



BNN DESIGN AND CONSULTANT CO.,LTD.

Soil Boring and Testing , Surveying , Geotechnical Structure and Slope Protection Design

SUMMARY OF TEST RESULT

Project : ก่อสร้างถนน กาญจนภิเษก-พุทธมณฑล สาย2

Date of Boring : 20 พฤศจิกายน 2561

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Boring : BH - 2 Page : 1

SAMPLE NUMBER	DEPTH (m.)		PHYSICAL PROPERTIES							ATTERBERG LIMITS			SOIL CLASSIFICATION	ENGINEERING PROPERTIES				
			Wn (%)	γ (t/m ³)	% Passing					LL (%)	PL (%)	PI (%)		UCS (tsm.)	Qur (tsm.)	Qp (tsm.)	N (blows/ft)	Vs (tsm.)
	#4	#10			#40	#100	#200											
ST-1	1.50	2.00	44.85	1.78	100.00	100.00	99.71	99.52	98.32	38.31	24.18	14.13	CL	4.36				
ST-2	3.00	3.50	82.36	1.56	100.00	100.00	99.89	99.81	99.72	85.97	35.72	50.25	CH	1.80				
ST-3	4.50	5.00	80.61	1.58	100.00	100.00	99.82	99.63	99.42	85.16	35.41	49.75	CH	1.99				
ST-4	6.00	6.50				NO RECOVERY												
ST-5	7.50	8.00	78.80	1.61	100.00	100.00	99.83	99.62	99.35	80.57	31.52	49.05	CH	2.15				
ST-6	9.00	9.50	65.29	1.69	100.00	100.00	99.91	99.83	99.72	76.37	31.98	44.39	CH	3.40				
ST-7	10.50	11.00	66.27	1.76	100.00	100.00	99.76	99.51	99.30	77.37	33.29	44.08	CH	4.29				
ST-8	12.00	12.50	62.97	1.75	100.00	100.00	99.82	99.72	99.61	74.81	30.50	44.31	CH	4.17				
ST-9	13.50	14.00	41.90	1.80	100.00	100.00	99.62	97.11	93.81	36.10	21.98	14.12	CL	7.01				
ST-10	15.00	15.45	26.18	1.80	100.00	100.00	88.32	65.22	27.36	29.14	12.19	16.96	SC	7.29				
SS-1	16.50	16.95	20.15		100.00	100.00	99.11	88.20	72.32	33.47	15.71	17.75	CL				27	
SS-2	18.00	18.45	20.77		100.00	100.00	99.30	88.19	71.94	32.77	15.74	17.02	CL				27	
SS-3	19.50	19.95	20.37		100.00	100.00	99.49	77.70	68.86	29.96	18.31	11.65	CL				50	
SS-4	21.00	21.45	25.29		100.00	98.92	96.04	45.10	14.32		NP		SM				76	
SS-5	22.50	22.95	24.08		100.00	99.82	94.82	10.47	5.77		NP		SP-SM				61	
SS-6	24.00	24.45	18.10		100.00	99.08	91.45	20.19	6.88		NP		SP-SM				62	
SS-7	25.50	25.95				NO RECOVERY											46	
SS-8	27.00	27.45	20.06		100.00	99.06	76.61	12.37	5.55		NP		SP-SM				89/4"	
SS-9	28.50	28.95	20.91		100.00	98.96	84.38	22.07	6.96		NP		SP-SM				82	
SS-10	30.00	30.45	24.11		100.00	99.04	85.60	15.68	5.64		NP		SP-SM				50/6"	

PHYSICAL PROPERTIES

Wn = Natural Water Content

γ = Bulk Unit Weight

ATTERBERG LIMITS

LL = Liquid Limit

PL = Plastic Limit

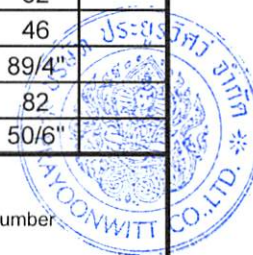
PI = Plasticity Index

ENGINEERING PROPERTIES

UCS = Unconfined Compressive Strength N = Standard Penetration Number

Qur = Remolded Shear Strength Vs = Vane Shear Strength

Qp = Pocket Penetrometer





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Date of Boring : 20 พฤศจิกายน 2561

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Boring : BH - 2 Page : 2

SAMPLE NUMBER	DEPTH (m.)		PHYSICAL PROPERTIES							ATTERBERG LIMITS			SOIL CLASSIFICATION	ENGINEERING PROPERTIES				
			Wn (%)	γ (t/m ³)	% Passing					LL (%)	PL (%)	PI (%)		UCS (tsm.)	Qur (tsm.)	Qp (tsm.)	N (blows/ft)	Vs (tsm.)
	#4	#10			#40	#100	#200											
SS-11	31.50	31.95	28.55		100.00	99.02	94.82	20.84	5.77		NP		SP-SM				74	
SS-12	33.00	33.45	19.75		100.00	99.05	94.98	34.11	9.46		NP		SP-SM				85	
SS-13	34.50	34.95				NO RECOVERY											48	
SS-14	36.00	36.45	19.39		100.00	99.17	41.04	10.20	4.21		NP		SP				52	
SS-15	37.50	37.95	20.06		100.00	96.19	55.24	8.10	2.36		NP		SP				79	
SS-16	39.00	39.45	16.38		100.00	99.85	80.93	19.50	5.52		NP		SP-SM				50/6"	
SS-17	40.50	40.95				NO RECOVERY											50/3"	
SS-18	42.00	42.45	21.33		100.00	94.58	60.98	20.62	7.77		NP		SP-SM				12	
SS-19	43.50	43.95	20.84		100.00	97.46	65.86	8.74	3.33		NP		SP				50/5"	
SS-20	45.00	45.45	19.42		100.00	93.28	66.10	11.55	3.46		NP		SP				50/3"	
SS-21	46.50	46.95	24.38		100.00	97.05	55.02	6.37	1.86		NP		SP				41	
SS-22	48.00	48.45	16.18		100.00	58.25	11.68	2.74	1.66		NP		SP				50/4"	
SS-23	49.50	49.95	21.61		100.00	99.24	52.28	8.09	2.00		NP		SP				50/6"	
SS-24	51.00	51.45	25.76		100.00	99.90	99.29	81.22	67.69	43.21	16.72	26.49	CL				50/6"	
SS-25	52.50	52.95	22.81		100.00	85.69	14.83	3.24	1.97		NP		SP				34	
SS-26	54.00	54.45	22.23		100.00	98.52	45.81	8.73	2.15		NP		SP				50/5"	
SS-27	55.50	55.95	21.60		100.00	95.88	40.99	7.49	2.42		NP		SP				50/4"	
SS-28	57.00	57.45	21.69		100.00	97.67	63.54	4.91	1.96		NP		SP				50/6"	
SS-29	58.50	58.95				NO RECOVERY											50/5"	
SS-30	60.00	60.45	14.89		90.95	85.20	53.19	12.03	4.17		NP		SP				50/3"	

PHYSICAL PROPERTIES

Wn = Natural Water Content

γ = Bulk Unit Weight

ATTERBERG LIMITS

LL = Liquid Limit

PL = Plastic Limit

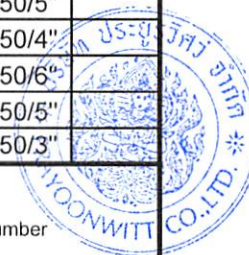
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Qp = Pocket Penetrometer



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LOG OF BORING

Project : ก่อสร้างถนน กาญจนภิเษก-พุทธมณฑล สาย2

Boring No. BH - 2

Tested by N.Winit

Page 1

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Started 20 พฤศจิกายน 2561

Checked by W.Jakrabhan

N 1,520,775 E 650,905

Finished 21 พฤศจิกายน 2561

GWL. -1.20 m

Depth (m)	Sample No.	Type Of Sample	Sample Distance	Recovery	Soil Description	Graphic Log	Water Content (%)					SPT - N (Blows/ft)			Soil Shear Strength			Total Density (t/m ³)								
							o	x	+																	
							20	40	60	80	100	25	50	75	3	6	9	1.4	1.8	2.2						
1	1	WO			Soft Silty CLAY, grey (CL)																					
2		ST					x	+	o																	
3		WO																								
4	2	ST			Very Soft CLAY, grey (CH)		x			+	o															
5		WO																								
6	3	ST					x				+	o														
7	WO																									
8	4	ST		No Recovery	Very Soft CLAY, grey (CH)																					
9		WO																								
10	5	ST					x				+	o														
11	WO																									
12	6	ST			Soft CLAY, grey (CH)		x			o	+															
13		WO																								
14	7	ST					x				o	+														
15	WO																									
16	8	ST			Soft CLAY, grey (CH)		x			o	+															
17		WO																								
18	9	ST					x				o	+														
19	WO																									
20	9	ST			Medium Silty CLAY, grey (CL)		x	+	o																	
21		WO																								
22	10	ST					x	+	o																	
23	WO																									
24	10	ST			Medium Dense Clayey SAND, brown (SC)		x	+	o																	
25		WO																								
26	1	SS					Very Stiff to Hard Sandy CLAY, brown (CL)		x	+	o															
27	WO																									
28	2	SS			x	+			o																	
29	WO																									
30	3	SS			Very Stiff to Hard Sandy CLAY, brown (CL)		x	+	o																	
31		WO																								
32	4	SS					x	+	o																	
33	WO																									
34	4	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
35		WO																								
36	5	SS																								
37	WO																									
38	6	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
39		WO																								
40	7	SS		No Recovery																						
41	WO																									
42	8	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
43		WO																								
44	9	SS																								
45	WO																									
46	9	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
47		WO																								
48	10	SS																								
49	WO																									
50	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
51		WO																								
52	10	SS																								
53	WO																									
54	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
55		WO																								
56	10	SS																								
57	WO																									
58	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
59		WO																								
60	10	SS																								
61	WO																									
62	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
63		WO																								
64	10	SS																								
65	WO																									
66	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
67		WO																								
68	10	SS																								
69	WO																									
70	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
71		WO																								
72	10	SS																								
73	WO																									
74	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
75		WO																								
76	10	SS																								
77	WO																									
78	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
79		WO																								
80	10	SS																								
81	WO																									
82	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
83		WO																								
84	10	SS																								
85	WO																									
86	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
87		WO																								
88	10	SS																								
89	WO																									
90	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
91		WO																								
92	10	SS																								
93	WO																									
94	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
95		WO																								
96	10	SS																								
97	WO																									
98	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					
99		WO																								
100	10	SS																								
101	WO																									
102	10	SS			Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)																					



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LOG OF BORING

Project : ก่อสร้างถนน กาญจนาภิเษก-พุทธมณฑล สาย2 Boring No. BH - 2 Tested by N.Winit Page 2
 Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร Started 20 พฤศจิกายน 2561 Checked by W.Jakrabhan
 N 1,520,775 E 650,905 Finished 21 พฤศจิกายน 2561 GWL. -1.20 m

Depth (m)	Sample No.	Type Of Sample	Sample Distance	Recovery	Soil Description	Graphic Log	o Water Content (%) x Plastic Limit (%) + Liquid Limit (%)					◇ SPT - N (Blows/ft)			Soil Shear Strength o UCS □ FVT x PP △ TV (t/m ²)			Total Density (t/m ³) ▲		
							20	40	60	80	100	25	50	75	3	6	9	1.4	1.8	2.2
	10	SS			(Same as Above) Dense to Very Dense Poorly-graded Silty SAND, brown (SM), (SP-SM), (SP)								◇ 50/6"							
31		WO																		
32	11	SS												◇ 74						
33		WO																		
34	12	SS												85 ◇						
35		WO																		
36	13	SS		No Recovery										◇ 48						
37		WO																		
38	14	SS												◇ 52						
39		WO																		
40	15	SS											◇ 79							
41		WO																		
42	16	SS											◇ 50/6"							
43		WO																		
44	17	SS		No Recovery									◇ 50/3"							
45		WO																		
46	18	SS			Medium Dense Poorly-graded Silty SAND, brown (SP-SM)								◇ 12							
47		WO																		
48	19	SS			Dense to Very Dense Poorly-graded SAND, brown (SP)								◇ 50/5"							
49		WO																		
50	20	SS												◇ 50/3"						
51		WO																		
52	21	SS												◇ 41						
53		WO																		
54	22	SS												◇ 50/4"						
55		WO																		
56	23	SS												◇ 50/6"						
57		WO																		
58	24	SS			Hard Sandy CLAY, brown (CL)								◇ 50/6"							
59		WO																		
60	25	SS			Dense to Very Dense Poorly-graded SAND, brown (SP)								◇ 34							
61		WO																		
62	26	SS												◇ 50/5"						
63		WO																		
64	27	SS												◇ 50/4"						
65		WO																		
66	28	SS												◇ 50/6"						
67		WO																		
68	29	SS		No Recovery										◇ 50/5"						
69		WO																		
70	30	SS											◇ 50/3"							

END OF BORING (60.45) m

