

LABORATORY TEST ON BORING

DRAINAGE PUMP STATION

BORING No : UB(1) - 01

SING				Natural water content w (%)	Unit weight		Specific gravity Gs	Porosity n (%)	Void ratio e _o	Degree saturation S (%)	Atterberg limit			Liquidity index B	Unconfined compression q _u (Kg/cm ²)	Compression index Cc	Coefficient of consolidation Cv (cm ² /s)	Consolidation			REMARK
#50	#100	#200			Natural γ (g/cm ³)	Dry γ _d (g/cm ³)					Liquid limit LL (%)	Plastic limit PL (%)	Plastic index PI (%)					Preconsolidation pressure Pc (Kg/cm ²)	Coefficient of volume compressibility m _v (cm ² /g)	Coefficient of permeability k ₂₀ (cm/s)	
0.3	0.15	0.075	0.005		(21)	(22)					(27)	(28)	(29)					(34)	(35)	(36)	
(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
	100	95.3	48.2	80.19	1.501	0.833	2.601	0.68	2.122	98.3											** Very soft cohesive fine-grained soil can not carry out unconfined compression
	100	98.3	46.7	79.52	1.519	0.846	2.594	0.67	2.066	99.9	70.7	35.3	35.4	1.25	0.111	0.8807	1.89E-04	0.38	1.50E-04	2.69E-08	
	100	97.2	30.8	60.41	1.561	0.973	2.617	0.63	1.689	93.6											
	100	96.0	27.9	52.56	1.506	0.987	2.604	0.62	1.638	83.6	65	35.2	29.8	0.58	0.118						
100	95.7	90.1	40.1	70.12	1.462	0.859	2.593	0.67	2.017	90.1											
97.8	94.4	89.8	39.3	87.53	1.455	0.776	2.587	0.70	2.334	97.0	78.4	44.3	34.1	1.27	0.189	1.0943	2.68E-04	0.977	1.61E-04	5.34E-08	
80.2	80.2	76.2	40.3	82.94	1.497	0.818	2.591	0.68	2.166	99.2											
79.1	76.9	75.9	49.5	78.38	1.509	0.846	2.583	0.67	2.053	98.6	77.8	36.4	41.4	1.01	0.155						
	100	98.5	62.4	85.38	1.475	0.796	2.581	0.69	2.244	98.2	89.4	49.2	40.2	0.90	0.382	1.1616	3.15E-04	0.695	9.65E-05	2.52E-08	
100	99.2	93.1	59.7	81.69	1.499	0.825	2.601	0.68	2.153	98.7											
76.8	66.2	61.3	49.0	84.87	1.486	0.804	2.582	0.69	2.212	99.1	70.1	40.8	29.3	1.50	**						
	100	94.6	60.2	84.36	1.478	0.802	2.586	0.69	2.226	98.0	103.7	58.2	45.5	0.57	**						
	100	95.3	70.2	80.14	1.498	0.832	2.597	0.68	2.123	98.0											
	100	96.1	76.6	76.75	1.483	0.839	2.601	0.68	2.100	95.1	96.0	46.6	49.4	0.61							
87.8	79.8	76.0	59.5	66.53	1.500	0.901	2.612	0.66	1.900	91.5	76.4	44.0	32.4	0.70	0.382	0.8823	2.06E-04	0.776	1.17E-04	2.25E-08	
91.3	80.4	71.6	50.2	60.22	1.559	0.973	2.609	0.63	1.681	93.4											
96.94	87.3	68.1	40.1	48.63	1.647	1.108	2.630	0.58	1.373	93.1	69.1	38.5	30.6	0.33							
96.9	93.4	68.7	42.5	45.83	1.695	1.162	2.628	0.56	1.261	95.5	68.5	38.9	29.6	0.23							
97.7	90.3	68.9	43.6	50.49	1.401	0.931	2.635	0.65	1.830	72.7	63.7	35.4	28.3	0.53							
98.2	92.1	81.1	44.2	47.95	1.610	1.088	2.645	0.59	1.431	88.7	92.0	48.1	43.9	0.00							
96.5	92.7	74.6	44.7	54.41	1.590	1.030	2.637	0.61	1.561	91.9	75.3	43.0	32.3	0.35							
94.2	87.3	65.6	40.0	51.11	1.526	1.010	2.640	0.62	1.614	83.6	74.6	43.2	43.2	0.18							

SUMMARY OF LABORATORY TEST ON BORING

PROJECT : DRAINAGE PUMP STATION

Scale (m)	Boring number	Sample number	Depth (m)	Symbol	Soil class.	SAMPLE DESCRIPTION	SPT (N)	SIEVE ANALYSIS, % PASSING												Natural water content w (%)	Unit weight	
								Inch													Natural γ (g/cm ³)	Dry γ _d (g/cm ³)
								3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200					
								19	12.5	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075	0.005				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	
1	UB(1)-02																					
2		02-1-0	1.6 - 2.0		OII	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	97.2	65.2	101.23	1.412	0.702	
3							0															
4		02-1	3.5-4.1		OII	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	98.1	62.2	104.32	1.404	0.687	
5							0															
6		02-1-1	5.6 - 6.0		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	96.8	63.2	99.23	1.421	0.713	
7							0															
8		02-2	7.5-8.1		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	98.9	62.8	95.29	1.442	0.733	
9							0															
10		02-2-1	9.6 - 10.0		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	94.8	65.3	94.89	1.438	0.733	
11							0															
12		02-3	11.5-12.1		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	98.9	64.3	87.74	1.468	0.782	
13							0															
14		02-3-1	13.6 - 14.0		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	95.9	66.2	83.92	1.471	0.800	
15							0															
16		02-4	15.5-16.1		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	98.2	55.9	52.19	1.438	0.945	
17							0															
18		02-4-1	17.6 - 18.0		OH	Very soft, high plasticity blackish grey ORGANIC CLAY.	0									100	97.2	60.2	53.20	1.467	0.958	
19							2															
20		02-5	19.5-20.1		OH	Soft, high plasticity blackish grey SANDY ORGANIC CLAY.	2					100	98.4	97.2	94.8	86.2	65.2	31.4	48.00	1.661	1.122	
21							2															
22		02-5-1	21.6 - 22.0		OH	Soft, high plasticity blackish grey SANDY ORGANIC CLAY.	2					100	97.3	96.1	92.8	84.8	66.2	32.7	50.12	1.621	1.080	
23							2															
24		02-6	23.5-24.1		OII	Soft, high plasticity blackish grey SANDY ORGANIC CLAY.	2					100	99.1	98.8	98	90.4	67.3	28.3	38.58	1.598	1.153	
25							2															
26		02-6-1	25.6 - 26.0		CL	Soft, low plasticity blackish grey SANDY CLAY.	3					100	97.8	96.1	94.2	89.2	55.2	29.4	34.57	1.436	1.067	
27							3															
28		02-7	27.5-28.1		CL	Soft, low plasticity blackish grey SANDY CLAY.	3					100	99.5	99.0	98.1	90.3	54.3	28.2	33.75	1.388	1.038	
29							3															
30		02-7-1	29.6 - 30.0		CL	Soft, low plasticity blackish grey SANDY CLAY.	3					100	98.7	97.6	96.2	88.6	56.1	29.8	36.84	1.426	1.042	