



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 : 18 พฤศจิกายน 2561

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Boring : BH - 4 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				FILL MATERIAL												
ST-2	3.00	3.50	79.87	1.56	100.00	100.00	99.86	99.50	99.05	85.57	37.46	48.11	CH	1.71				
ST-3	4.50	5.00	78.16	1.58	100.00	100.00	99.76	99.65	99.32	83.95	36.11	47.84	CH	1.77				
ST-4	6.00	6.50	71.13	1.62	100.00	100.00	99.97	99.80	99.72	79.90	34.14	45.76	CH	2.17				
ST-5	7.50	8.00	72.05	1.63	100.00	100.00	99.84	99.69	99.34	66.40	31.33	35.07	CH	2.46				
ST-6	9.00	9.50	68.08	1.67	100.00	100.00	99.69	97.15	93.83	55.27	21.79	33.48	CH	3.53				
ST-7	10.50	11.00	39.07	1.78	100.00	100.00	89.12	63.92	41.10	37.15	23.63	13.52	SC	3.70				
ST-8	12.00	12.50				NO RECOVERY												
ST-9	13.50	14.00	55.64	1.71	100.00	100.00	99.88	91.46	83.17	45.75	27.63	18.12	CL	4.82				
ST-10	15.00	15.45	24.45	1.83	100.00	100.00	87.26	51.18	32.86	31.14	16.19	14.96	SC	5.91				
SS-1	16.50	16.95	20.67		100.00	100.00	99.87	89.33	77.47	28.36	15.24	13.12	CL				16	
SS-2	18.00	18.45	24.73		100.00	100.00	99.12	87.29	75.79	33.66	18.55	15.11	CL				23	
SS-3	19.50	19.95	23.62		100.00	100.00	99.30	87.92	75.19	28.30	14.40	13.90	CL				9	
SS-4	21.00	21.45	24.82		100.00	100.00	98.10	81.29	69.37	24.67	12.83	11.84	CL				11	
SS-5	22.50	22.95	30.22		100.00	100.00	98.02	75.39	62.67	26.13	13.90	12.23	CL				35	
SS-6	24.00	24.45				NO RECOVERY											41	
SS-7	25.50	25.95	25.28		100.00	98.19	92.31	9.02	1.82		NP		SP				15	
SS-8	27.00	27.45	19.99		100.00	99.82	90.35	11.69	2.50		NP		SP				88/4"	
SS-9	28.50	28.95	22.82		100.00	99.84	91.93	9.92	2.28		NP		SP				90/4"	
SS-10	30.00	30.45	21.39		100.00	98.35	70.83	11.91	3.13		NP		SP				91/5"	

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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SUMMARY OF TEST RESULT

Project : ก่อสร้างถนน กาญจนภิเษก-พุทธมณฑล สาย2

Date of Boring : 18 พฤศจิกายน 2561

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Boring : BH - 4 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	20.21		100.00	99.07	73.95	14.45	3.20		NP		SP				67	
SS-12	33.00	33.45	21.12		100.00	95.29	65.64	12.94	2.45		NP		SP				78/6"	
SS-13	34.50	34.95	17.38		100.00	96.63	66.91	20.84	4.98		NP		SP				78/6"	
SS-14	36.00	36.45	20.23		100.00	74.69	19.36	5.78	1.82		NP		SP				89/5"	
SS-15	37.50	37.95	18.94		100.00	99.84	65.24	10.63	2.28		NP		SP				88/5"	
SS-16	39.00	39.45	21.01		100.00	93.69	31.35	4.19	0.85		NP		SP				95/3"	
SS-17	40.50	40.95	18.98		100.00	99.83	40.10	10.14	2.32		NP		SP				50/3"	
SS-18	42.00	42.45	17.45		100.00	84.87	24.16	5.84	1.87		NP		SP				55	
SS-19	43.50	43.95	15.24		100.00	89.58	27.75	7.94	2.56		NP		SP				50	
SS-20	45.00	45.45	17.58		100.00	91.37	18.18	6.60	2.11		NP		SP				50	
SS-21	46.50	46.95	16.60		100.00	96.94	22.32	8.04	2.34		NP		SP				51	
SS-22	48.00	48.45				NO RECOVERY											65	
SS-23	49.50	49.95	19.75		100.00	99.81	75.29	21.18	7.49		NP		SP-SM				70	
SS-24	51.00	51.45	24.55		100.00	99.12	88.17	58.21	17.39		NP		SM				50/6"	
SS-25	52.50	52.95	26.93		100.00	99.80	83.55	35.71	9.11		NP		SP-SM				50/5"	
SS-26	54.00	54.45				NO RECOVERY					NP						50/6"	
SS-27	55.50	55.95	21.16		100.00	98.25	70.57	10.31	3.33		NP		SP				50/4"	
SS-28	57.00	57.45				NO RECOVERY											50/4"	
SS-29	58.50	58.95	20.59		100.00	91.06	68.10	10.61	2.83		NP		SP				50/6"	
SS-30	60.00	60.45	18.76		100.00	98.54	57.02	10.59	2.13		NP		SP				50/5"	

PHYSICAL PROPERTIES

Wn = Natural Water Content

γ = Bulk Unit Weight

ATTERBERG LIMITS

LL = Liquid Limit

PL = Plastic Limit

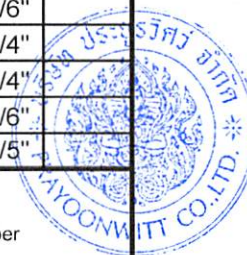
PI = Plasticity Index

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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LOG OF BORING

Project : ก่อสร้างถนน กาญจนนาภิเษก-พุทธมณฑล สาย2

Boring No. BH - 4

Tested by N.Winit

Page 1

Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร

Started 18 พฤศจิกายน 2561

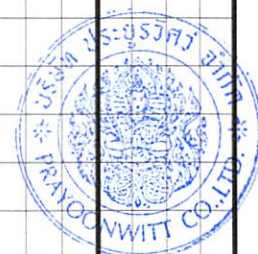
Checked by W.Jakrabhan

N 1,520,978 E 650,871

Finished 19 พฤศจิกายน 2561

GWL. -2.00 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					◇			o	□										
							x								x	PP	△	TV								
							+	Liquid Limit (%)							(t/m ²)											
							20	40	60	80	100	25	50	75	3	6	9	1.4	1.8	2.2						
1	1	WO			FILL MATERIAL																					
2		ST																								
3		WO																								
4	2	ST			Very Soft to Soft CLAY, grey (CH)			x		+							○				▲					
5		WO																								
6		ST																								
7	WO																									
8	ST																									
9	WO																									
10	3	ST			Very Soft to Soft CLAY, grey (CH)			x		+							○				▲					
11		WO																								
12		ST																								
13	WO																									
14	ST																									
15	WO																									
16	4	ST			Very Soft to Soft CLAY, grey (CH)			x		+							○				▲					
17		WO																								
18		ST																								
19	WO																									
20	ST																									
21	WO																									
22	5	ST			Very Soft to Soft CLAY, grey (CH)			x		+							○				▲					
23		WO																								
24		ST																								
25	WO																									
26	ST																									
27	WO																									
28	6	ST			Very Soft to Soft CLAY, grey (CH)			x		+							○				▲					
29		WO																								
30		ST																								
31	WO																									
32	ST																									
33	WO																									
34	7	ST			Loose Clayey SAND, grey (SC)			x		+							○				▲					
35		WO																								
36		ST																								
37	WO																									
38	ST																									
39	WO																									
40	8	ST			Loose Clayey SAND, grey (SC)			x		+							○				▲					
41		WO																								
42		ST																								
43	WO																									
44	ST																									
45	WO																									
46	9	ST			Loose Clayey SAND, grey (SC)			x		+							○				▲					
47		WO																								
48		ST																								
49	WO																									
50	ST																									
51	WO																									
52	10	ST			Soft Silty CLAY, grey (CL)			x		+							○				▲					
53		WO																								
54		ST																								
55	WO																									
56	ST																									
57	WO																									
58	11	ST			Medium Dense Clayey SAND, brown (SC)			x		+							○				▲					
59		WO																								
60		ST																								
61	WO																									
62	ST																									
63	WO																									
64	12	ST			Stiff to Hard Sandy CLAY, brown (CL)			x		+							○				▲					
65		WO																								
66		ST																								
67	WO																									
68	ST																									
69	WO																									
70	13	ST			Medium Dense Clayey SAND, brown (SC)			x		+							○				▲					
71		WO																								
72		ST																								
73	WO																									
74	ST																									
75	WO																									
76	14	ST			Stiff to Hard Sandy CLAY, brown (CL)			x		+							○				▲					
77		WO																								
78		ST																								
79	WO																									
80	ST																									
81	WO																									
82	15	ST			Medium Dense to Dense Poorly-graded SAND, brown (SP)			x		+							○				▲					
83		WO																								
84		ST																								
85	WO																									
86	ST																									
87	WO																									
88	16	ST			Very Dense Poorly-graded Silty SAND, brown (SP), (SP-SM), (SM)			○									◇									
89		WO																								
90		ST																								
91	WO																									
92	ST																									
93	WO																									
94	17	ST			Very Dense Poorly-graded Silty SAND, brown (SP), (SP-SM), (SM)			○									◇									
95		WO																								
96		ST																								
97	WO																									
98	ST																									
99	WO																									
100	18	ST			Very Dense Poorly-graded Silty SAND, brown (SP), (SP-SM), (SM)			○									◇									
101		WO																								
102		ST																								
103	WO																									
104	ST																									
105	WO																									
106	19	ST			Very Dense Poorly-graded Silty SAND, brown (SP), (SP-SM), (SM)			○									◇									
107		WO																								
108		ST																								
109	WO																									





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LOG OF BORING

Project : ก่อสร้างถนน กาญจนภิเษก-พุทธมณฑล สาย2 Boring No. BH - 4 Tested by N.Winit Page 2
 Location : พุทธมณฑล สาย2 เขตทวีวัฒนา กรุงเทพมหานคร Started 18 พฤศจิกายน 2561 Checked by W.Jakrabhan
 N 1,520,978 E 650,871 Finished 19 พฤศจิกายน 2561 GWL. -2.00 m

Depth (m)	Sample No.	Type Of Sample	Sample Distance	Recovery	Soil Description	Graphic Log	o Water Content (%)					◇ SPT - N			Soil Shear Strength			Total Density			
							x Plastic Limit (%)	(Blows/ft)					o UCS □ FVT			(t/m ²)			(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) Very Dense Poorly-graded Silty SAND, brown (SP), (SP-SM), (SM)		○							91/4"◇							
31		WO						○							◇ 67						
32	11	SS																			
33		WO																			
34	12	SS						○							78/6"◇						
35		WO																			
36	13	SS						○							78/6"◇						
37		WO																			
38	14	SS						○							89/5"◇						
39		WO																			
40	15	SS						○							88/5"◇						
41		WO																			
42	16	SS						○							95/3"◇						
43		WO																			
44	17	SS						○							◇ 50/3"						
45		WO																			
46	18	SS						○							◇ 55						
47		WO																			
48	19	SS						○							◇ 50						
49		WO																			
50	20	SS						○							◇ 50						
51		WO																			
52	21	SS					○							◇ 51							
53		WO																			
54	22	SS		No Recovery										◇ 65							
55		WO																			
56	23	SS					○							◇ 70							
57		WO																			
58	24	SS					○							◇ 50/6"							
59		WO																			
60	25	SS					○							◇ 50/5"							
		WO																			
	26	SS		No Recovery										◇ 50/6"							
		WO																			
	27	SS					○							◇ 50/4"							
		WO																			
	28	SS		No Recovery										◇ 50/4"							
		WO																			
	29	SS					○							◇ 50/6"							
		WO																			
	30	SS					○							◇ 50/5"							

END OF BORING (60.45) m

