

KTN-236

DRILLHOLE RECORD

JOB NO. LG21614
 HOLE NO. BH10
 SHEET 1 of 3
 DATE from 24/1/95 to 24/1/95

PROJECT Proposed Development at Kwu Tung South

METHOD Rotary	CO-ORDINATES	ROCK COREBIT T2
MACHINE & No.	E 828509.67 N 840339.42	HOLE DIA. P to H 140mm to 114mm
FLUSHING MEDIUM Water	ORIENTATION VERTICAL	GROUND-LEVEL 9.58m.P.D.

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R. Q. D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Zone	Description
24/1	P			70					Px		1.00	[Cross-hatch pattern]			Gray, fine angular to coarse GRAVEL and COBBLE of cement concrete and brick debris with much silty fine to coarse sand (FILL)
				67				(12) (44,56) N=19	1	+8.37	1.75	[Dotted pattern]			Medium dense, light brownish pink, silty fine to coarse SAND with some fine to coarse subangular gravel of quartz (ALLUVIUM)
									2		2.00				
									3		3.00				
								(24) (45,66) N=21			4.00				
											5.00				
								(6,10) (15,19,14,18) N=64			6.00				
				35						+3.32	6.80				White, angular medium to coarse GRAVEL of quartz with much silty fine to coarse sand (ALLUVIUM)
										+2.82	7.30				
											8.00				Very dense, light pinkish brown, slightly silty fine to coarse SAND with fine to medium angular subangular gravel of quartz (ALLUVIUM)
								(67) (15,21,34,47) N=125			9.00				White, angular fine to coarse GRAVEL of quartz with some silty fine to coarse sand (ALLUVIUM)
										+1.12	9.00				
											9.70				See sheet 2 of 3
										+0.42	9.70				
24/1	P										10.00				

- Small disturbed sample
- Large disturbed sample
- SPT liner sample
- U78 undisturbed sample
- U100 undisturbed sample
- Mazier sample
- P/S Plate sample
- Water sample
- Water level
- Standard penetration test
- Permeability test
- Piezometer tip
- Triaxial vane shear test

LOGGED Lau
 DATE 25/1/95
 CHECKED Lau
 DATE 9/2/95

REMARKS
 1. Installed a piezometer at 18.10m depth.

DRILLHOLE RECORD

JOB NO. LG21614
 HOLE NO. BH10
 SHEET 2 of 3
 DATE from 24/1/95 to 24/1/95

PROJECT Proposed Development at Kwu Tung South

METHOD <u>Rotary</u>	CO-ORDINATES E <u>828509.67</u> N <u>840339.42</u>	ROCK COREBIT <u>T2</u>
MACHINE & No.		HOLE DIA. <u>P to H</u> <u>140mm to 114mm</u>
FLUSHING MEDIUM <u>Water</u>	ORIENTATION <u>VERTICAL</u>	GROUND-LEVEL <u>9.58m.P.D.</u>

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R. Q. D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Zone	Description
24/1	H							(5,8) (10,16,20,31) N=77	5		11.00	V			Very dense, mottled brown, very silty fine to coarse SAND with some subangular and angular fine to coarse gravel of quartz (ALLUVIUM)
							(6,8) (11,14,30,17) N=107	6		12.00					
				47						-3.18	13.30				White, angular and subangular fine to coarse GRAVEL of quartz with much silty fine to coarse sand (ALLUVIUM)
										-4.08	14.20				
								(4,7) (12,13,20,30) N=75	7		15.00				Extremely weak, light yellowish brown becoming mottled grey, completely decomposed fine TUFF (Very silty fine SAND)
								(6,9) (15,19,25,36) N=95	8		16.00				
	17.00 H										17.00				Strong, dark grey, slightly decomposed fine to medium TUFF with widely spaced rough undulating clean joints, dipping at 10°-20°
											18.10				
								200bls 0.10m	9		-7.98				
				100	100	100	0				19.00				
											19.60				
24/1				100	100	100	0.6				-9.58				

<ul style="list-style-type: none"> ▲ Small disturbed sample ▲ Large disturbed sample ▬ SPT liner sample ▬ U76 undisturbed sample ▬ U100 undisturbed sample ▬ Maxler sample ▬ P/S Piston sample 	<ul style="list-style-type: none"> ▲ Water sample ○ Water level ↓ Standard penetration test ⊥ Permeability test ⊙ Piezometer tip ✓ In-situ vane shear test 	LOGGED <u>Lau</u> DATE <u>25/1/95</u> CHECKED <u>Lau</u> DATE <u>9/2/95</u>	REMARKS
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KTN - 35a.6



DRILLHOLE RECORD

HOLE NO. **TS1150/DH/008**

CONTRACT NO. KCRC TS1150 WEST RAIL

SHEET **1** of **2**

PROJECT **KCRC West Rail - TS1150 Intermodal Freight / Freight Management System, Northern Freight Yard**

METHOD	IP + WB + RC	CO-ORDINATES	W.O. NO.	W581	
MACHINE & No.	D2G-17	E 828480.29 N 841189.88	DATE	12/04/97 to 14/04/97	
FLUSHING MEDIUM	WATER	ORIENTATION	Vertical	GROUND LEVEL	11.30 mPD

Drilling Progress	Casing size	Water level (m) Shift start/end	TCH%	SCR%	RQD%	FI	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
12/04/97	SX	07:30											Very soft, yellowish brown, sandy silty CLAY with occasional, angular to subangular, fine gravel. (COLLUVIUM)
1							(1, 0, 1, 0, 1, 1) N=3	1	9.80	1.00			
2			100					2		1.45			Light, reddish yellow, slightly gravelly sandy SILT / CLAY. (COLLUVIUM)
3	SX PX								7.80	3.50			
4							(2, 2, 4, 12, 6, 7) N=29	3		3.95			Medium dense, light grey, subangular to subrounded, fine to coarse sandy GRAVEL. (COLLUVIUM)
5			0					4		4.00			
6							(4, 6, 7, 9, 10, 12) N=36	5	5.30	6.00			Very stiff, yellow, sandy silty CLAY with some, subangular to subrounded, fine gravel. (COLLUVIUM)
7			100					6	4.80	6.45		V	Extremely weak, reddish yellow, streaked white foliated, completely decomposed, fine to coarse ash SCHISTOSE TUFF. (Stiff, slightly sandy SILT / CLAY with some, angular to subangular, fine gravel sized quartz fragments)
8										6.50			
9		19:30					(8, 6, 4, 4, 3, 6) N=17	7		7.40			
10		07:30	100					8		8.50			
14/04/97		1.80								8.95			
		07:30								9.00			
										9.90			

<ul style="list-style-type: none"> SMALL DISTURBED SAMPLE PISTON SAMPLE U78 UNOBTAINED SAMPLE U100 UNOBTAINED SAMPLE MAZIER SAMPLE SPT LINER SAMPLE WATER SAMPLE 	<ul style="list-style-type: none"> STANDARD PENETRATION TEST IN SITU VANE SHEAR TEST PERMEABILITY TEST IMPRESSION PACKER TEST PACKER TEST PIEZOMETER TIP OBSERVATION WELL TIP
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LOGGED KEI

DATE 16/04/97

CHECKED C. LUN

DATE 18/04/97

REMARKS

KCRC



DRILLHOLE RECORD

CONTRACT NO. KCRC TS1150 WEST RAIL

HOLE NO. TS1150/DH/008

SHEET 2 of 2

PROJECT KCRC West Rail - TS1150 Intermodal Freight / Freight Management System, Northern Freight Yard

METHOD	IP + WB + RC	CO-ORDINATES	E 828480.29 N 841189.86	W.O. NO.	W581
MACHINE & No.	D2G-17	DATE	12/04/97 to 14/04/97	GROUND LEVEL	11.30 mPD
FLUSHING MEDIUM	WATER	ORIENTATION	Vertical		

Drilling Progress	Casing size	Water level (m) Shift start/end	TCR%	SCR%	ROD%	FI	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
11							(5, 5, 6, 8, 9, 11) N=34	9	0.30	11.00			As sheet 1 of 2
12	PX HX		83					10	-0.70	11.45 11.50 11.90 12.00			Very stiff, dark brown and yellowish brown, sandy silty CLAY with some angular to subangular, fine and medium gravel sized quartz and tuff fragments. (FAULT BRECCIA)
13	HX	19:30	48				(2, 6, 5, 7, 9, 14) N=35	11	-1.70	13.00			Brown and light grey, occasionally red, subangular to subrounded, fine to coarse GRAVEL sized quartz fragments with some, fine to coarse sand. (FAULT BRECCIA)
14								11	-2.15	13.45			Very stiff, brown, slightly sandy slightly clayey SILT with occasional angular to subangular, fine gravel sized quartz fragments. (FAULT BRECCIA)
													End of drillhole at 13.45m.

JCRIC

- SMALL DISTURBED SAMPLE
- ▨ PISTON SAMPLE
- ▩ U75 UNDISTURBED SAMPLE
- ▧ U100 UNDISTURBED SAMPLE
- ▦ MAZIER SAMPLE
- ▤ SPT LIENER SAMPLE
- △ WATER SAMPLE
- ↓ STANDARD PENETRATION TEST
- ∇ IN SITU VANE SHEAR TEST
- PERMEABILITY TEST
- ⊕ IMPRESSION PACKER TEST
- ⊖ PACKER TEST
- ⊗ PIEZOMETER TIP
- ⊘ OBSERVATION WELL TIP

LOGGED KEI

DATE 18/04/97

CHECKED C. LUN

DATE 18/04/97

REMARKS

JCRIC

KTN-65

CONTRACTOR'S NAME am Construction Co., Ltd.		DRILLHOLE RECORD		WORKS ORDER OR JOB NUMBER <u>07/013.9 (42)</u> PIPELINE BETWEEN SITE NAME <u>TUNNEL PORTALS 2.2.7</u>	
				HOLE NUMBER <u>BHE 27 3</u>	

TYPE <u>LONG YEAR</u>	COORDINATES E <u>21209.6</u>	DATE FROM <u>24.1.01</u> TO <u>24.2.0</u>
NUMBER <u>048</u>	N <u>01433.9</u>	SHEET <u>1</u> OF <u>1</u>
BATOR <u>MR. R. H. CHAMBERS</u>	HOLE DIAMETER	GROUND LEVEL <u>18.00 M.P.D</u>
METHOD <u>ROTARY</u>	CASING DIAMETER <u>4X</u>	ORIENTATION <u>VERTICAL</u>

Water Level	Water % recovery	Care % recovery	R.O.D. % Fracture Index	Tests	Samples	Depth metres	Reduced Level	Legend	Description
						0		X X	
						1		X X	
						2		X X	LOOSE, DARK GREY BROWN SILT CLEAN MEDIUM SAND (FILL)
				↓ No 6 2.7 1.2.1.2	100	3	3.50 19.50	X	
					2	4		X X	YELLOW, LIGHT GREY SILT FINE SAND (ALLUVIUM)
						5	13.00	X	STIFF, PALE YELLOW & LIGHT CLAY CLAY WITH FINE TO COARSE SAND (ALLUVIUM)
				↓ No 15 2.7 3.7.7.5	60	6	12.00	1/2	PALE YELLOW, SLIGHTLY CLAY WITH FINE TO COARSE SAND
					4	7	6.60 11.80	1/2 1/2	& WITH QUARTZ GRAVELS (ALLUVIUM)
						8	7.40 10.60		WHITE GRAVEL SIZED FRAGMENT OF QUARTZ DYKE
2.40 2.7 18.00				5.7 7.8.7.7 ↓ No 33		5	8.50 9.50		DENSE, GREY, SILT (C.O.M.R.)
						9			OPERATION STOPPED AT 8.50 M.
						10			

small disturbed sample Large disturbed sample Undisturbed sample (102 mm) Water sample Field permeability test Moisture content (%)	I Liner sample (40 mm) ∇ Water table ↓ Standard penetration test V Vane shear test	REMARKS C.O.M.R. COMPLETELY DECOMPOSED METAMORPHIC ROCK	FIELD INSTALLATIONS
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KTN-77, 78



DRILLHOLE RECORD

HOLE NO. **TS1150/DH/005**

CONTRACT NO. **KCRC TS1150 WEST RAIL**

SHEET **1** of **2**

PROJECT **KCRC West Rail - TS1150 Intermodal Freight / Freight Management System, Northern Freight Yard**

METHOD **IP+WB+RC** CO-ORDINATES **E 927999.14** W.O. NO. **W581**

MACHINE & No. **CMC-33** N **840957.17** DATE **11/04/97** to **12/04/97**

FLUSHING MEDIUM **WATER** ORIENTATION **Vertical** GROUND LEVEL **18.59** mPD

Drilling Progress	Casing size	Water level (m) Shift start/end	TCR%	SCR%	RQD%	FI	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
11/04/97	SX	07:30					(1, 2, 1, 3, 3, 4) N=11	1	17.09	1.00			Medium dense, brown, spotted black and red, fine to coarse SAND with much, angular to subangular, fine gravel and occasional rootlets. (COLLUVIUM)
2	SX PX		90					2		1.45		V	Extremely weak, brown, streaked and dappled reddish brown, foliated completely decomposed, fine to coarse ash SCHISTOSE TUFF. (Firm, slightly gravelly sandy silty CLAY)
3										2.40			
4							(2, 2, 3, 2, 3, 4) N=12	3		2.50			
5			100					4		3.50			
6										3.95			4.00-5.00m: orangish brown, slightly gravelly sandy SILT / CLAY
7	PX HX	19:30 07:30	70	0	0	>20	(2, 2, 3, 17, 30, 160) N=110	5	12.59	5.00		IV/V	Extremely weak, brownish red, mottled and dappled light grey, foliated, completely to highly decomposed, fine to coarse ash SCHISTOSE TUFF. (Very dense, angular coarse GRAVEL sized rock fragments)
8			100	82	82			T2-101	12.19	5.45		IV/III	Moderately weak to moderately strong, red and yellowish brown, mottled and dappled white, foliated, highly to moderately decomposed, fine to coarse ash SCHISTOSE TUFF with extremely closely to closely spaced, smooth to rough planar, narrow, limonite stained joints, dipping 0°-5°, 25°-30°. (CORESTONE)
9			73	53	28			T2-101	11.71	5.50		III	
10			30	0	0			T2-101	9.49	5.88		IV/III	
								T2-101	8.59	7.86			9.10-10.00m with quartz dyke.

- SHALL DISTURBED SAMPLE
- PISTON SAMPLE
- U78 UNDISTURBED SAMPLE
- U100 UNDISTURBED SAMPLE
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- STANDARD PENETRATION TEST
- IN SITU VANE SHEAR TEST
- PERMEABILITY TEST
- IMPRESSION PACKER TEST
- PACKER TEST
- PIEZOMETER TIP
- OBSERVATION WELL TIP

LOGGED **KEI**

DATE **18/04/97**

CHECKED **C. LUN**

DATE **20/04/97**

REMARKS

JCRK



DRILLHOLE RECORD

CONTRACT NO. KCRC TS1150 WEST RAIL

HOLE NO. **TS1150/DH/005**

SHEET **2** of **2**

PROJECT **KCRC West Rail - TS1150 Intermodal Freight / Freight Management System, Northern Freight Yard**

METHOD	IP+WB+RC	CO-ORDINATES	E 827999.14 N 840957.17	W.O. NO.	W681
MACHINE & No.	CMC-33	ORIENTATION	Vertical	DATE	11/04/97 to 12/04/97
FLUSHING MEDIUM	WATER	GROUND LEVEL	18.69		mPD

Drilling Progress	Casing size	Water level (m) Shift start/end	TCR%	SCR%	RDD%	FI	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
11			100				(15, 7, 16, 19, 27, 37) N=99	8	7.59	10.60 10.96 11.00		V	Extremely weak, reddish brown to brown and light yellow, streaked white, foliated, completely decomposed, fine to coarse ash SCHISTOSE TUFF. (Very stiff, slightly sandy slightly clayey SILT with much, angular fine gravel sized quartz fragments)
12			100					7	8.69	11.90			11.00-12.00m: light yellowish brown, slightly sandy SILT / CLAY
13							(17, 15, 19, 19, 24, 40) N=102	8		13.00 13.45 13.60			
14			100					9		14.40			
15										15.50			
16			30				(16, 14, 17, 18, 24, 38) N=98	10		16.95 16.00			16.00-17.00m with quartz dyke.
17	HX	19:30						11		16.90 17.00			End of drillhole at 17.00m.

↓ SMALL DISTURBED SAMPLE
 ↓ PISTON SAMPLE
 ↓ U78 UNDISTURBED SAMPLE
 ↓ U100 UNDISTURBED SAMPLE
 ↓ MAZIER SAMPLE
 ↓ SPT LINER SAMPLE
 ↓ WATER SAMPLE

↓ STANDARD PENETRATION TEST
 ↓ IN SITU VANE SHEAR TEST
 ↓ PERMEABILITY TEST
 ↓ IMPRESSION PACKER TEST
 ↓ PACKER TEST
 ↓ PIEZOMETER TP
 ↓ OBSERVATION WELL TP

LOGGED KEI
 DATE 18/04/97
 CHECKED C. LUN
 DATE 20/04/97

REMARKS

JCRIC

FLN-9a

DRILLHOLE RECORD

W.O. NO. PW7/2/22.65
 HOLE NO. B/BH3
 SHEET 1 of 3
 DATE from 3.8.88 to 6.8.88

CONTRACT NO. GC/87/05

PROJECT River Indus Study, Area B, Phase 3

METHOD	Rotary	CO-ORDINATES	ROCK COREBIT	T2	
MACHINE & NO.	Long Year 033	E 832033 N 840928	HOLE DIA.	140m to 114m P to H	
FLUSHING MEDIUM	Water	ORIENTATION	Vertical	GROUND LEVEL	9.16 mPD.

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.O.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m.)	Legend	Grade	Zone	Description
3/8	P		75								0.00	x x x x			Brown, silty SAND with gravel (FILL)
								(LL 1,2,2) N=7		8.16	1.00	x x x x			
				100							2.00	x x x x			Medium dense, light yellowish brown, very silty fine to coarse SAND (ALLUVIUM)
3/8		0.38m at 19:00						(1,2 2,3,4,5) N=14			3.00	x x x x			
4/8		1.88m at 7:00								4.16	4.00	x x x x			
				95							5.00	x x x x			Medium dense, light yellowish brown becoming light grey, slightly silty fine to coarse SAND (ALLUVIUM)
								(4,5 3,4,4,6) N=17			6.00	x x x x			
											7.00	x x x x			
				64	0	0	*			0.62	8.00	x x x x			
										0.16	8.54	x x x x			Subrounded COBBLES, GRAVEL of quartz with silty sand (ALLUVIUM)
								(4,3 2,4,4,5) N=16			9.00	x x x x			Medium dense, light yellowish brown, very silty fine to coarse SAND (ALLUVIUM)
4/8	P		75								10.00	x x x x			

<ul style="list-style-type: none"> Small disturbed sample Large disturbed sample SPT liner sample U76 undisturbed sample U100 undisturbed sample Master sample P/S Piston sample 	<ul style="list-style-type: none"> Water sample Water level Standard penetration test Permeability test Piezometer tip In-situ vane shear test 	LOGGED <u>W. H. Lau</u> DATE <u>8.8.88</u> CHECKED <u>S. P. Su</u> DATE <u>8.8.88</u>	REMARKS 1. * Cannot be determined 2. Excavated an inspection pit from 0.00m to 1.50m
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Lam Geotechnics Limited

Office: 2/F., 332 Lockhart Rd., Kai Kwong Comm. Bldg., Hong Kong. Laboratory: G/F., 218 Wan Chai Rd., Hong Kong.
 Telex: 61840 LGEOH HX Fax: 5-8932274 Tels: 5-8910563, 5-734365

DRILLHOLE RECORD

W.O. NO. PW7/2/22.65
 HOLE NO. B/BH3
 SHEET 2 of 3
 DATE from 3.8.88 to 6.8.88

CONTRACT NO. GC/87/05

PROJECT River Indus Study, Area B, Phase 3

METHOD <u>Rotary</u>	CO-ORDINATES E <u>832033</u> N <u>840928</u>	ROCK COREBIT <u>T2</u>
MACHINE & NO. <u>Long Year D33</u>		HOLE DIA. <u>140m to 114m</u> P to H
FLUSHING MEDIUM <u>Water</u>	ORIENTATION <u>Vertical</u>	GROUND LEVEL <u>9.16 mPD</u>

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.O.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m.)	Legend	Grade	Zone	Description
4/8	P		75							-1.14	10.00	x			See sheet 1 of 3
	1.50m P H										11.00	x			
4/8		2.60m at 19:00		100							12.00	x			
5/8		3.81m at 7:00									13.00	x			
											14.00	x			
											15.00	x			
											16.00	x			
											17.00	x			
				100							18.00	x			
											19.00	x			
5/8	H		75								20.00	x			

(5.3, 5.12, 12.15)
H=H.

Dense, light grey, brownish grey, very silty fine to coarse SAND
(Completely decomposed VOLCANIC)

<ul style="list-style-type: none"> • Small disturbed sample ▲ Large disturbed sample ▨ SPT liner sample ▩ U76 undisturbed sample ■ U100 undisturbed sample ▣ Mudar sample P/S Piston sample 	<ul style="list-style-type: none"> ▲ Water sample ⊕ Water level ⊥ Standard penetration test ⊥ Permeability test ⊥ Piezometer tip ∨ In-situ vane shear test 	LOGGED <u>W. H. Lau</u> DATE <u>8.8.88</u> CHECKED <u>S. P. Su</u> DATE <u>6.8.88</u>	REMARKS 3. Installed a piezometer at depth 19.50m with sand pocket from 18.70m to 20.00m
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Lam Geotechnics Limited

• Office: 2/F., 332 Lockhart Rd., Kai Kwong Comm. Bldg., Hong Kong. • Laboratory: G/F., 218 Wan Chai Rd., Hong Kong.
 • Telex: 61840 LGEOL HX • Fax: 5-8932274 • Tels: 5-8910563, 5-734365

DRILLHOLE RECORD

CONTRACT NO. GC/87/05

W.O. NO. PW7/2/22.65

HOLE NO. B/BH3

SHEET 3 of 3

DATE from 3.8.88 to 6.8.88

PROJECT River Indus Study, Area B, Phase 3

METHOD Rotary

CO-ORDINATES

ROCK COREBIT T2

MACHINE & NO. Long Year 033

E 832033

HOLE DIA. 140m to 114m
P to H

N 840928

FLUSHING MEDIUM Water

ORIENTATION Vertical

GROUND LEVEL 9.16 mPD

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.O.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m.)	Legend	Grade	Zone	Description	
5/8	20.50m H		80					(7, 9, 15, 19, 20, 30) N-84		-11.34	20.00 20.50	x x x x	V		See sheet 1 of 2	
				100	83	75	2				21.00	✓			Moderately strong, grey, fine to medium grained, moderately to slightly decomposed metamorphosed VOLCANIC, closely to medium spaced joints with limonite stains, dip 10°-15°, 25°-30°, occasional 60°-70° weakly foliated dip 45°	
				98	76	54	5				21.70 22.00	✓ ✓				
				100	100	60	4				22.90 23.15	✓ ✓				
				100	91	91	3		T2		24.00 24.25	✓ ✓	II			
5/8 6/8	4.30m at 19:00 4.41m at 7:00			100	82	38	5				25.00 25.35	✓ ✓				
				100	100	43	5				26.00 26.35	✓ ✓				
6/8			80							-17.19	26.35	✓				End of investigation hole at 26.35m
											27.00 28.00 29.00 30.00					

- Small disturbed sample
- Large disturbed sample
- SPT liner sample
- U76 undisturbed sample
- U100 undisturbed sample
- Moflar sample
- P/S Piston sample
- Water sample
- Water level
- Standard penetration test
- Permeability test
- Piezometer tip
- In-situ vane shear test

LOGGED W. H. Lau
DATE 8.8.88
CHECKED S. P. Su
DATE 6.8.88

REMARKS

Lam Geotechnics Limited

• Office: 2/F., 332 Lockhart Rd., Kai Kwong Comm. Bldg., Hong Kong. • Laboratory: G/F., 218 Wan Chai Rd., Hong Kong.
• Telex: 61840 LGEOL HX • Fax: 5-8932274 • Telex: 5-8910563, 5-734365

PC-21a



DRILLHOLE RECORD

CONTRACT NO. GE/2003/19

HOLE NO. **B14**

SHEET 1 of 2

PROJECT Agreement No. CE6/2002(DS), Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Ta Kwu Lang), Ground Investigation

METHOD ROTARY

CO-ORDINATES
E 833739.40
N 843333.71

WORKS ORDER NO. GE/2003/19.27

MACHINE SD-2

DATE 21.01.2005 to 24.01.2005

FLUSHING MEDIUM WATER

ORIENTATION VERTICAL

GROUND LEVEL +8.82 mPD

Drilling Progress	Casing Size	Water Level (m) Shift Start/End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
21.01.2005	PW									+8.82	0.00			Stiff, light yellowish brown (2.5Y6/4), sandy clayey SILT. (FILL)
1									1 0.45					
									2 0.95	+7.82	1.00			Soft, light yellowish brown (2.5Y6/2), clayey sandy SILT. (ALLUVIUM)
2									3 1.45					
									4 2.00	+8.82	2.00			Medium dense, pale yellow (2.5Y7/4), clayey silty SAND with much subangular gravel of quartz. (ALLUVIUM)
		0.50 at 1800		100				B=46	5 2.45	+8.32	2.50			
		1.90 at 0800						B=121	6 2.95					Very dense to loose, light grey (2.5Y7/1), slightly clayey, slightly silty SAND with some subangular gravel of quartz. (ALLUVIUM)
21.01.2005								1.2 2.3 2.3 N=10	7 3.00					
22.01.2005									8 3.40					
4									9 4.00	+8.82	4.00			Soft to firm, white (2.5Y8/1), sandy clayey SILT with some, locally much subangular gravel of quartz. (ALLUVIUM)
									10 4.40					
									11 4.45					
									12 4.90					
								1.5 5.6 8.10 N=32	13 5.00					
									14 5.40					
5									15 6.00	+2.82	6.00		V	Extremely weak, locally weak, yellow (2.5Y7/6) to light yellowish brown (2.5Y6/4), completely decomposed coarse ash crystal TUFF with quartz vein. (Sandy to slightly sandy, clayey SILT with some angular to subangular gravel of quartz)
		1.50 at 1800		100					16 6.45					
		2.00 at 0800						4.27 35.35, 50.00mm 1006µ/190mm	17 6.50					
22.01.2005									18 6.79					
24.01.2005									19 7.50					
7									20 7.95					
									21 8.00					
									22 8.23					
8									23 9.00					
								18.24 53.47/50mm 1006µ/125mm						
9														
10										-1.18	10.00			

- ↓ SMALL DISTURBED SAMPLE
- ↑ LARGE DISTURBED SAMPLE
- ▣ U76 SAMPLE
- ▣ U100 SAMPLE
- ▣ PISTON SAMPLE (76mm)
- ▣ MAZIER / PT SAMPLE
- ▣ SPT LINER SAMPLE
- ▲ WATER SAMPLE

- ↓ STANDARD PENETRATION TEST
- ▽ IN-SITU VANE SHEAR TEST
- ▣ IMPRESSION PACKER TEST
- ▣ PERMEABILITY TEST
- ▣ PRESSUREMETER TEST
- ▣ PIEZOMETER TIP
- ▣ STANDPIPE TIP

LOGGED L. Zhang
DATE 26.01.2005
CHECKED C. Lun
DATE 28.01.2005

REMARKS
1. An inspection pit was excavated to 1.50m deep by hand tools.
2. One piezometer was installed with tip at 12.50m.
3. 5 nos. of piezometer Halcrow Buckets were installed from 0.50m to 2.50m with 0.50m intervals.



DRILLHOLE RECORD

CONTRACT NO. GE/2003/19

HOLE NO. **B14**

SHEET 2 of 2

PROJECT Agreement No. CE6/2002(DS), Drainage Improvement in Northern NT - Package C Investigation, Design and Construction (Ta Kwu Lang), Ground Investigation

METHOD ROTARY

CO-ORDINATES
E 833739.40
N 843333.71

WORKS ORDER NO. GE/2003/19.27

MACHINE SD-2

DATE 21.01.2005 to 24.01.2005

FLUSHING MEDIUM WATER

ORIENTATION VERTICAL

GROUND LEVEL +8.82 MPD

Drilling Progress	Casing Size	Water Level (m) Shift Start/End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
11	HW		65	100				150/35mm 100/25mm 100bla/35mm	24 25 26 27 28	10.90 10.94 11.00 12.00 12.12			IV	Very weak to weak, locally extremely weak, light yellowish brown (10YR6/4), highly, locally completely decomposed coarse ash crystal TUFF. (Sandy subangular GRAVEL with occasional cobbles, locally slightly sandy, clayey silt)
12								150/45mm 100/25mm 100bla/25mm						
13	HW		70	100	45	45	>20		T2-101	13.00	13.00		III	Moderately strong, light yellowish brown to light greenish grey, moderately decomposed coarse ash crystal TUFF. Joints are closely to medium, locally very closely spaced, rough planar, iron oxide stained, dipping at 5° to 15° and 15° to 25°, occasionally 55° to 65°.
14			70	100	100	84	8.7		T2-101	13.51 13.54	13.51			
15		1.60 at 1800								-8.52	15.34			End of hole at 15.34 m.

- ↑ SMALL DISTURBED SAMPLE
- ↓ LARGE DISTURBED SAMPLE
- U78 SAMPLE
- U100 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER / PT SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- ↓ STANDARD PENETRATION TEST
- ✓ IN-SITU VANE SHEAR TEST
- IMPRESSON PACKER TEST
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- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED L. Zhang
DATE 26.01.2005
CHECKED C. Lun
DATE 28.01.2005

REMARKS