.92	99.78	67.89	25.59		55.40	21.49	33.91			2.69			
##	9959	1b	G10	3.23	U3	3.00	3.90	0.23	-0.67				100.00	99.96	99.86	99.76	60.73	18.70	44.86	51.64	23.26	28.38	1.76	1.21	2.68	54.85	98.95
##	9960	1b	G10	3.23	D4	4.00	4.45	-0.77	-1.22				100.00	99.84	95.35	88.77	45.84	0.00		29.40	12.42	16.98			2.68		
##	9961	1b	G10	3.23	D5	5.00	5.45	-1.77	-2.22				100.00	99.27	96.42	91.26	36.91	6.56		27.70	12.61	15.09			2.69		
##	9962	1b	G10	3.23	U6	6.00	6.90	-2.77	-3.67				100.00	99.84	99.72	67.05	16.58	51.41		56.56	21.04	35.52	1.70	1.12	2.69	58.37	98.64
##	9963	1b	G10	3.23	D7	8.00	8.45	-4.77	-5.22				100.00	99.42	99.28	99.18	62.90	21.36		53.13	12.95	40.18			2.69		
##	9964	2	G10	3.23	U8	9.00	9.80	-5.77	-6.57				100.00	99.66	99.46	99.18	97.67	52.28	67.41	73.82	26.83	46.99	1.55	0.93	2.71	65.68	95.44
##	9965	2	G10	3.23	D9	11.00	11.45	-7.77	-8.22				100.00	99.92	99.74	99.54	98.70	46.16		65.08	23.16	41.92			2.72		
##	9966	3b	G10	3.23	D10	12.00	12.45	-8.77	-9.22				100.00	93.76	85.29	77.84	7.19	0.00							2.67		
##	9967	3b	G10	3.23	D11	13.00	13.45	-9.77	-10.22				100.00	99.80	99.74	99.42	73.39	36.02		40.24	15.26	24.98			2.69		
##	9968	3b	G10	3.23	D12	14.00	14.45	-10.77	-11.22				100.00	99.38	99.18	98.92	73.46	33.40		38.96	14.68	24.28			2.70		
##	9969	4	G10	3.23	D13	15.00	15.45	-11.77	-12.22				100.00	99.84	99.70	99.44	95.54	43.85		57.74	25.94	31.80			2.71		
##	9970	4	G10	3.23	D14	16.00	16.45	-12.77	-13.22				100.00	99.90	99.82	99.56	97.81	44.59		57.14	22.94	34.20			2.72		
##	9971	4	G10	3.23	D15	17.00	17.45	-13.77	-14.22		100.00	99.49	97.36	96.66	95.50	88.05	39.08		59.90	23.14	36.76			2.70		
##	9972	5	G10	3.23	D16	18.00	18.45	-14.77	-15.22				100.00	99.98	99.28	98.21	35.03		57.66	21.97	35.69			2.71		
##	9973	5	G10	3.23	D17	19.00	19.45	-15.77	-16.22				100.00	99.96	99.84	99.36	97.63	37.76		58.55	22.16	36.39			2.70		
##	9974	5	G10	3.23	D18	20.00	20.45	-16.77	-17.22				100.00	99.98	99.78	99.58	45.54		61.74	23.40	38.34			2.71		
##	9975	5	G10	3.23	U19	21.00	21.90	-17.77	-18.67				100.00	99.96	99.68	99.52	48.70	44.04	62.00	21.59	40.41	1.73	1.2	2.71	55.71	94.87
##	9976	5	G10	3.23	D20	23.00	23.45	-19.77	-20.22				100.00	99.94	99.80	99.30	31.90		68.74	20.67	48.07			2.72			
##	9977	5	G10	3.23	U21	24.00	24.60	-20.77	-21.37				100.00	99.98	99.84	97.20	38.25	44.75	64.06	21.18	42.88	1.60	1.11	2.71	59.03	84.16
##	9978	5	G10	3.23	D22	25.00	25.45	-21.77	-22.22				100.00	99.94	98.38	97.51	44.25		62.76	23.58	39.18			2.70			
##	9979	5	G10	3.23	D23	26.00	26.45	-22.77	-23.22					100.00	98.70	97.77	26.06		59.53	21.53	38.00			2.72			

Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5)
Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817)

No.	Test No.	Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √Ps1 x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv (Coeffi. of Volume Compressbility) at load P+Dp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (10⁻³cm²/s)	Log Average in Normal consolidated Cv(n) (10⁻³cm²/s)	Log Average at Load increment 1 - 2 KG/cm² mv (cm²/KG)	k (10⁻⁷cm/s)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Re-Compression Index Cr	Re-compression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KG/cm²)
##	9957																																						
##	9958																																						
##	9959	1.122	1.098	1.076	1.040	0.983	0.908	0.826	0.739		1.296	1.986	1.102	1.341	1.316	1.150	0.763		0.396	0.390	0.302	0.243	0.160	0.087	0.046		1.416	1.116	0.197	0.387	0.287	0.135	0.104	0.049	0.068	0.033	0.840
##	9960																																						
##	9961																																						
##	9962	0.957	0.933	0.914	0.886	0.843	0.781	0.706	0.623		1.408	1.510	1.031	1.660	2.568	2.385	1.314		0.368	0.331	0.221	0.170	0.122	0.073	0.041		1.381	2.004	0.144	0.558	0.277	0.142	0.072	0.037	0.057	0.030	1.090
##	9963																																						
##	9964																																						
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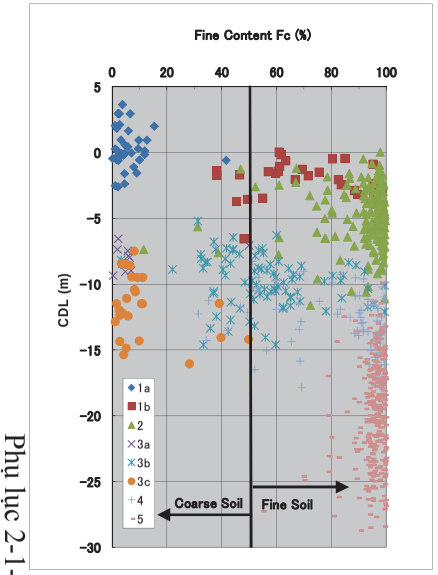
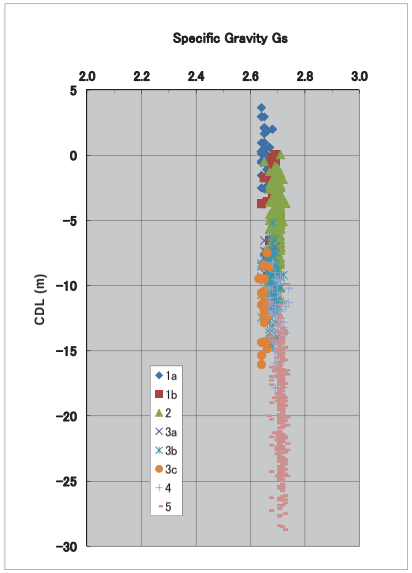
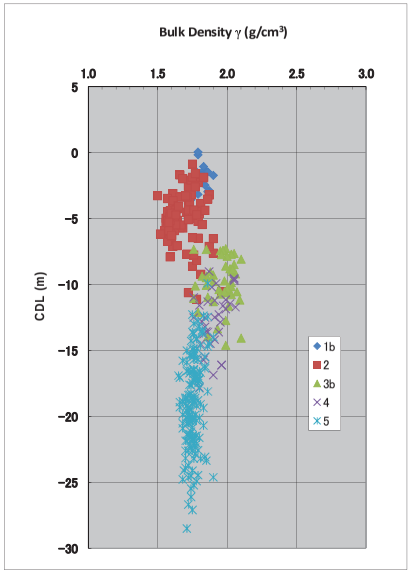
##	9973																																						
##	9974																																						
##	9975	1.221		1.196	1.172	1.139	1.091	1.005	0.862	0.713		1.230	1.590	2.210	2.030	1.230	0.970	1.040		0.446	0.445	0.304	0.231	0.209	0.184	0.105	1.721	1.075	0.265	0.556	0.500	0.225	0.091	0.041	0.109	0.049	2.459
##	9976																																						
##	9977	1.221		1.194	1.173	1.145	1.110	1.039	0.867	0.682		1.350	1.270	1.940	2.260	1.180	0.620	0.590		0.497	0.374	0.258	0.168	0.169	0.221	0.130	1.656	0.756	0.208	0.431	0.610	0.275	0.074	0.033	0.107	0.048	2.947
##	9978																																						
##	9979																																						

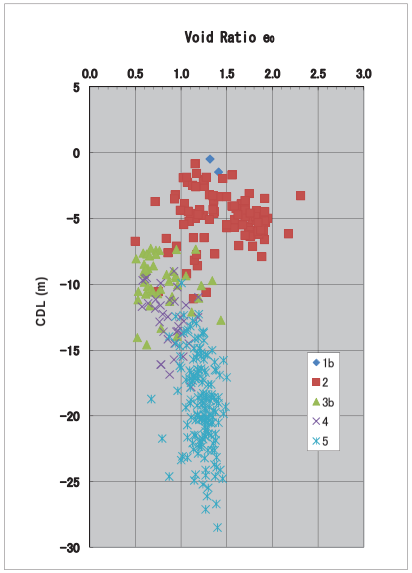
No.	Test No.	Unconfined compression test Specimen 1 q_u (KG/cm²)	Specimen 1 Failure Strain ef (%)	Specimen 2 q_u (KG/cm²)	Specimen 2 Failure Strain ef (%)	UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m²)	fuu (deg.)	CU triaxial test (Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure=10 Ccu (KN/m²)	fcu (deg.)	Soil group	Description
##	9957									CL	Grey, sandy lean clay
##	9958									CL	Grey, sandy lean clay
##	9959	0.38	7.10	0.30	4.00	10.43	1°53'			CL	Grey, sandy lean clay
##	9960									SC	Grey, clayey sand
##	9961									SC	Grey, clayey sand
##	9962	0.18	5.00	0.35	4.30	18.94	0°16'	17.20	27°07'	CL	Grey, sandy lean clay
##	9963									CL	Grey, sandy lean clay
##	9964	0.42	7.60	0.48	6.40	11.54	0°34'	14.75	21°14'	CH	Brownish grey, fat clay
##	9965									CH	Brownish grey, fat clay
##	9966									SP-SC	Yellowish grey, poorly graded sand with clay (or silty clay)
##	9967									CL	Yellowish grey, light grey, lean clay with sand
##	9968									CL	Yellowish grey, light grey, lean clay with sand
##	9969									CH	Yellowish grey, light grey, fat clay
##	9970									CH	Yellowish brown, fat clay
##	9971									CH	Yellowish brown, fat clay
##	9972									CH	Grey, fat clay
##	9973									CH	Grey, fat clay
##	9974									CH	Grey, fat clay
##	9975	1.05	5.60	1.02	6.10	45.85	1°32'	24.60	15°21'	CH	Grey, fat clay
##	9976									CH	Grey, fat clay
##	9977	1.25	7.00	1.19	5.70	49.76	0°41'			CH	Grey, fat clay
##	9978									CH	Grey, fat clay
##	9979									CH	Grey, fat clay

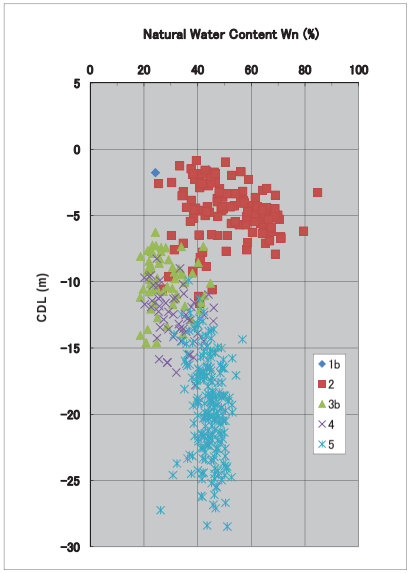
Reclamation Area (Terminal Area, Access Road Area and Public Facility Area)

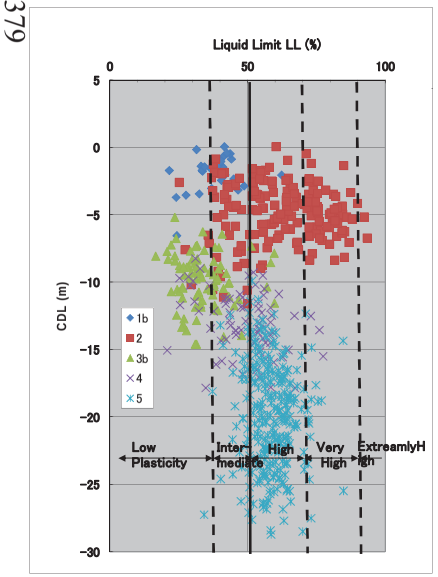


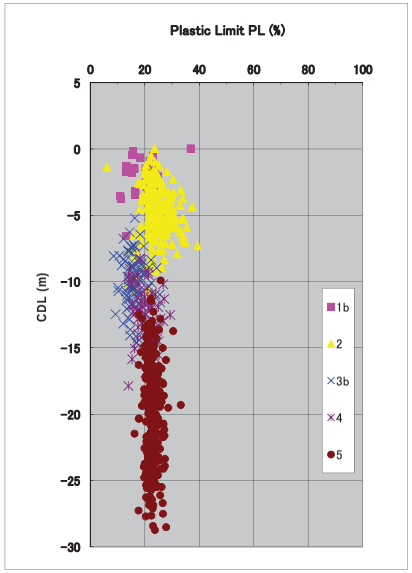


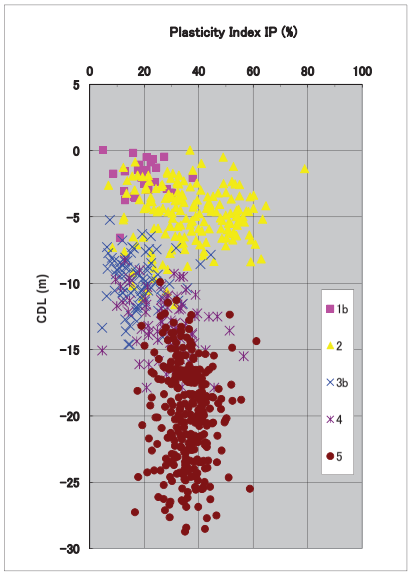


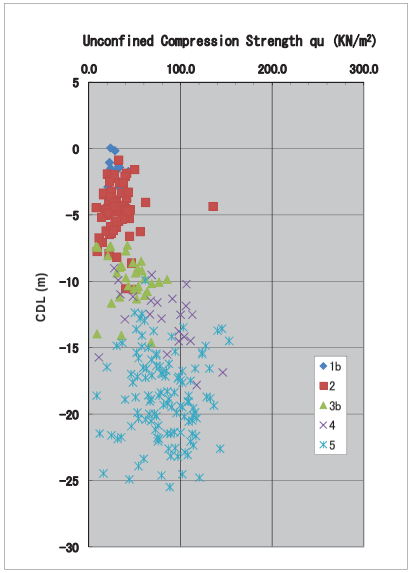


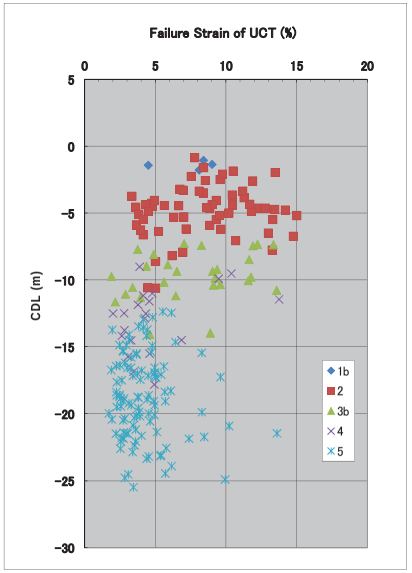




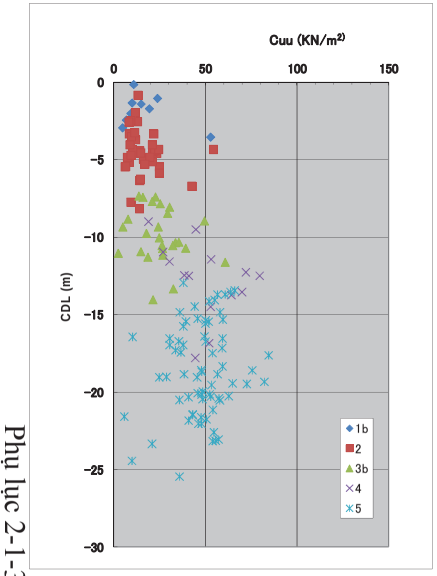


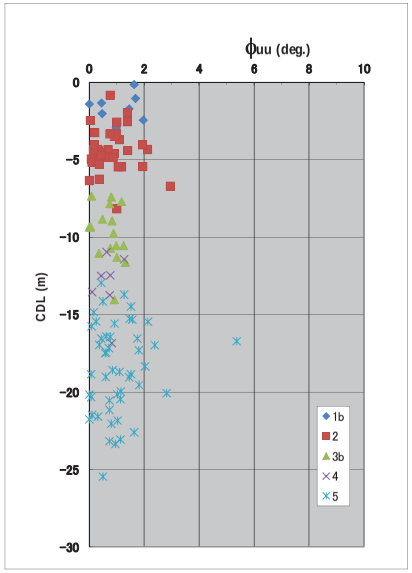


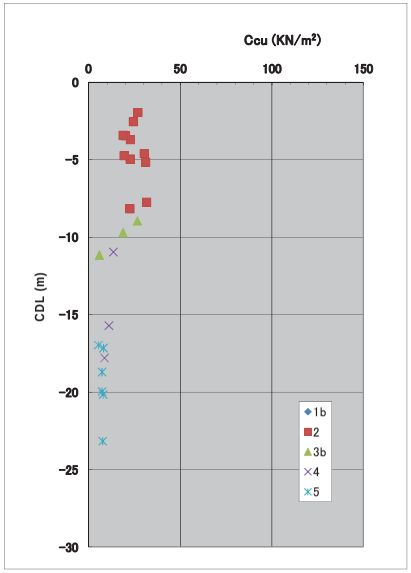


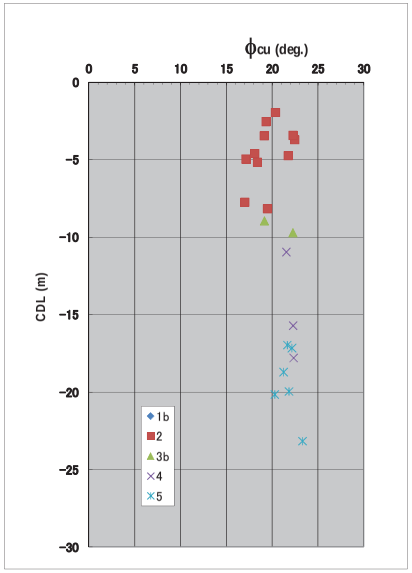


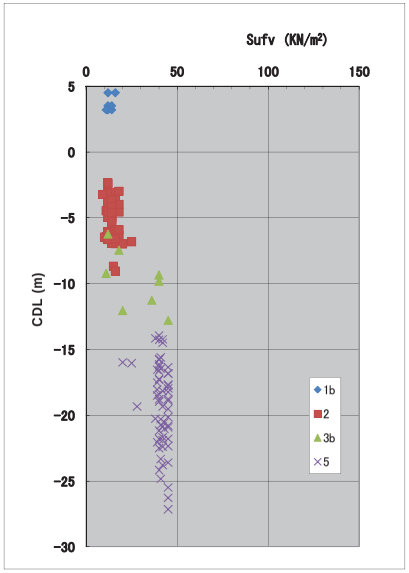
Reclamation Area (Terminal Area, Access Road Area and Public Facility Area)

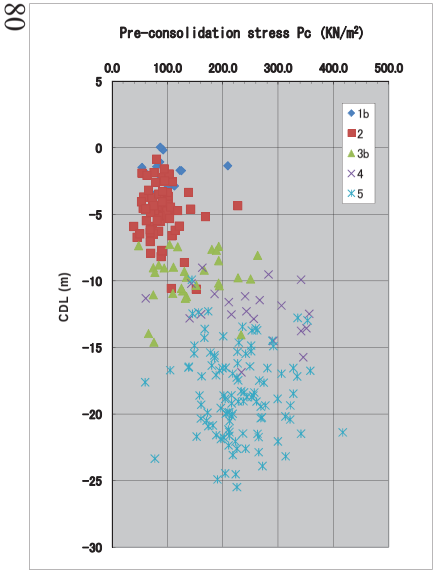


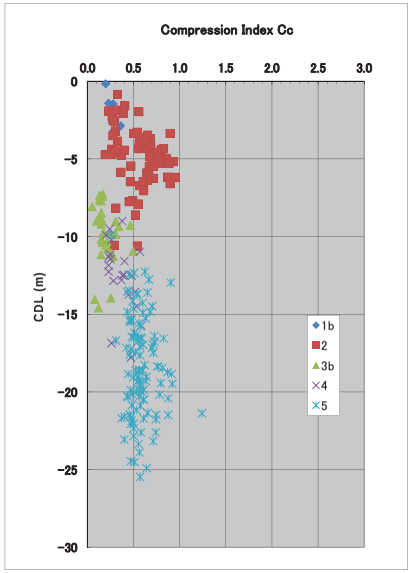


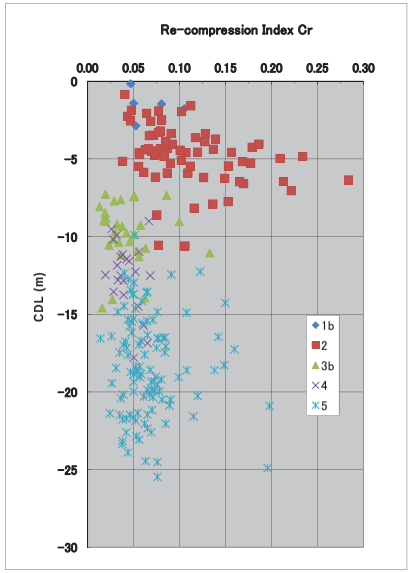


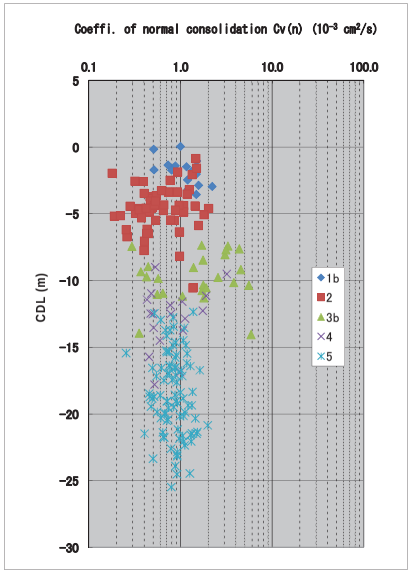


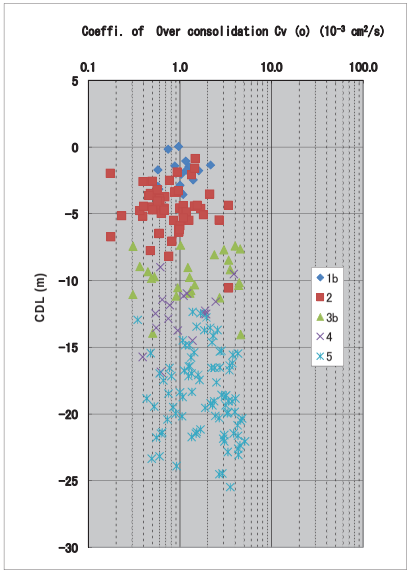




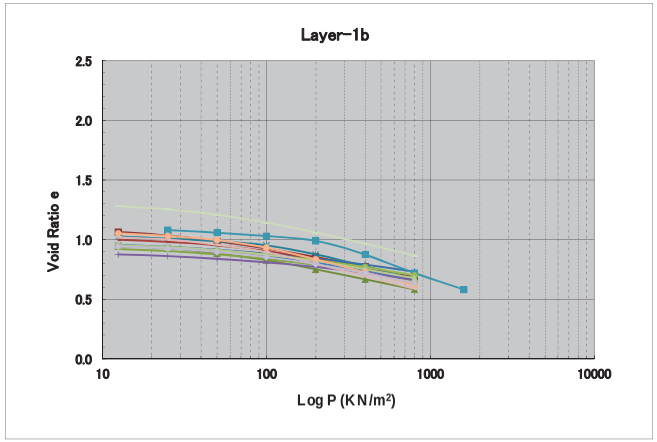


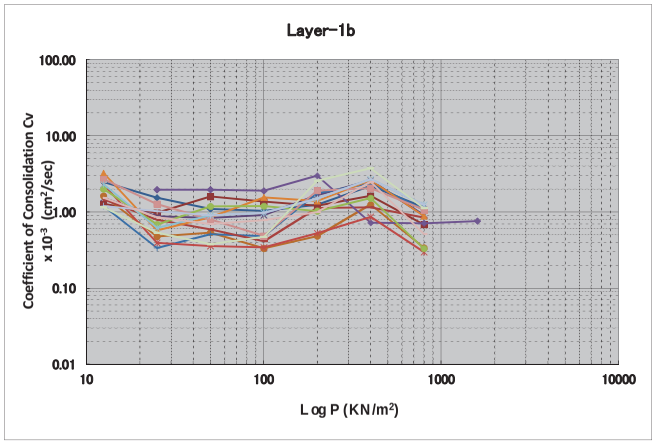


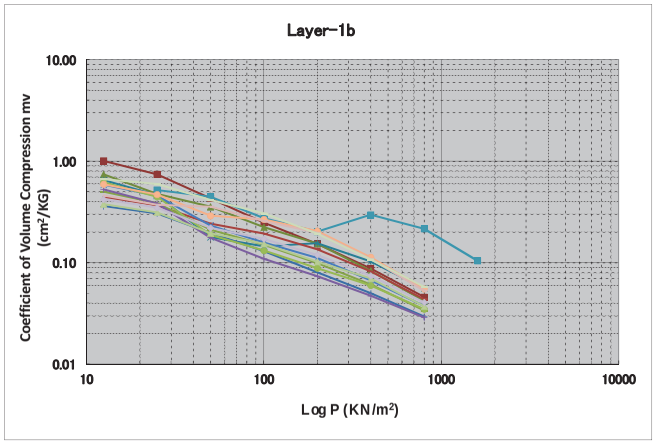


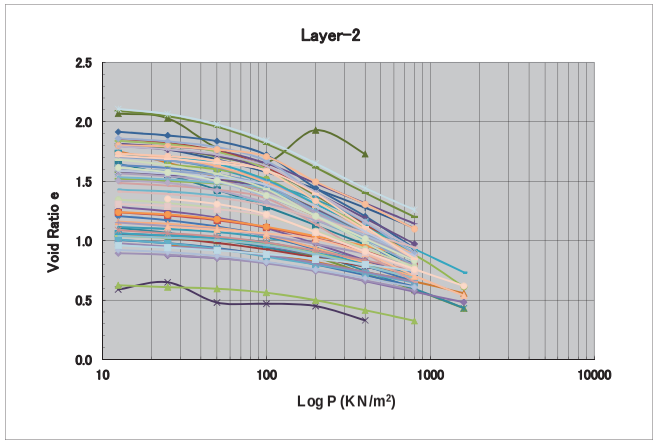


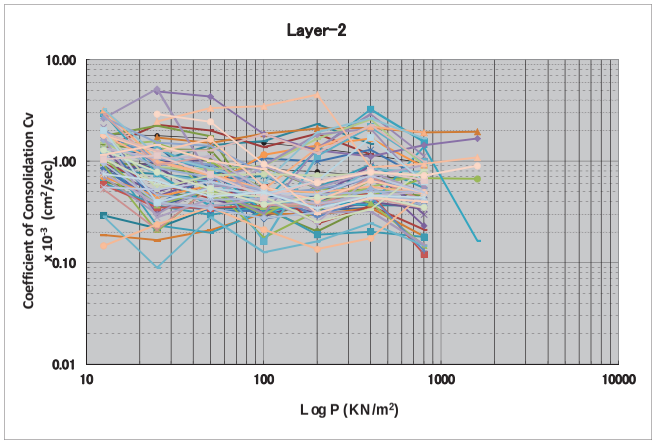
Reclamation Area (Terminal Area, Access Road Area and Public Facility Area)

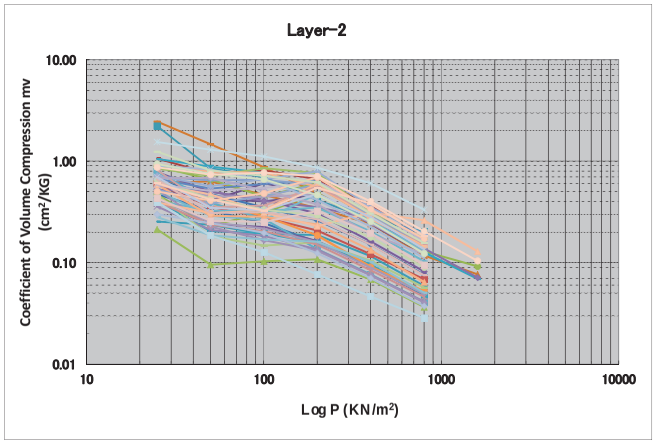


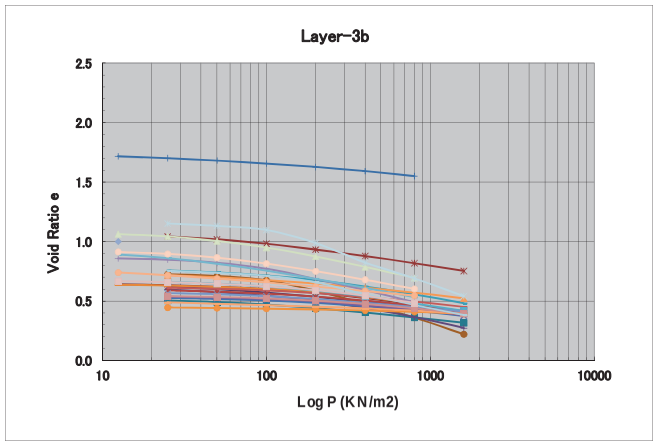


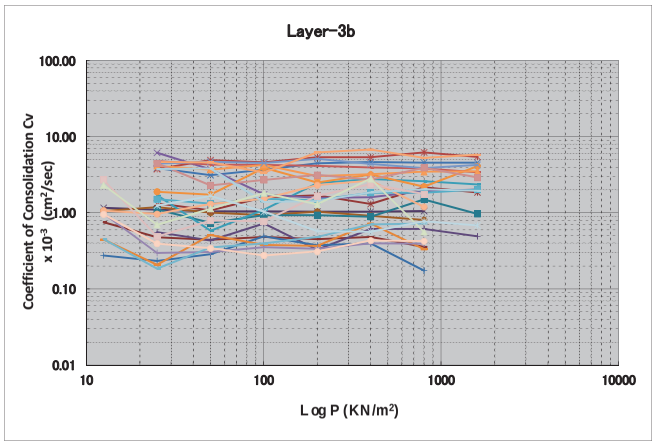


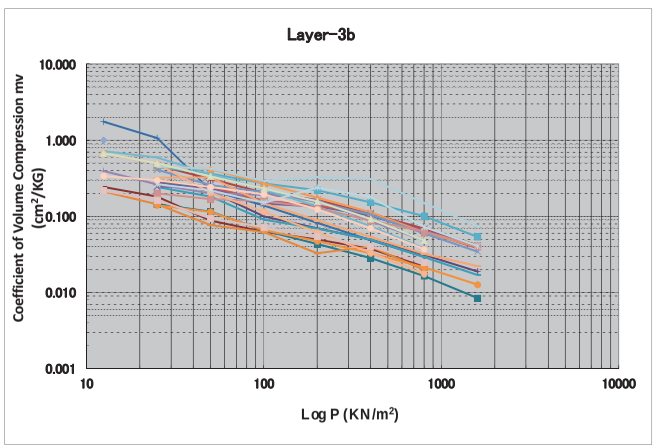




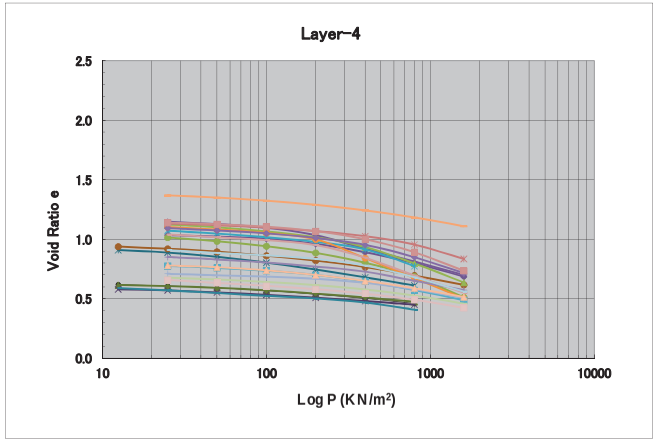


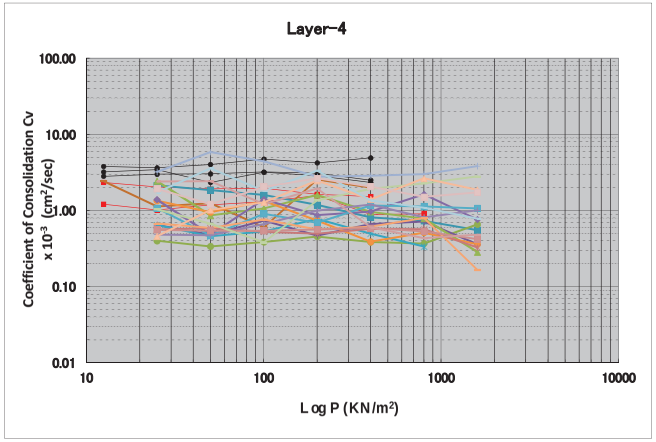


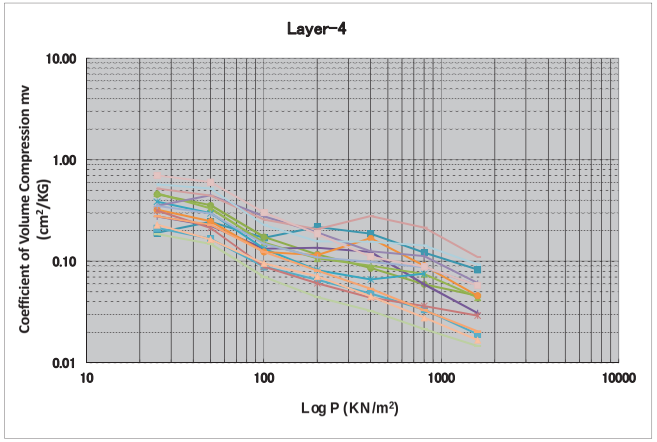


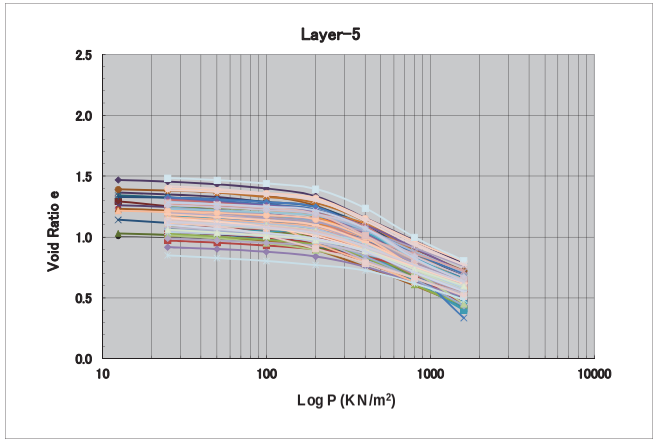


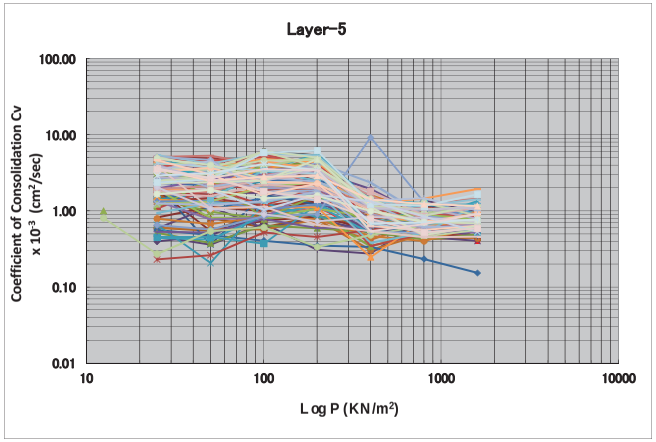
Reclamation Area (Terminal Area, Access Road Area and Public Facility Area)

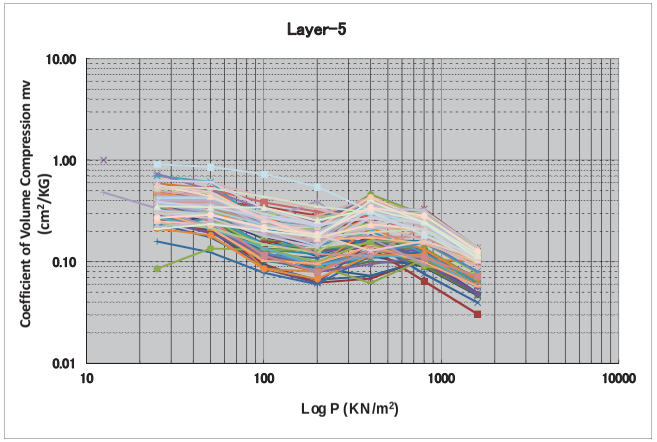












b) Khu vực kè ngoài B

PORTCOAST Công ty TNHH Địa Kỹ Thuật & Giao Thông Anh Vũ
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Project: THE DETAILED DESIGN SURVEY ON LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION IN VIETNAM
Item: Soil Investigation for Port Portion - Part B
Volume 2.1: The appendices of Outer Revetment Area
Date: 27/07/2011

SUMMARY TABLE OF PHYSICO - MECHANICAL PROPERTIES OF SOIL SAMPLES

o. N	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Field Test Result SPT N	Field Vane τu (KN/m2)	Percent passed sieve size (mm) > 25	25	19	9.5	4.75	2.00	0.85	0.425	0.3	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip(%)	Bulk density (KN/m³) Natural	Dry	Specific Gravity	Porosity n(%)	Degree of saturation Gi (%)	Void ratio eo
1	1	1a	O-01	0.81	D1	1.10 - 1.55	-0.29 - -0.74	10							100.0	98.6	83.4	65.4	5.8								2.69			
2	3	2	O-01	0.81	U3	3.00 - 3.60	-2.19 - -2.79											100.0	97.6	31.6	38.2	40.2	22.0	18.2	18.1	13.1	2.72	51.8	96.7	1.077
3	5	2	O-01	0.81	D5	5.00 - 5.45	-4.19 - -4.64	1									100.0	99.6	68.2	24.2							2.69			
4	6	2	O-01	0.81	U6	6.00 - 6.40	-5.19 - -5.59											100.0	98.1	61.5	65.8	65.5	29.4	36.1	16.1	9.7	2.71	64.1	99.6	1.789
5	7	2	O-01	0.81	D7	7.00 - 7.45	-6.19 - -6.64	2										100.0	69.2	21.1							2.70			
6	9	3a	O-01	0.81	D9	9.00 - 9.45	-8.19 - -8.64	5							100.0	99.9	99.5	98.2	23.2	12.1							2.67			
7	12	3b	O-01	0.81	U12	12.00 - 12.50	-11.19 - -11.69								100.0	95.8	93.3	92.5	80.4	39.5	26.4	29.2	15.3	14.0	19.7	15.6	2.68	41.9	98.1	0.720
8	14	3c	O-01	0.81	D14	14.00 - 14.45	-13.19 - -13.64	24							100.0	99.8	98.2	91.6	28.4								2.66			
9	16	5	O-01	0.81	D16	16.00 - 16.45	-15.19 - -15.64	7								100.0	99.6	99.2	95.3	64.6							2.72			
10	17	5	O-01	0.81	U17	17.00 - 17.40	-16.19 - -16.59											100.0	94.5	61.8	40.8	45.6	23.6	22.0	18.0	12.8	2.71	53.0	98.2	1.126
11	19	5	O-01	0.81	D19	19.00 - 19.45	-18.19 - -18.64	4									100.0	99.9	96.1	68.0							2.69			
12	20	5	O-01	0.81	U20	20.00 - 20.50	-19.19 - -19.69											100.0	95.3	63.8	45.0	56.6	23.4	33.2	17.6	12.2	2.71	55.2	99.2	1.233
13	22	5	O-01	0.81	D22	22.00 - 22.45	-21.19 - -21.64	4									100.0	99.9	96.0	67.4							2.70			
14	23	5	O-01	0.81	U23	23.00 - 23.40	-22.19 - -22.59										100.0	100.0	90.7	61.7	44.4	56.3	26.4	29.9	17.5	12.1	2.70	55.0	97.7	1.224
15	25	5	O-01	0.81	D25	25.00 - 25.45	-24.19 - -24.64	6									100.0	99.5	90.8	64.0							2.71			
16	26	5	O-01	0.81	U26	26.00 - 26.40	-25.19 - -25.59									100.0	97.9	97.3	86.2	63.8	38.4	50.7	24.4	26.3	18.3	13.2	2.69	50.9	99.9	1.035
17	28	8c	O-01	0.81	D28	28.00 - 28.45	-27.19 - -27.64	54							100.0	94.5	73.9	56.5	14.2								2.68			
						Average value of borehole O-01		**12**							**100.0**	**98.4**	**95.5**	**94.1**	**72.3**	**50.4**	**42.7**	**49.2**	**23.5**	**25.7**	**17.9**		**2.70**		**1.172**
1	1340	1a	O-02	1.36	D1	1.00 - 1.45	0.36 - -0.09	5								100.0	98.4	94.4	2.4								2.69			
2	1341	1a	O-02	1.36	D2	2.00 - 2.45	-0.64 - -1.09	4								100.0	98.9	96.2	2.2		30.1						2.69			
3	1343	2	O-02	1.36	U4	4.00 - 4.80	-2.64 - -3.44											100.0	99.6	57.6	56.8	63.3	31.3	32.0	16.7	10.6	2.70	60.7	99.4	1.542
4	1346	2	O-02	1.36	U7	7.00 - 7.80	-5.64 - -6.44										100.0	98.8	87.9	64.3	55.0	78.2	35.3	42.8	16.8	10.9	2.70	59.9	99.7	1.491
5	1348	3b	O-02	1.36	D9	9.00 - 9.45	-7.64 - -8.09	1							100.0	98.6	96.9	88.5	76.8	46.8	35.2	62.5	29.0	33.6			2.72			
6	1350	3b	O-02	1.36	D11	11.00 - 11.45	-9.64 - -10.09	6								100.0	99.2	98.2	96.8	27.4	14.8						2.69			
7	1351	LC1	O-02	1.36	D12	12.00 - 12.45	-10.64 - -11.09	2								100.0	99.9	99.6	92.8	65.6	40.1						2.71			
8	1352	3b	O-02	1.36	D13	13.00 - 13.45	-11.64 - -12.09	6								100.0	99.9	99.1	95.5	38.7	19.1						2.68			
9	1354	6	O-02	1.36	D15	15.00 - 15.45	-13.64 - -14.09	9									100.0	99.7	96.7	68.4		50.8	27.0	23.8			2.72			
10	1357	6	O-02	1.36	D18	18.00 - 18.45	-16.64 - -17.09	9									100.0	99.9	95.9	66.2		46.8	23.2	23.5			2.71			
11	1360	6	O-02	1.36	D21	21.00 - 21.45	-19.64 - -20.09	11										100.0	94.9	66.8		53.1	22.4	30.7			2.72			
12	1363	8b	O-02	1.36	D24	24.00 - 24.45	-22.64 - -23.09	14							100.0	99.7	98.9	96.9	43.5	26.5							2.70			
13	1365	8b	O-02	1.36	D26	26.00 - 26.45	-24.64 - -25.09	28								100.0	99.8	99.2	38.7	16.0							2.69			
						Average value of borehole O-02		**9**							**100.0**	**99.7**	**99.5**	**98.3**	**96.4**	**59.0**	**45.5**	**45.5**	**59.1**	**28.0**	**31.1**	**16.7**	**2.70**		**1.517**
1	31	1a	O-03	1.97	D1	1.00 - 1.45	0.97 - 0.52	8							100.0	99.8	93.8	85.3	6.6								2.69			
2	33	1a	O-03	1.97	D3	3.00 - 3.45	-1.03 - -1.48	6							100.0	99.9	97.3	94.2	13.1								2.71			
3	34	2	O-03	1.97	D4	3.60 - 4.20	-1.63 - -2.23								100.0	99.8	99.6	99.5	81.3	23.8							2.71			
4	35	2	O-03	1.97	D5	5.00 - 5.45	-3.03 - -3.48	0							100.0	99.7	99.6	99.6	94.2								2.69			
5	37	2	O-03	1.97	U7	7.00 - 7.50	-5.03 - -5.53										100.0	99.5	59.2	58.6	61.7	31.7	30.0	16.6	10.5	2.70	61.3	100.0	1.583
6	38	2	O-03	1.97	D8	8.00 - 8.45	-6.03 - -6.48	0							100.0	99.7	98.6	96.5	69.4	53.5							2.72			
7	40	2	O-03	1.97	U10	10.00 - 10.50	-8.03 - -8.53										100.0	99.1	94.8	74.4	60.0	71.1	33.2	37.9	16.5	10.3	2.71	61.9	99.9	1.628
8	41	3b	O-03	1.97	U11	11.10 - 11.50	-9.13 - -9.53								100.0	99.4	97.5	91.2	46.9	26.9	20.3	19.8	12.1	7.8	20.6	17.1	2.68	36.1	95.9	0.565
9	43	3b	O-03	1.97	D13	13.00 - 13.45	-11.03 - -11.48	8							100.0	99.8	97.5	88.6	40.5	26.8							2.69			
10	44	6	O-03	1.97	U14	14.00 - 14.40	-12.03 - -12.43								100.0	99.3	96.7	95.6	95.1	89.2	57.8	28.4	41.4	23.0	18.5	19.6	15.3	2.72	43.8	99.0	0.780
11	46	6	O-03	1.97	D16	16.00 - 16.45	-14.03 - -14.48	11							100.0	95.2	92.8	91.2	79.9	52.1							2.69			
12	47	6	O-03	1.97	U17	17.00 - 17.40	-15.03 - -15.43										100.0	91.4	67.4	37.7	46.3	23.3	23.1	18.2	13.2	2.71	51.4	96.8	1.058
13	49	6	O-03	1.97	D19	19.00 - 19.45	-17.03 - -17.48	11							100.0	99.9	99.6	98.9	93.9	65.9							2.73			
14	50	6	O-03	1.97	U20	20.00 - 20.50	-18.03 - -18.53									100.0	99.9	95.2	50.3	21.8	33.6	17.0	16.6	20.4	16.7	2.70	37.9	96.3	0.611
15	52	6	O-03	1.97	D22	22.00 - 22.45	-20.03 - -20.48	10							100.0	100.0	99.7	98.6	79.1	44.0							2.71			
16	53	6	O-03	1.97	U23	23.00 - 23.40	-21.03 - -21.43								100.0	99.9	99.8	99.7	94.6	56.4	22.4	37.4	19.0	18.4	20.4	16.7	2.69	38.0	98.4	0.613
17	55	6	O-03	1.97	D25	25.00 - 25.45	-23.03 - -23.48	10									100.0	99.9	92.8	52.5							2.70			
18	57	8a	O-03	1.97	D27	28.00 - 28.45	-26.03 - -26.48	5							100.0	100.0	99.8	99.0	40.6								2.67			
19	59	8c	O-03	1.97	D29	30.00 - 30.45	-28.03 - -28.48	47						100.0	97.2	85.2	60.9	41.9	31.4	9.2							2.66			
						Average value of borehole O-03		**11**						**100**	**98.6**	**98.9**	**96.5**	**94.9**	**93.0**	**69.1**	**50.8**	**35.6**	**44.5**	**22.7**	**21.7**	**18.9**	**2.70**		**0.977**
1	1715	1a	O-04	1.29	D1	1.00 - 1.45	0.29 - -0.16	5								100.0	99.7	99.1	6.5								2.68			
2	1717	2	O-04	1.29	U3	3.00 - 3.80	-1.71 - -2.51										100.0	97.6	65.6	55.2	49.9	20.5	29.4	16.7	10.7	2.71	60.4	98.2	1.523
3	1720	2	O-04	1.29	U6	6.00 - 6.80	-4.71 - -5.51										100.0	99.3	72.8	63.7	70.8	30.6	40.2	16.1	9.8	2.72	63.9	98.0	1.767
4	1723	3b	O-04	1.29	D9	9.00 - 9.45	-7.71 - -8.16	1								100.0	96.0	91.2	31.5	23.0							2.72			
5	1725	3b	O-04	1.29	D11	11.00 - 11.45	-9.71 - -10.16	10							100.0	99.7	98.6	96.1	23.7	13.7							2.67			
6	1726	3b	O-04	1.29	D12	12.00 - 12.45	-10.71 - -11.16	12						100.0	99.6	98.2	93.1	86.4	42.1	30.9		24.6	16.3	8.3			2.70			
7	1727	3b	O-04	1.29	D13	13.00 - 13.45	-11.71 - -12.16	12							100.0	99.6	97.1	89.3	44.6	29.7		23.9	15.3	8.6			2.69			
8	1729	6	O-04	1.29	D15	15.00 - 15.45	-13.71 - -14.16	15							100.0	99.8	99.7	99.5	95.3	63.5		39.0	21.1	18.0			2.72			
9	1731	6	O-04	1.29	D17	17.00 - 17.45	-15.71 - -16.16	13							100.0	99.1	98.5	98.3	93.8	62.4		59.4	23.8	35.5			2.72			
10	1734	6	O-04	1.29	D20	20.00 - 20.45	-18.71 - -19.16	12							100.0	99.9	99.6	99.0	89.2	63.8		42.8	22.0	20.8			2.72			
11	1737	6	O-04	1.29	D23	23.00 - 23.45	-21.71 - -22.16	9							100.0	99.9	99.6	99.2	72.4	40.1		30.0	15.6	14.4			2.70			
12	1740	8c	O-04	1.29	D26	26.00 - 26.45	-24.71 - -25.16	53						100.0	99.2	94.6	83.6	69.5	29.0	12.7							2.67			
						Average value of borehole O-04		**14**						**100.0**	**99.8**	**99.1**	**96.6**	**94.0**	**60.4**	**43.5**	**59.5**	**42.6**	**20.6**	**21.9**	**16.4**	**2.70**		**1.645**
1	61	1a	O-05	1.50	D1	1.00 - 1.45	0.50 - 0.05	11								100.0	99.8	99.4	98.7	8.6							2.69			
2	63	1a	O-05	1.50	D3	3.00 - 3.45	-1.50 - -1.95	2								100.0	99.7	99.6	99.4	59.3							2.72			
3	65	2	O-05	1.50	D5	5.00 - 5.45	-3.50 - -3.95											100.0	99.7	96.8							2.72			
4	66	2	O-05	1.50	U6	6.00 - 6.70	-4.50 - -5.20												100.0	99.4	52.7	42.9	26.3	16.6	16.8	11.0	2.69	59.1	98.4	1.443
5	68	2	O-05	1.50	D8	8.00 - 8.45	-6.50 - -6.95										100.0	99.8	99.3	72.7							2.69			
6	69	2	O-05	1.50	U9	9.00 - 9.50	-7.50 - -8.00											100.0	99.4	82.7	64.2	75.5	23.3	52.2	16.2	9.8	2.69	63.5	99.5	1.737
7	71	2	O-05	1.50	D11	11.00 - 11.45	-9.50 - -9.95										100.0	99.8	89.2	45.2							2.72			
8	73	5	O-05	1.50	U13	13.00 - 13.50	-11.50 - -12.00											100.0	97.8	73.2	50.0	47.7	23.3	24.4	17.2	11.5	2.73	57.9	99.2	1.375
9	75	5	O-05	1.50	D15	15.00 - 15.45	-13.50 - -13.95	4									100.0	99.7	92.3	70.8							2.69			
10	76	5	O-05	1.50	U16	16.00 - 16.60	-14.50 - -15.10											100.0	99.0	66.1	36.8	44.3	22.2	22.1	18.4	13.5	2.72	50.4	98.2	1.018
11	78	6	O-05	1.50	D18	18.00 - 18.45	-16.50 - -16.95	9								100.0	99.9	99.2	95.8	68.3	50.3						2.72			
12	79	6	O-05	1.50	U19	19.00 - 19.30	-17.50 - -17.80							100.0	92.7	82.7	77.3	74.1	72.4	70.6	58.4	57.3	25.8	41.9	23.2	18.7	20.0	15.9	2.72	41.7	98.0	0.715
13	81	6	O-05	1.50	D21	21.00 - 21.45	-19.50 - -19.95	5								100.0	99.8	99.6	99.4	98.0	72.7						2.72			
14	82	6	O-05	1.50	U22	22.00 - 22.40	-20.50 - -20.90							100.0	99.6	98.6	97.5	97.4	22.0	20.5	61.4	31.5	42.5	22.7	19.8	19.1	14.5	2.72	46.0	99.4	0.851
15	84	6	O-05	1.50	D24	24.00 - 24.45	-22.50 - -22.95	16								100.0	99.9	99.8	99.7	98.2	81.2						2.72			
16	85	6	O-05	1.50	U25	25.00 - 25.30	-23.50 - -23.80									100.0	99.8	99.6	99.4	97.0	74.2	23.9	46.8	23.3	23.5	20.4	16.4	2.73	39.7	99.0	0.658
17	87	8c	O-05	1.50	D27	27.30 - 27.45	-25.80 - -25.95	43								100.0	99.9	86.3	47.3	14.0							2.68			
						Average value of borehole O-05		**13**						**100**	**93**	**91.4**	**97.4**	**96.8**	**96.4**	**94.2**	**79.3**	**67.3**	**40.7**	**48.8**	**23.5**	**25.3**	**18.3**	**2.71**		**1.114**
1	1367	1a	O-06	1.64	D1	1.00 - 1.45	0.64 - 0.19	5								100.0	99.8	99.5	4.0								2.69			
2	1368	1a	O-06	1.64	D2	2.00 - 2.45	-0.36 - -0.81	4								100.0	99.9	99.7	2.8								2.69			
3	1369	2	O-06	1.64	U3	3.00 - 3.80	-1.36 - -2.16										100.0	99.3	66.3	54.0	67.6	27.6	40.0	16.6	10.8	2.70	60.1	97.0	1.505
4	1371	2	O-06	1.64	D5	5.00 - 5.45	-3.36 - -3.81	1									100.0	98.2	41.0			42.9	22.0	20.9			2.71			
5	1372	2	O-06	1.64	U6	6.00 - 6.80	-4.36 - -5.16										100.0	99.7	75.2	65.7	76.9	34.2	42.8	16.2	9.8	2.72	64.1	100.0	1.785
6	1374	2	O-06	1.64	D8	8.00 - 8.45	-6.36 - -6.81	1									100.0	96.4	58.6		53.4	27.4	26.0				2.72			
7	1376	3b	O-06	1.64	D10	10.00 - 10.45	-8.36 - -8.81	8								100.0	98.9	97.4	93.6	25.5	15.4						2.71			
8	1378	5	O-06	1.64	U12	12.00 - 12.80	-10.36 - -11.16											100.0	99.6	69.7	50.9			17.1	11.3	2.72	58.3	99.0	1.400
9	1379	5	O-06	1.64	D13	13.00 - 13.45	-11.36 - -11.81	2								100.0	99.9	99.8	96.9	70.6		48.6	24.3	24.4			2.72			
10	1381	5	O-06	1.64	U15	15.00 - 15.80	-13.36 - -14.16											100.0	81.1	51.1	31.8	37.0	18.4	18.6	19.1	14.5	2.71	46.5	99.0	0.870
11	1383	5	O-06	1.64	D17	17.00 - 17.45	-15.36 - -15.81	3								100.0	99.7	99.6	89.7	65.3		49.9	20.4	29.6			2.70			
12	1385	6	O-06	1.64	D19	19.00 - 19.45	-17.36 - -17.81	15								100.0	99.4	98.7	98.4	89.7	49.4		33.6	18.2	15.4		2.72			
13	1387	6	O-06	1.64	D21	21.00 - 21.45	-19.36 - -19.81	12								100.0	100.0	99.2	96.5	68.9	32.4		26.8	16.3	10.4		2.70			
14	1389	6	O-06	1.64	D23	23.00 - 23.45	-21.36 - -21.81	15									100.0	99.9	99.7	95.4	69.7		41.2	23.5	17.7		2.78			
15	1391	6	O-06	1.64	D25	25.00 - 25.45	-23.36 - -23.81	17										100.0	99.9	95.8	62.4		40.6	23.4	17.2		2.72			
16	1392	8c	O-06	1.64	D26	26.00 - 26.45	-24.36 - -24.81	42						100.0	99.7	98.7	92.8	75.0	57.4	30.7	16.9						2.69			
						Average value of borehole O-06		**10**						**100**	**99.7**	**99.7**	**99.0**	**97.0**	**96.5**	**73.4**	**53.1**	**50.6**	**47.1**	**23.2**	**23.9**	**17.2**	**2.71**		**1.390**
1	89	1b	O-07	1.27	D1	1.00 - 1.45	0.27 - -0.18	7									100.0	97.1	41.0								2.68			
2	91	2	O-07	1.27	D3	3.00 - 3.45	-1.73 - -2.18	1										100.0	86.0	29.8							2.72			
3	92	2	O-07	1.27	U4	4.00 - 4.60	-2.73 - -3.33											100.0	89.6	29.6	41.1	35.1	22.5	12.7	18.0	12.8	2.71	52.9	99.1	1.123
4	93	2	O-07	1.27	D5	5.00 - 5.45	-3.73 - -4.18											100.0	97.0	36.6							2.69			
5	95	2	O-07	1.27	U7	7.00 - 7.60	-5.73 - -6.33											100.0	99.6	80.8	63.5	67.2	30.1	37.1	16.1	9.9	2.67	63.0	99.4	1.706
6	97	3b	O-07	1.27	D9	9.00 - 9.45	-7.73 - -8.18	2								100.0	98.8	96.5	92.1	40.6	31.2		33.9	17.8	16.1		2.71			
7	98	3b	O-07	1.27	D10	10.00 - 10.45	-8.73 - -9.18	5								100.0	99.1	97.3	26.1	11.3							2.69			

o. N	Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5) Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817) Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √Pi-1 x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv(Coefficient of Volume Comprssivility) at load P+Δp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (cm²/day)	Log Average in Nomal consolidated Cv(n) (cm²/day)	Log Average at Load increment 1 - 2 KG/cm² mv (m²/KN)	k (cm/sec)	Compression Index Cc	Compression Ratio CR = Cc/ (1+e0)	Cr	Recompression Ratio RR = Cr/ (1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/ (1+e0)	Over consolidation stress Pc (KN/m²)
1	1.077	1.073	1.063	1.046	1.017	0.986	0.937	0.890		1.28E-03	2.45E-03	1.50E-03	2.36E-03	2.59E-03	4.91E-03	4.02E-03		1.44E-04	3.76E-04	3.24E-04	2.83E-04	1.50E-04	1.17E-04	5.65E-05		144.7	213.5	2.16E-04	5.17E-08	0.159	0.077	0.019	0.009	0.010	0.005	70
2	1.789	1.764	1.732	1.685	1.599	1.370	1.141	0.956		1.34E-03	1.46E-03	8.55E-04	7.05E-04	1.91E-04	4.01E-04	1.30E-03		7.01E-04	9.25E-04	6.71E-04	6.19E-04	8.19E-04	4.12E-04	1.66E-04		102.5	44.5	7.19E-04	2.91E-08	0.761	0.273	0.054	0.019	0.086	0.031	68
3	0.720		0.707	0.697	0.683	0.657	0.613	0.561	0.514		1.14E-03	1.22E-03	1.52E-03	9.76E-04	8.68E-04	9.26E-04	2.15E-03		3.05E-04	2.42E-04	1.58E-04	1.51E-04	1.29E-04	7.57E-05	3.42E-05	110.8	98.5	1.55E-04	1.91E-08	0.165	0.096	0.015	0.009	0.008	0.005	122
4	1.126	1.126	1.118	1.088	1.016	0.946	0.875	0.771		2.19E-03	2.25E-03	5.30E-04	4.23E-04	3.61E-04	4.02E-04	4.76E-04		1.52E-04	1.70E-04	5.60E-04	6.81E-04	3.29E-04	1.66E-04	1.22E-04		88.6	35.5	5.05E-04	2.00E-08	0.234	0.110			0.059	0.028	137
5	1.233	1.233	1.221	1.194	1.135	1.065	0.943	0.803		2.00E-03	2.11E-03	7.44E-04	1.52E-03	1.26E-03	1.11E-03	9.13E-04		1.52E-04	2.54E-04	4.90E-04	5.26E-04	3.16E-04	2.74E-04	1.56E-04		127.9	86.0	4.21E-04	5.88E-08	0.464	0.208			0.050	0.022	162
6	1.035	1.035		1.021	1.011	0.985	0.936	0.879	0.783	0.682		1.79E-03	1.94E-03	1.90E-03	2.03E-03	1.78E-03	1.65E-03	2.17E-03		2.71E-04	1.99E-04	2.62E-04	2.38E-04	1.43E-04	1.17E-04	6.22E-05	162.1	156.7	2.50E-04	4.81E-08	0.336	0.165	0.037	0.018	0.019	0.009	197
7							

Công ty TNHH Địa Kỹ Thuật & Giao Thông Anh Vũ
Anh Vu Geotechnical & Civil Engineering Co.Ltd

Project: THE DETAILED DESIGN SURVEY ON LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION IN VIETNAM
Item: Soil Investigation for Port Portion - Part B
Volume 2.1: The appendices of Outer Revetment Area
Date: 27/07/2011

SUMMARY TABLE OF PHYSICO - MECHANICAL PROPERTIES OF SOIL SAMPLES

o. N	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Field Test Result SPT N	Field Vane τu (KN/m2)	Percent passed sieve size (mm) > 25	25	19	9.5	4.75	2.00	0.85	0.425	0.3	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits Liquid limit WL(%)	Plastic limit WP(%)	Plasticity index Ip (%)	Bulk density (KN/m³) Natural	Dry	Specific Gravity	Porosity n(%)	Degree of saturation Gi (%)	Void ratio eo
8	99	5	O-07	1.27	D11	11.00 - 11.45	-9.73 - -10.18	2									100.0	99.7	92.0	65.7		48.1	23.4	24.7			2.69			
9	101	5	O-07	1.27	U13	13.00 - 13.50	-11.73 - -12.23										100.0	99.9	96.1	73.8	50.1	48.5	25.0	23.5	17.2	11.4	2.70	57.7	99.4	1.363
10	103	5	O-07	1.27	D15	15.00 - 15.45	-13.73 - -14.18	5					100.0	99.8	99.6	99.1	98.5	73.3	55.3		35.6	18.0	17.6				2.72			
11	105	LS	O-07	1.27	D17	17.00 - 17.45	-15.73 - -16.18	8						100.0	99.9	99.6	98.1	40.6	31.2		26.4	14.4	12.1				2.70			
12	107	LS	O-07	1.27	D19	19.00 - 19.45	-17.73 - -18.18	7						100.0	99.9	99.6	97.7	27.1	12.4								2.66			
13	109	5	O-07	1.27	D21	21.00 - 21.45	-19.73 - -20.18	8							100.0	99.8	99.0	79.0	61.4		42.4	21.1	21.4				2.70			
14	111	6	O-07	1.27	D23	23.00 - 23.45	-21.73 - -22.18	18						100.0	99.5	99.1	98.9	96.7	76.4		48.0	24.4	23.7				2.75			
15	113	8c	O-07	1.27	D25	25.00 - 25.45	-23.73 - -24.18	47						100.0	99.9	99.7	99.4	19.2									2.69			
16	115	8c	O-07	1.27	D27	27.00 - 27.45	-25.73 - -26.18	33					100.0	98.3	93.7	86.0	77.7	19.8									2.68			
17	117	8c	O-07	1.27	D29	29.00 - 29.45	-27.73 - -28.18	53						100.0	98.6	97.0	95.5	51.5									2.70			
						Average value of borehole 0-07		**15**					**100.0**	**99.8**	**99.0**	**98.1**	**97.1**	**63.3**	**45.8**	**51.6**	**42.8**	**21.8**	**21.0**	**17.1**			**2.70**			**1.397**
1	1873	1b	O-08	1.53	D1	1.00 - 1.45	0.53 - 0.08	5							100.0	99.0	98.2	21.9	5.7								2.69			
2	1874	1b	O-08	1.53	D2	2.00 - 2.45	-0.47 - -0.92	4							100.0	98.5	97.6	26.9	9.6								2.69			
3	1875	1b	O-08	1.53	D3	3.00 - 3.45	-1.47 - -1.92	5							100.0	99.0	98.6	37.2	11.3								2.69			
4	1876	1b	O-08	1.53	D4	4.00 - 4.45	-2.47 - -2.92	7							100.0	98.3	97.5	14.7	5.7								2.69			
5	1877	2	O-08	1.53	U5	5.00 - 5.80	-3.47 - -4.27										100.0	98.1	41.4	42.9	51.4	27.6	23.8	17.6	12.3		2.69	54.3	97.2	1.186
6	1878	2	O-08	1.53	D6	6.00 - 6.45	-4.47 - -4.92	1									100.0	97.2	41.7		45.2	23.2	22.1				2.70			
7	1879	2	O-08	1.53	D7	7.00 - 7.45	-5.47 - -5.92	1									100.0	98.4	50.8		45.5	24.4	21.1				2.71			
8	1880	2	O-08	1.53	U8	8.00 - 8.80	-6.47 - -7.27										100.0	99.6	63.3	58.9	66.8	33.1	33.8	16.5	10.4		2.69	61.4	99.8	1.589
9	1881	2	O-08	1.53	D9	9.00 - 9.45	-7.47 - -7.92	1									100.0	98.0	47.2		57.7	27.0	30.7				2.70			
10	1882	2	O-08	1.53	D10	10.00 - 10.45	-8.47 - -8.92	1									100.0	99.4	62.7		68.2	31.0	37.3				2.69			
11	1883	3b	O-08	1.53	D11	11.30 - 11.75	-9.77 - -10.22	9						100.0	99.9	99.3	97.0	25.7	15.8								2.68			
12	1884	3b	O-08	1.53	D12	12.00 - 12.45	-10.47 - -10.92	11					100.0	99.9	99.7	98.9	96.1	21.8	12.7								2.68			
13	1885	5	O-08	1.53	U13	13.00 - 13.80	-11.47 - -12.27										100.0	99.7	70.9	51.6	48.6	25.2	23.4	17.0	11.2		2.70	58.5	98.6	1.412
14	1886	5	O-08	1.53	D14	14.00 - 14.45	-12.47 - -12.92	1									100.0	99.8	97.4	70.2		48.1	23.7	24.4			2.69			
15	1887	5	O-08	1.53	D15	15.00 - 15.45	-13.47 - -13.92	2						100.0	99.7	99.5	99.1	86.6	57.1		36.0	18.1	17.8				2.69			
16	1888	5	O-08	1.53	U16	16.00 - 16.80	-14.47 - -15.27										100.0	99.5	74.2	56.9	66.6	29.8	36.7	16.7	10.6		2.71	60.7	99.5	1.547
17	1889	5	O-08	1.53	D17	17.00 - 17.45	-15.47 - -15.92	3									100.0	99.7	98.8	76.2		62.6	26.0	36.6			2.71			
18	1890	5	O-08	1.53	D18	18.00 - 18.45	-16.47 - -16.92	3									100.0	99.7	99.1	75.9		66.7	27.8	38.9			2.70			
19	1891	5	O-08	1.53	D19	19.00 - 19.45	-17.47 - -17.92	8									100.0	99.7	75.4	42.3		25.6	13.0	12.6			2.71			
20	1892	LS	O-08	1.53	D20	20.00 - 20.45	-18.47 - -18.92	13					100.0	99.8	98.6	94.3	88.0	37.6	16.0								2.69			
21	1893	LS	O-08	1.53	D21	21.00 - 21.45	-19.47 - -19.92	15					100.0	99.8	99.2	96.4	91.7	36.8	19.9								2.69			
22	1894	6	O-08	1.53	D22	22.00 - 22.45	-20.47 - -20.92	12							100.0	99.6	98.3	84.3	54.9		42.0	22.2	19.9				2.69			
23	1895	6	O-08	1.53	D23	23.00 - 23.45	-21.47 - -21.92	14						100.0	98.9	97.9	97.1	89.1	46.0		43.1	25.7	17.4				2.70			
24	1896	6	O-08	1.53	D24	24.20 - 24.65	-22.67 - -23.12	12						100.0	98.9	98.1	96.9	48.9	24.6		23.3	13.1	10.2				2.69			
25	1897	6	O-08	1.53	D25	25.00 - 25.45	-23.47 - -23.92	14						100.0	99.8	99.4	98.6	54.3	27.2		26.7	16.2	10.5				2.70			
26	1898	6	O-08	1.53	D26	26.00 - 26.45	-24.47 - -24.92	15						100.0	99.5	98.8	97.8	51.2	27.1		22.0	13.4	8.6				2.69			
						Average value of borehole O-08		**7**					**100.0**	**99.9**	**99.6**	**98.7**	**98.1**	**69.1**	**40.4**	**52.6**	**47.0**	**23.4**	**23.7**	**16.9**			**2.69**			**1.434**
1	119	1a	O-09	1.17	D1	1.00 - 1.45	0.17 - -0.28	8							100.0	99.9	99.6	1.7									2.69			
2	121	2	O-09	1.17	U3	3.10 - 3.70	-1.93 - -2.53										100.0	96.4	39.2	44.6	37.5	21.3	16.2	17.7	12.3		2.72	54.8	99.9	1.212
3	123	2	O-09	1.17	D5	5.00 - 5.45	-3.83 - -4.28										100.0	99.5	75.1								2.70			
4	124	2	O-09	1.17	U6	6.00 - 6.60	-4.83 - -5.43										100.0	99.8	69.0	60.5	67.8	31.1	36.7	16.2	10.1		2.71	62.7	97.4	1.681
5	126	2	O-09	1.17	D8	8.00 - 8.45	-6.83 - -7.28										100.0	99.7	98.6	78.7		62.6	26.0	36.6			2.71			
6	127	3b	O-09	1.17	U9	9.00 - 9.60	-7.83 - -8.43								100.0	99.2	96.8	45.2	32.2	28.6	31.2	18.0	13.3	18.8	14.6		2.69	45.5	92.0	0.836
7	128	3b	O-09	1.17	D10	10.00 - 10.45	-8.83 - -9.28	4						100.0	99.5	98.3	94.8	24.3									2.68			
8	129	5	O-09	1.17	D11	11.00 - 11.45	-9.83 - -10.28	4							100.0	99.8	99.7	96.6	65.9		46.0	20.1	25.9				2.71			
9	131	5	O-09	1.17	U13	13.00 - 13.60	-11.83 - -12.43										100.0	99.5	83.8	52.7	53.6	22.7	30.9	16.9	11.1		2.71	59.1	98.7	1.447
10	134	6	O-09	1.17	D16	16.00 - 16.45	-14.83 - -15.28	9						100.0	98.6	97.1	96.4	89.3	56.8		43.4	21.0	22.4				2.70			
11	137	6	O-09	1.17	D19	19.00 - 19.45	-17.83 - -18.28	14									100.0	99.9	98.5	75.2	44.0	20.4	23.6				2.71			
12	140	6	O-09	1.17	D22	22.00 - 22.45	-20.83 - -21.28	12									100.0	99.9	98.0	69.0	43.2	22.0	21.1				2.70			
13	143	8c	O-09	1.17	D25	25.00 - 25.45	-23.83 - -24.28	45					100.0	99.0	97.0	95.7	87.9	17.8									2.71			
14	145	8c	O-09	1.17	D27	27.00 - 27.45	-25.83 - -26.28	48					100.0	87.3	66.9	56.8	53.6	49.1	19.1								2.67			
15	147	8c	O-09	1.17	D29	29.00 - 29.45	-27.83 - -28.28	28					100.0	95.8	74.3	50.9	32.4	26.9	19.3								2.67			
						Average value of borehole O-09		**19**					**100**	**94.4**	**88.0**	**87.9**	**88.7**	**90.1**	**66.9**	**64.6**	**46.6**	**45.8**	**22.1**	**23.8**	**17.4**			**2.70**			**1.294**
1	1795	1b	O-10	0.99	D1	1.00 - 1.45	-0.01 - -0.46	6							100.0	99.4	96.6	32.1	28.0	9.0							2.69			
2	1796	1b	O-10	0.99	D2	2.00 - 2.45	-1.01 - -1.46	5							100.0	99.2	97.2	93.5	22.4	10.1							2.68			
3	1797	1b	O-10	0.99	D3	3.00 - 3.45	-2.01 - -2.46	7							100.0	99.6	98.8	97.1	35.6	9.6							2.69			
4	1798	2	O-10	0.99	U4	4.00 - 4.80	-3.01 - -3.81										100.0	99.2		55.8	64.3	32.5	31.8	16.5	10.6		2.69	60.5	97.7	1.535
5	1799	2	O-10	0.99	D5	5.00 - 5.45	-4.01 - -4.46	1							100.0	99.4	96.9	63.4			72.1	29.2	42.9				2.71			
6	1800	2	O-10	0.99	D6	6.00 - 6.45	-5.01 - -5.46	1							100.0	99.6	98.7	60.8									2.71			
7	1801	2	O-10	0.99	U7	7.00 - 7.80	-6.01 - -6.81								100.0	99.5	96.7			63.5	76.1	31.3	44.8	16.2	9.9		2.71	63.3	99.6	1.724
8	1802	2	O-10	0.99	D8	8.00 - 8.45	-7.01 - -7.46	1							100.0	99.9	99.5	65.7			67.1	27.9	39.2				2.71			
9	1803	2	O-10	0.99	D9	9.00 - 9.45	-8.01 - -8.46	1							100.0	99.8	99.0	75.9									2.71			
10	1804	5	O-10	0.99	U10	10.00 - 10.80	-9.01 - -9.81										100.0	99.6		42.5	28.4	15.4	13.0	17.6	12.4		2.70	54.2	97.1	1.181
11	1805	5	O-10	0.99	D11	11.00 - 11.45	-10.01 - -10.46	2						100.0	99.7	99.2	98.1	82.2	44.0		38.5	20.2	18.3				2.69			
12	1806	5	O-10	0.99	D12	12.00 - 12.45	-11.01 - -11.46	3							100.0	99.8	99.6	96.4	63.7								2.69			
13	1807	5	O-10	0.99	U13	13.00 - 13.80	-12.01 - -12.81										100.0	99.8	97.6		49.9	58.4	25.0	33.4	17.1	11.4	2.70	57.8	98.2	1.372
14	1808	5	O-10	0.99	D14	14.00 - 14.45	-13.01 - -13.46	4							100.0	99.8	95.2	69.9				53.0	25.3	27.7			2.70			
15	1809	5	O-10	0.99	D15	15.00 - 15.45	-14.01 - -14.46	5							100.0	99.8	96.8	73.2									2.71			
16	1810	6	O-10	0.99	D16	16.00 - 16.45	-15.01 - -15.46	13							100.0	99.8	99.7	96.9	56.3		38.3	19.4	18.9				2.72			
17	1812	6	O-10	0.99	D18	18.00 - 18.45	-17.01 - -17.46	16						100.0	98.7	97.3	96.5	91.1	53.4		40.2	20.0	20.1				2.71			
18	1814	8b	O-10	0.99	D20	20.00 - 20.45	-19.01 - -19.46	12						100.0	99.9	99.7	97.9	46.8	33.3								2.71			
19	1816	8b	O-10	0.99	D22	22.00 - 22.45	-21.01 - -21.46	15							100.0	99.7	98.1	29.3	16.2								2.69			
20	1818	8b	O-10	0.99	D24	24.00 - 24.45	-23.01 - -23.46	18						100.0	99.3	95.2	88.0	28.6	15.7								2.69			
						Average value of borehole 0-10		**7**						**100.0**	**99.6**	**99.1**	**97.9**	**76.8**	**45.0**	**52.9**	**53.6**	**24.6**	**29.0**	**16.9**			**2.70**			**1.453**
1	150	1b	O-11	0.37	D1	1.00 - 1.45	-0.63 - -1.08	8							100.0	96.8	96.0	11.3									2.69			
2	152	2	O-11	0.37	U3	3.00 - 3.60	-2.63 - -3.23									100.0	99.8	99.1	50.8	46.6	43.7	23.5	20.2	17.3	11.8		2.70	56.3	97.9	1.287
3	153	2	O-11	0.37	D4	4.00 - 4.45	-3.63 - -4.08						100.0	99.9	99.5	99.3	99.3	98.3	45.6		39.7	22.6	17.1				2.69			
4	155	2	O-11	0.37	U6	6.00 - 6.70	-5.63 - -6.33									100.0	99.4	69.3	57.3	69.9	28.0	41.9	16.5	10.5		2.66	60.4	99.6	1.528
5	157	2	O-11	0.37	D8	8.00 - 8.45	-7.63 - -8.08	2								100.0	99.2	75.5		69.5	32.8	36.7				2.68			
6	158	3b	O-11	0.37	D9	9.00 - 9.45	-8.63 - -9.08	2						100.0	99.9	99.8	96.6	31.0									2.69			
7	161	5	O-11	0.37	U12	12.00 - 12.50	-11.63 - -12.13							100.0	93.0	88.5	87.3	77.8	36.0	27.6	34.9	19.9	15.0	19.9	15.6		2.73	42.9	100.0	0.751
8	163	6	O-11	0.37	D14	14.00 - 14.45	-13.63 - -14.08	12							100.0	99.8	99.5	96.7	73.9		45.2	22.9	22.3				2.72			
9	166	LS	O-11	0.37	D17	17.00 - 17.45	-16.63 - -17.08	6					100.0	99.5	97.3	92.5	84.1	40.5	24.1		21.7	13.6	8.1				2.73			
10	168	LS	O-11	0.37	D19	19.00 - 19.45	-18.63 - -19.08	8					100.0	99.9	99.2	94.1	84.9	35.1	20.6		20.7	12.0	8.7				2.70			
11	170	6	O-11	0.37	D21	21.00 - 21.45	-20.63 - -21.08	21						100.0	99.8	99.4	99.0	63.3	43.4		29.8	15.2	14.6				2.72			
12	173	6	O-11	0.37	D24	24.00 - 24.45	-23.63 - -24.08	7						100.0	99.7	99.0	98.2	41.3	23.4		22.1	13.8	8.3				2.70			
13	175	8c	O-11	0.37	D26	26.00 - 26.45	-25.63 - -26.08	54					100.0	99.4	98.6	92.2	68.8	49.2	14.2								2.67			
14	177	8c	O-11	0.37	D28	28.05 - 28.42	-27.68 - -28.05	57/42cm					100.0	93.7	86.5	75.2	50.7	32.8	11.7								2.67			
15	179	LC2	O-11	0.37	D30	30.00 - 30.45	-29.63 - -30.08	14							100.0	99.9	98.9	97.9	94.3								2.70			
						Average value of borehole O-11		**17**					**100**	**98.6**	**98.4**	**96.3**	**91.4**	**88.3**	**60.9**	**46.3**	**43.8**	**39.7**	**20.4**	**19.3**	**17.9**			**2.70**			**1.189**
1	1819	1b	O-12	0.02	D1	1.00 - 1.45	-0.98 - -1.43	6							100.0	98.8	98.2	24.8									2.69			
2	1820	1b	O-12	0.02	D2	2.00 - 2.45	-1.98 - -2.43	4							100.0	99.3	98.5	16.5									2.69			
3	1821	2	O-12	0.02	D3	3.00 - 3.45	-2.98 - -3.43	1									100.0	98.5	39.9								2.71			
4	1822	2	O-12	0.02	U4	4.00 - 4.80	-3.98 - -4.78										100.0	99.5		43.5	44.9	25.2	19.8	17.5	12.2		2.70	55.0	96.3	0.867
5	1823	2	O-12	0.02	D5	5.00 - 5.45	-4.98 - -5.43	0									100.0	99.2	33.9		45.8	24.6	21.2				2.69			
6	1824	2	O-12	0.02	D6	6.00 - 6.45	-5.98 - -6.43	0									100.0	99.4	56.6								2.70			
7	1825	2	O-12	0.02	U7	7.00 - 7.80	-6.98 - -7.78										100.0	99.6		63.8	74.2	36.0	38.1	16.1	9.8		2.70	63.6	98.8	1.746
8	1826	2	O-12	0.02	D8	8.00 - 8.45	-7.98 - -8.43	1									100.0	99.3	50.2		69.2	32.9	36.3				2.71			
9	1827	2	O-12	0.02	D9	9.00 - 9.45	-8.98 - -9.43	2									100.0	99.4	56.0								2.70			
10	1828	3b	O-12	0.02	D10	10.00 - 10.45	-9.98 - -10.43	4						100.0	99.8	98.8	94.1	58.3	25.9								2.68			
11	1829	3b	O-12	0.02	D11	11.00 - 11.45	-10.98 - -11.43	5						100.0	99.9	99.6	98.6	72.8	44.1		35.4	18.5	16.9				2.70			
12	1830	5	O-12	0.02	D12	12.00 - 12.45	-11.98 - -12.43	4						100.0	96.4	93.3	92.2	86.6	34.5		34.4	17.9	16.5				2.70			
13	1831	5	O-12	0.02	D13	13.00 - 13.45	-12.98 - -13.43	5						100.0	99.5	98.7	98.4	96.2	42.4								2.71			
14	1832	5	O-12	0.02	U14	14.00 - 14.80	-13.98 - -14.78								100.0	99.9	99.7	97.2		35.4	41.4	23.4	18.0	18.6	13.7		2.71	49.2	98.8	0.970
15	1833	5	O-12	0.02	D15	15.00 - 15.45	-14.98 - -15.43	5							100.0	98.8	39.9				38.9	21.3	17.7				2.72			
16	1834	5	O-12	0.02	D16	16.00 - 16.45	-15.98 - -16.43	6							100.0	99.5	22.9										2.70			

o. N	Test No.	Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5) Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817) Initial Void ratio eo	Void ratio e at load P KN/m² 12.5	25	50	100	200	400	800	1600	Cv (Coefficient of Consolidation) at load √Pi-1 x Pi KN/m² 12.5	25	50	100	200	400	800	1600	mv(Coefficient of Volume Comprssivility) at load P+Δp/2 KN/m² 12.5	25	50	100	200	400	800	1600	Log Average in Over consolidated Cv(o) (cm²/day)	Log Average in Normal consolidated Cv(n) (cm²/day)	Log Average at Load increment 1 - 2 KG/cm² mv (m²/KN)	k (cm/sec)	Compression Index Cc	Compression Ratio Cr	Recompression Ratio CR = Cc/(1+e0)	RR = Cr/(1+e0)	Swelling Index Cs	Swelling Ratio SR = Cs/(1+e0)	Over consolidation stress Pc (KN/m²)
8	99																																					
9	101	1.363	1.363	1.352	1.336	1.304	1.232	1.099	0.898	0.752		5.71E-04	6.50E-04	5.92E-04	5.66E-04	4.02E-04	3.75E-04	6.35E-04				3.80E-04	5.41E-04	5.30E-04	6.08E-04	5.65E-04	4.26E-04	1.54E-04		51.3	39.5	5.86E-04	2.80E-08	0.668	0.283			0.082	0.035	102
10	103																																					
11	105																																					
12	107																																					
13	109																																					
14	111																																					
15	113																																					
16	115																																					
17	117																																					
																														98.00	**91.60**	**6.60E-04**	**6.80E-08**	**0.537**		**0.062**		**0.056**		**65**
1	1873																																					
2	1874																																					
3	1875																																					
4	1876																																					
5	1877	1.186	1.186	1.177	1.161	1.133	1.078	0.975	0.868	0.733		7.09E-03	2.99E-03	2.68E-03	1.63E-03	1.20E-03	1.66E-03	3.28E-03				3.07E-04	6.02E-04	5.04E-04	5.04E-04	4.73E-04	2.46E-04	1.54E-04		331.7	156.2	4.88E-04	6.82E-08	0.350	0.160	0.035	0.016	0.028	0.013	61
6	1878																																					
7	1879																																					
8	1880	1.589	1.589	1.577	1.558	1.528	1.452	1.261	1.060	0.857		3.91E-03	1.43E-03	1.44E-03	1.16E-03	4.59E-04	4.24E-04	1.14E-03				3.64E-04	5.89E-04	4.68E-04	5.89E-04	7.35E-04	3.88E-04	1.97E-04		173.0	61.6	6.62E-04	5.01E-08	0.672	0.259	0.038	0.015	0.101	0.039	75
9	1881																																					
10	1882																																					
11	1883

Công ty TNHH Địa Kỹ Thuật & Giao Thông Anh Vũ
Anh Vu Geotechnical & Civil Engineering Co.Ltd

Project: THE DETAILED DESIGN SURVEY ON LACH HUYEN PORT INFRASTRUCTURE CONTRUCTION IN VIETNAM
Item: Soil Investigation for Port Portion - Part B
Volume 2.1: The appendices of Outer Revetment Area
Date: 27/07/2011

SUMMARY TABLE OF PHYSICO - MECHANICAL PROPERTIES OF SOIL SAMPLES

o. N	Test No.	Layer	Borehole	GL (m)	Sample No.	Depth (m) GL-(m) From - To	Depth (m) DL(m) From - To	Field Test Result SPT N	Field Vane τu (KN/m2)	Percent passed sieve size (mm) > 25	25	19	9.5	4.75	2.00	0.85	0.425	0.3	0.075	< 0.005	Natural moisture content w (%)	Atterberg Limits Liquid limit WL(%)	Plastic limit Wp(%)	Plasticity index Ip(%)	Bulk density (KN/m³) Natural	Dry	Specific Gravity	Porosity n(%)	Degree of saturation Gi (%)	Void ratio eo
17	1835	5	O-12	0.02	U17	17.00 - 17.80	-16.98 - -17.78								100.0	99.7	98.6	96.8	76.1		17.9				21.3	18.1	2.70	33.0	98.2	0.492
18	1836	5	O-12	0.02	D18	18.00 - 18.45	-17.98 - -18.43	7								100.0	99.8	98.7	24.7			48.7	24.7	24.1			2.70			
19	1837	6	O-12	0.02	D19	19.00 - 19.45	-18.98 - -19.43	11							100.0	99.9	98.7	52.6	34.0			23.4	15.2	8.2			2.69			
20	1839	6	O-12	0.02	D21	21.00 - 21.45	-20.98 - -21.43	13							100.0	99.9	99.2	58.9	37.2			26.3	17.6	8.7			2.71			
21	1841	8b	O-12	0.02	D23	23.00 - 23.45	-22.98 - -23.43	16					100.0	99.6	97.7	90.3	59.7	27.1	19.2								2.68			
22	1843	8b	O-12	0.02	D25	25.00 - 25.45	-24.98 - -25.43	27							100.0	99.9	99.7	98.7	26.0	13.6							2.70			
			Average value of borehole O-12					7					100.0	99.9	99.4	98.2	96.9	76.6	35.9	40.2	43.9	23.4	20.5	18.4			2.70			1.019
1	182	1b	O-13	-0.01	D1	1.00 - 1.45	-1.01 - -1.46	2							100.0	99.6	99.5	51.5									2.69			
2	184	1b	O-13	-0.01	D3	3.00 - 3.45	-3.01 - -3.46	3							100.0	99.6	99.5	32.8									2.69			
3	185	2	O-13	-0.01	U4	4.00 - 4.80	-4.01 - -4.81									100.0	99.3	57.4	54.5	51.1	24.1	26.9	16.8	10.9	2.71	59.8	99.3	1.490	1.490
4	188	2	O-13	-0.01	U7	7.00 - 7.80	-7.01 - -7.81								100.0	99.9	99.3	91.5	68.2	58.6	72.3	31.2	41.1	16.6	10.4	2.70	61.3	99.8	1.586	1.586
5	190	2	O-13	-0.01	D9	9.00 - 9.45	-9.01 - -9.46								100.0	99.0	97.1	75.5	56.2								2.69			
6	192	3b	O-13	-0.01	D11	11.00 - 11.45	-11.01 - -11.46	5							100.0	99.7	96.9	82.5	23.1								2.66			
7	194	3b	O-13	-0.01	D13	13.00 - 13.45	-13.01 - -13.46	5							100.0	99.8	97.5	84.5	25.1								2.69			
8	196	3b	O-13	-0.01	D15	15.00 - 15.45	-15.01 - -15.46	6								100.0	99.7	54.5									2.68			
9	197	6	O-13	-0.01	D16	16.00 - 16.45	-16.01 - -16.46	15							100.0	99.0	92.6	87.3	79.9	50.8		48.4	24.8	23.5			2.68			
10	199	6	O-13	-0.01	D18	18.00 - 18.45	-18.01 - -18.46	18					100.0	99.5	98.1	96.2	94.5	83.3	61.4			38.9	19.3	19.6			2.72			
11	201	8a	O-13	-0.01	D20	20.00 - 20.45	-20.01 - -20.46	10				100.0	99.6	99.0	90.3	72.0	55.8	34.4									2.70			
12	203	8a	O-13	-0.01	D22	22.00 - 22.45	-22.01 - -22.46	10					100.0	99.5	95.5	86.3	72.5	30.4									2.68			
13	205	8a	O-13	-0.01	D24	24.00 - 24.45	-24.01 - -24.46	4							100.0	99.8	98.2	15.7									2.67			
14	207	8a	O-13	-0.01	D26	26.00 - 26.45	-26.01 - -26.46	6							100.0	99.9	98.0	22.0									2.68			
15	209	LC2	O-13	-0.01	D28	28.00 - 28.45	-28.01 - -28.46	9							100.0	99.9	99.7	56.1									2.69			
16	211	LC2	O-13	-0.01	D30	30.00 - 30.45	-30.01 - -30.46	11							100.0	99.9	99.6	92.8	59.2			43.7	21.5	22.2			2.70			
17	213	LC2	O-13	-0.01	D32	32.00 - 32.45	-32.01 - -32.46	7					100.0	99.5	95.8	90.0	85.8	28.8	11.4								2.68			
18	215	LC2	O-13	-0.01	D34	34.00 - 34.45	-34.01 - -34.46	9								100.0	99.6	61.2	29.6			36.7	23.0	13.7			2.69			
			Average value of borehole O-13					8				100	99.9	99.6	98.5	95.8	91.8	53.2	49.3	56.6	48.5	24.0	24.5	16.7			2.69			1.538
1	1741	1a	O-14	0.80	D1	1.00 - 1.45	-0.20 - -0.65	4							100.0	97.7	94.1	1.8									2.68			
2	1742	1a	O-14	0.80	D2	2.00 - 2.45	-1.20 - -1.65	3							100.0	98.6	96.3	1.8									2.69			
3	1743	2	O-14	0.80	D3	3.00 - 3.45	-2.20 - -2.65	1								100.0	99.7	95.8	39.9								2.70			
4	1744	2	O-14	0.80	U4	4.00 - 4.80	-3.20 - -4.00										100.0	99.8	62.6	53.5					16.7	10.9	2.72	59.9	97.3	1.495
5	1745	2	O-14	0.80	D5	5.00 - 5.45	-4.20 - -4.65	0									100.0	99.2	43.9			44.7	25.9	18.8			2.70			
6	1746	2	O-14	0.80	D6	6.00 - 6.45	-5.20 - -5.65	0									100.0	99.0	72.2			68.3	32.9	35.4			2.71			
7	1747	2	O-14	0.80	U7	7.00 - 7.80	-6.20 - -7.00										100.0	99.6	88.0	66.2					16.0	9.6	2.71	64.4	99.1	1.811
8	1748	2	O-14	0.80	D8	8.00 - 8.45	-7.20 - -7.65	1								100.0	99.7	99.3	58.9			75.1	31.3	43.8			2.71			
9	1749	2	O-14	0.80	D9	9.00 - 9.45	-8.20 - -8.65	1								100.0	99.6	99.2	55.3			77.2	35.7	41.5			2.71			
10	1750	3b	O-14	0.80	D10	10.00 - 10.45	-9.20 - -9.65	4							100.0	99.8	98.7	96.7	30.9								2.69			
11	1751	3b	O-14	0.80	U11	11.00 - 11.80	-10.20 - -11.00										100.0	99.9	70.0	39.2		30.9	18.0	12.9			2.69			
12	1753	3b	O-14	0.80	D13	13.00 - 13.45	-12.20 - -12.65	7							100.0	99.7	99.6	99.4	72.4	46.6		31.4	18.3	13.1			2.71			
13	1755	6	O-14	0.80	D15	15.00 - 15.45	-14.20 - -14.65	11							100.0	99.8	99.4	98.9	95.8	68.6		43.0	22.2	20.7			2.71			
14	1757	6	O-14	0.80	D17	17.00 - 17.45	-16.20 - -16.65	11								100.0	99.9	99.8	95.5	62.1							2.69			
15	1759	8b	O-14	0.80	D19	19.00 - 19.45	-18.20 - -18.65	12							100.0	98.4	90.8	81.4	49.7	33.9		25.7	13.8	11.9			2.71			
16	1761	8b	O-14	0.80	D21	21.00 - 21.45	-20.20 - -20.65	12							100.0	98.3	95.8	93.8	42.6	30.4		20.8	14.6	6.2			2.70			
17	1763	8b	O-14	0.80	D23	23.00 - 23.45	-22.20 - -22.65	12					100.0	98.8	89.5	79.6	71.1	62.2	33.7	23.5							2.71			
18	1765	8b	O-14	0.80	D25	25.00 - 25.45	-24.20 - -24.65	16					100.0	99.0	93.1	81.6	69.9	60.3	31.5	21.0							2.72			
19	1767	8c	O-14	0.80	D27	27.00 - 27.45	-26.20 - -26.65	34					100.0	99.6	98.8	95.5	90.5	83.5	21.7	16.1							2.68			
			Average value of borehole O-14					8					100	99.1	97.7	95.7	94.1	92.9	67.6	46.6	59.9	46.3	23.6	22.7	16.4			2.70			1.653
1	217	1a	O-15	0.11	D1	1.00 - 1.45	-0.89 - -1.34	5								100.0	99.1	98.2	10.0								2.71			
2	219	2	O-15	0.11	U3	3.00 - 3.90	-2.89 - -3.79										100.0	97.4	41.8	46.2	41.1	23.3	17.8	17.4	11.9		2.69	55.7	98.6	1.259
3	220	2	O-15	0.11	D4	4.00 - 4.45	-3.89 - -4.34										100.0	93.7	41.0			38.9	21.4	17.4			2.70			
4	222	2	O-15	0.11	U6	6.00 - 6.90	-5.89 - -6.79										100.0	99.9	75.1	63.5		78.2	33.8	44.4	16.2	9.9	2.69	63.2	99.6	1.718
5	223	2	O-15	0.11	D7	7.00 - 7.45	-6.89 - -7.34	2								100.0	99.9	99.6	48.7			42.7	22.2	20.5			2.72			
6	225	3b	O-15	0.11	D9	9.00 - 9.45	-8.89 - -9.34	4							100.0	99.5	96.2	90.3	40.8	28.7		23.9	14.1	9.8			2.69			
7	227	3b	O-15	0.11	D11	11.00 - 11.45	-10.89 - -11.34	3					100.0	99.9	99.2	95.5	89.3	36.4	22.7			22.4	14.6	7.8			2.68			
8	229	5	O-15	0.11	D13	13.00 - 13.45	-12.89 - -13.34	4							100.0	96.3	93.2	92.1	86.4	38.7		36.7	19.7	17.0			2.72			
9	231	5	O-15	0.11	D15	15.00 - 15.45	-14.89 - -15.34	3									100.0	99.8	98.1	57.7		44.6	24.5	20.0			2.69			
10	234	6	O-15	0.11	D18	18.00 - 18.45	-17.89 - -18.34	8							100.0	99.9	99.8	94.4	64.7			40.4	20.1	20.3			2.71			
11	237	6	O-15	0.11	D21	21.00 - 21.45	-20.89 - -21.34	8							100.0	99.5	98.6	72.4	50.9			36.0	19.1	16.9			2.71			
12	239	LS	O-15	0.11	D23	23.00 - 23.45	-22.89 - -23.34	12							100.0	99.7	97.6	94.9	48.0	34.3		34.2	15.8	18.4			2.70			
13	241	6	O-15	0.11	D25	25.00 - 25.45	-24.89 - -25.34	13							100.0	99.9	99.3	97.7	78.7	44.4		34.9	17.9	17.0			2.69			
14	243	6	O-15	0.11	D27	27.00 - 27.45	-26.89 - -27.34	11					100.0	99.3	98.3	97.0	94.8	87.4	60.9			39.5	19.5	19.9			2.69			
15	245	8c	O-15	0.11	D29	29.00 - 29.45	-28.89 - -29.34	40					100.0	97.8	92.2	89.1	86.0	68.7	49.7	23.4							2.68			
16	247	8c	O-15	0.11	D31	31.00 - 31.45	-30.89 - -31.34	53/27cm								100.0	99.9	96.9	90.9	26.3							2.69			
			Average value of borehole O-15					13					100	98	97.4	98.5	98.1	95.6	93.5	68.3	46.9	54.9	39.5	20.5	19.0	16.8			2.70			1.489
1	1394	2	O-16	0.04	D1	1.10 - 1.55	-1.06 - -1.51	1									100.0	98.9	40.4								2.71			
2	1395	2	O-16	0.04	D2	2.00 - 2.45	-1.96 - -2.41	0									100.0	98.9	41.6			43.7	23.0	20.6			2.72			
3	1396	2	O-16	0.04	U3	3.00 - 3.75	-2.96 - -3.71										100.0	98.9	42.7	48.7	49.9	27.0	22.9	17.3	11.6		2.70	57.0	99.4	1.324
4	1398	2	O-16	0.04	D5	5.00 - 5.45	-4.96 - -5.41	0									100.0	99.7	66.2			63.8	33.3	30.5			2.72			
5	1399	2	O-16	0.04	U6	6.00 - 6.80	-5.96 - -6.76										100.0	99.8	63.2	64.4	73.0	34.5	38.5	16.0	9.7		2.71	64.1	97.8	1.784
6	1401	5	O-16	0.04	D8	8.20 - 8.65	-8.16 - -8.61	4					100.0	99.3	98.4	97.7	84.5	35.8			30.7	20.1	10.6				2.72			
7	1403	5	O-16	0.04	U10	10.00 - 10.80	-9.96 - -10.76										100.0	95.7	23.8	37.0	39.5	24.2	15.3	17.7	12.9		2.71	52.3	91.5	1.095
8	1405	6	O-16	0.04	D13	13.00 - 13.45	-12.96 - -13.41	11							100.0	99.7	99.2	98.9	86.8	58.0		36.0	20.0	16.0			2.70			
9	1409	6	O-16	0.04	D16	16.00 - 16.45	-15.96 - -16.41	12								100.0	99.9	90.6	67.7			36.4	20.7	15.7			2.72			
10	1412	6	O-16	0.04	D19	19.00 - 19.45	-18.96 - -19.41	14					100.0	98.2	96.2	92.8	91.0	89.4	76.1	59.1		39.7	21.1	18.7			2.72			
11	1415	6	O-16	0.04	D22	22.00 - 22.45	-21.96 - -22.41	9							100.0	99.8	99.7	99.6	98.2	60.1		43.6	23.0	20.6			2.71			
12	1418	8c	O-16	0.04	D25	25.20 - 25.65	-25.16 - -25.61	35					100.0	98.9	97.8	87.2	59.6	42.4	19.2	10.9							2.68			
			Average value of borehole O-16					10					100	98.5	98.8	95.8	91.3	94.0	87.3	47.5	50.0	45.6	24.7	20.9	17.0			2.71			1.401
1	249	1b	O-17	-0.29	D1	1.00 - 1.45	-1.29 - -1.74	4							100.0	99.5	99.1	35.2									2.68			
2	251	2	O-17	-0.29	U3	3.00 - 3.80	-3.29 - -4.09										100.0	99.6	58.8	52.6	45.7	23.8	21.9	16.9	11.1		2.69	58.7	99.3	1.424
3	252	2	O-17	-0.29	D4	4.00 - 4.45	-4.29 - -4.74										100.0	98.9	65.8			59.7	31.7	28.0			2.71			
4	254	2	O-17	-0.29	U6	6.00 - 6.80	-6.29 - -7.09										100.0	99.9	66.7	60.5	64.8	32.2	32.7	16.5	10.3		2.71	62.2	99.8	1.643
5	255	2	O-17	-0.29	D7	7.00 - 7.45	-7.29 - -7.74										100.0	99.2	75.0			66.1	31.1	35.0			2.71			
6	257	2	O-17	-0.29	U9	9.00 - 9.80	-9.29 - -10.09										100.0	99.3	79.4	68.0	68.2	31.8	36.5	15.9	9.5		2.72	65.2	98.9	1.870
7	259	3b	O-17	-0.29	D11	11.00 - 11.45	-11.29 - -11.74	5							100.0	99.5	98.2	32.7	15.0								2.68			
8	261	5	O-17	-0.29	D13	13.00 - 13.45	-13.29 - -13.74	5							100.0	99.9	99.7	99.6	96.4	47.2		42.1	20.7	21.4			2.73			
9	262	5	O-17	-0.29	D14	14.00 - 14.45	-14.29 - -14.74	2							100.0	99.9	99.8	97.4	77.8			40.6	19.1	21.6			2.72			
10	263	5	O-17	-0.29	U15	15.00 - 15.80	-15.29 - -16.09								100.0	99.0	97.0	90.8	73.0	28.3	49.3	21.8	27.6	19.6	15.3		2.70	43.4	100.0	0.766
11	265	6	O-17	-0.29	D17	17.00 - 17.45	-17.29 - -17.74	10							100.0	99.8	99.7	99.3	96.3	76.2		46.4	24.7	21.7			2.70			
12	267	6	O-17	-0.29	D19	19.00 - 19.45	-19.29 - -19.74	12									100.0	94.4	58.5			40.9	21.3	19.6			2.69			
13	269	6	O-17	-0.29	D21	21.00 - 21.45	-21.29 - -21.74	7									100.0	96.6	55.3			44.2	20.3	23.8			2.70			
14	271	6	O-17	-0.29	D23	23.00 - 23.45	-23.29 - -23.74	5									100.0	98.0	64.2			50.7	23.3	27.4			2.71			
15	273	6	O-17	-0.29	D25	25.00 - 25.45	-25.29 - -25.74	6									100.0	97.8	65.5			51.2	23.3	27.8			2.70			
16	275	8b	O-17	-0.29	D27	27.00 - 27.45	-27.29 - -27.74	26							100.0	99.8	98.2	82.4	24.7								2.66			
17	277	8b	O-17	-0.29	D29	29.00 - 29.45	-29.29 - -29.74	26					100.0	99.8	99.8	96.1	70.7	23.1									2.66			
18	279	8c	O-17	-0.29	D31	31.00 - 31.45	-31.29 - -31.74	52					100.0	97.7	79.1	50.2	30.3	8.8									2.68			
			Average value of borehole O-17					13					100.0	99.5	97.6	93.6	93.1	77.2	62.7	52.3	51.5	25.0	26.5	17.2			2.70			1.425
1	1768	1b	O-18	0.19	D1	1.00 - 1.45	-0.81 - -1.26	5							100.0	99.0	98.3	28.5	8.5								2.69			
2	1769	2	O-18	0.19	D2	2.20 - 2.65	-2.01 - -2.46	1									100.0	99.3	45.5			59.7	30.7	29.1			2.70			
3	1771	2	O-18	0.19	U4	4.00 - 4.80	-3.81 - -4.61										100.0	99.7	56.5	57.0	49.7	24.7	25.0	16.7	10.6		2.71	60.8	99.6	1.552
4	1774	2	O-18	0.19	U7	7.00 - 7.80	-6.81 - -7.61										100.0	99.5	76.7	66.0	76.3	29.6	46.7	16.0	9.6		2.72	64.5	98.6	1.819
5	1776	3b	O-18	0.19	D9	9.00 - 9.45	-8.81 - -9.26	4					100.0	99.3	99.2	98.3	95.5	88.2	43.7	24.8							2.70			
6	1778	3b	O-18	0.19	D11	11.00 - 11.45	-10.81 - -11.26	5					100.0	99.8	97.6	87.5	61.9	28.2	13.9								2.70			
7	1780	3b	O-18	0.19	D13	13.00 - 13.45	-12.81 - -13.26	9							100.0	98.5	90.1	62.7	28.3	15.5							2.69			
8	1782	6	O-18	0.19	D15	15.00 - 15.45	-14.81 - -15.26	9							100.0	99.7	99.4	98.8	89.9	74.3		41.8	23.3	18.5			2.72			
9	1785	6	O-18	0.19	D18	18.00 - 18.45	-17.81 - -18.26	16								100.0	99.8	99.6	96.3	69.5		44.4	23.2	21.2			2.73			
10	1788	6	O-18	0.19	D21	21.00 - 21.45	-20.81 - -21.26	9									100.0	99.9	97.8	63.3		44.0	23.2	20.9			2.70			
11	1791	6	O-18	0.19	D24	24.00 - 24.45	-23.81 - -24.26	11									100.0	97.9	53.9			44.0	24.0	20.0			2.72			
12	1793	8c	O-18	0.19	D26	26.10 - 26.55	-25.91 - -26.36	45					100.0	97.8	96.7	95.2	88.0	65.7	25.1	11.9							2.68			

| o. N | Test No. | Consolidation Test (Loading Plan 12.5,25,50,100,200,400,800,12.5 for the sample of SPT N ≤ 4, and 25,50,100,200,400,800,1600,25 for the sample of SPT N ≥ 5) Log Average means, for example, test values are 1, 2, 3, then in this case (Log1 + Log2 + Log3)/3 = Log(1.817) therefore Log average= 1.817) Initial Void ratio eo | Void ratio e at load P KN/m² 12.5 | 25 | 50 | 100 | 200 | 400 | 800 | 1600 | Cv (Coefficient of Consolidation) at load √Pi-1 x Pi KN/m² 12.5 | 25 | 50 | 100 | 200 | 400 | 800 | 1600 | mv(Coefficient of Volume Comprssivility) at load P+Δp/2 KN/m² 12.5 | 25 | 50 | 100 | 200 | 400 | 800 | 1600 | Log Average in Over consolidated Cv(o) (cm²/day) | Log Average in Normal consolidated Cv(n) (cm²/day) | Log Average at Load increment 1 - 2 KG/cm² mv (m²/KN) | k (cm/sec) | Compression Index Cc | Compression Ratio CR = Cc/ (1+e0) | Recompression Index Cr | Recompression Ratio RR = Cr/ (1+e0) | Swelling Index Cs | Swelling Ratio SR = Cs/ (1+e0) | Over consolidation stress Pc (KN/m²) | Unconfined compression test q_u (KG/cm²) Sample a | Sample b | Failure Strain εf (%) Sample a | Sample b | UU triaxial test (Cell Pressure is 100,200,300 for the sample of SPT N ≤ 4, and 200,300,400 kN/m2 for the sample of SPT N ≥ 5) Cuu (KN/m²) | φuu (deg.) | CU triaxial test Cell Pressure is 50,100,200 for the sample of SPT N ≤ 4, and 100,200,300 for the sample of SPT N ≥ 5) Backpressure =100kN/m2 Ccu (KN/m²) | φcu (deg.) | Soil group | Description |
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