



CONTRACT NO. GE/2014/07
GROUND INVESTIGATION - NEW TERRITORIES WEST
(TERM CONTRACT)

Works Order No. GE/2014/07.34A
Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor in
Yuen Long Town connecting with Long Ping Station -
Investigation, Design and Construction
Ground Investigation (Stage 2)

FINAL FIELD WORK REPORT

Checked in accordance with
Contract No. GE/2014/07
requirements and accepted.

Signed _____ Date _____

Certified as Checked by

Raymond Chu
Geotechnical Engineer

Certified as Completed by

Alex Chu
Contractor's Representative

CONTRACTOR

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April 2016



DrilTech Ground Engineering Ltd.

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CONTRACT DATA SUMMARY

Project Name & No. <i>Ground Investigation - New Territories West (Term Contract)</i>	Site Name <i>Works Order No.: GE/2014/07.34A</i>	Date: 23/Nov/15 to 26/Apr/16
	Agreement No. CE 32/2014 (HY) <i>Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction Ground Investigation (Stage 2)</i>	Official Only G.E.O. Data Bank No.
G.I. Contractor <i>DrilTech Ground Engineering Limited</i>	Client <i>Geotechnical Engineering Office</i> <i>Civil Engineering and Development Department</i>	
Contract No. <i>GE/2014/07</i>	Consulting Engineer <i>Ove Arup & Partners Hong Kong Limited</i>	File Ref.

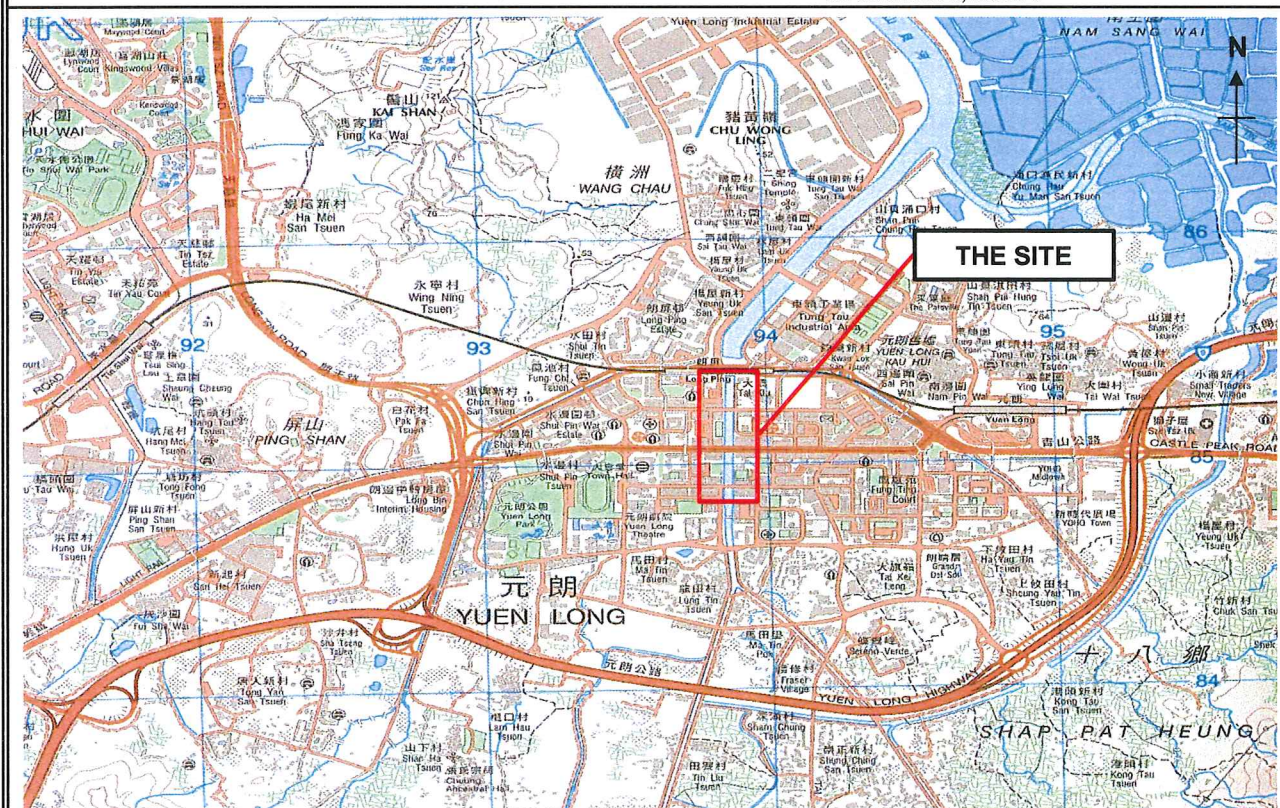
FIELD WORK SUMMARY


Drillhole:	No. 12	Method:	Rotary Cored	Date:	30/Dec/15 to 09/Mar/16
Trial Pit:	No. Nil	Inspection Pit:	No. Nil		
Corehole:	No. Nil	Stripping:	No. Nil	Probe:	No. Nil
Piezometer:	No. Nil	Standpipe:	No. Nil	Piezometer Bucket:	No. Nil
Insitu Test:	No. 341	Type:	Standard Penetration Test (329) and Constant Head Permeability Test (12)		
Geophysics:	No. 3	Type:	Acoustic Borehole Televiwer Survey (3)		

LABORATORY TESTING SUMMARY

No. of each type of test:		Date: - to -			
SOIL	Physical Properties	LL -	PL -	PSD -	MC -
	Strength Tests	SG	NOT APPLICABLE		DD -
	Compaction & CBR Tests	CUS			UU - Shear Box -
	Oedometer & Perm. Tests	Stan			Proctor - CBR -
	Others	Cv -	k -		
ROCK		Pt Load -	UC -	Shear Box -	US Vel. -

LOCATION PLAN	Scale	N.T.S.	Derived from:	Survey & Mapping Office, Lands Department Series HM20C, Sheet 6
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	G. I.	Laboratory	Geotechnical Engineering Office
Contractor	DrilTech Ground Engineering Ltd.	---	 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
Works Order No.:	GE/2014/07.34A	---	



Contract No. GE/2014/07
Ground Investigation – New Territories West (Term Contract)

PContract No. GE/2014/07
GROUND INVESTIGATION – NEW TERRITORIES WEST (TERM CONTRACT)

Works Order No. GE/2014/07.34A

Agreement No. CE 32/2014 (HY)

Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station -
Investigation, Design and Construction
Ground Investigation (Stage 2)

FINAL FIELD WORK REPORT

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Drawing No. - D626/07.34A/GI/D001

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(Travel Time and Amplitude, Joints Interpretation and
Stereographic Plots Records)
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1 Introduction

On 30th April 2014, DRiLTECH Ground Engineering Limited was awarded a Term Contract from the Geotechnical Engineering Office, Civil Engineering and Development Department of the Government of Hong Kong Special Administrative Region to carry out ground investigation works at any location in Western New Territories, including all islands to the West of a line joining Lo Wu and Chai Wan Kok (including Lamma and Tsing Yi), and may cover other areas in the territory of Hong Kong including outlying islands as assigned by the Engineer.

This report presents the results of ground investigation works for Agreement No. CE32/2014(HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2), under Works Order No. GE/2014/07.34A. The fieldwork was carried out in the period between 30th December 2015 and 9th March 2016 under the supervision of Ove Arup & Partners Hong Kong Limited.

2 Site Location

The exact location of the site is at Yuen Long Nullah near Long Ping Station, Yuen Long, New Territories. The investigation stations are bounded within the following co-ordinates:

- 820 702E, 834 164N
- 820 731E, 834 164N
- 820 731E, 833 707N
- 820 702E, 833 707N

The locations of the investigation stations are shown in Ground Investigation Plan with drawing no. D626/07.34A/GI/D001 and the coordinates and levels of all completed investigation stations are shown in the survey record of Table 1.

3 Geology

According to the 1:20,000 scale, Sheet 6 of HGM20 Series Solid and Superficial Geology Map published by the Geotechnical Control Office and the two memoirs: The Pre-Quaternary Geology of Hong Kong and The Quaternary Geology of Hong Kong published by the Geotechnical Engineering Office, the site may be underlain by two types of bedrocks, namely white to dark grey or black calcite and dolomite marble (Yuen Long Formation, San Tin Group) of Carboniferous, Palaeozoic; and metamorphosed sandstone and carbonaceous siltstone with graphitic interbeds and conglomerate (Lok Ma Chau Formation, San Tin Group) of Carboniferous, Palaeozoic.

The findings of the ground investigation are generally in accordance with the geological map and memoirs. The results of investigation reveal that the site is composed of Superficial Deposits (Fill, Pond Deposit, Alluvium and Debris flow Deposits), Soil derived from Insitu Rock Weathering (Residual Soil and Completely decomposed and Highly decomposed Siltstone) and the bedrock of Marble.

Superficial Deposits

Fill layer is encountered in all drillholes except S2-DH01 with thickness ranged from 0.50m to 6.40m, which mainly comprised of silty sandy clay, clayey silty fine to coarse sand and clayey silty sandy fine to coarse gravel of rock fragments.

Pond Deposit layer is encountered only in drillhole S2-DH01 with thickness of 1.80m, which mainly comprised of slightly sandy silty clay.

Alluvium layer is encountered in all drillholes with thickness ranged from 6.00m to 23.20m, which mainly comprised of silty sandy clay, clayey silty fine to coarse sand and clayey silty sandy fine to coarse gravel of rock fragments.

Debris Flow Deposits layer is encountered only in drillhole S2-DH06 with thickness of 33.10m, which mainly comprised of slightly sandy silty clay, slightly sandy clayey silt, slightly clayey silty sandy fine to coarse gravel of rock fragments.

3 Geology (Cont'd)

Soil derived from Insitu Rock Weathering

Completely decomposed and Highly decomposed Siltstone interbedded with Karst Deposits / Cavity-fill Deposits layer is encountered in all drillholes with thickness ranged from 15.95m to the minimum of 111.78m, which mainly comprised of silty sandy clay, clayey sandy silt, slightly clayey silty fine to coarse sand, clayey silty sandy fine to coarse gravel of highly decomposed rock fragments and locally with corestones of moderately decomposed and slightly decomposed marble / siltstone.

Bedrock

The rock type encountered in the investigation is Marble. Bedrock was found in all drillholes except S2-DH05, S2-DH07 and S2-DH12 with reduced levels ranged from -38.53mPD to -112.40mPD.

Detailed descriptions of each stratum were given in the logs presented in Appendix C.

The depth and thickness of each stratum encountered during drilling were given in Table 2.

4 Fieldwork

Fieldworks included sampling and field testing in twelve (12) drillholes (S2-DH01, S2-DH02, S2-DH04, S2-DH05, S2-DH06, S2-DH07, S2-DH08, S2-DH09, S2-DH10, S2-DH12, S2-DH17 and S2-DH18) with associated in-situ testing were carried out at locations shown in the Ground Investigation Plan with Drawing No. D626/07.34A/GI/D001 as specified in the Works Order.

4.1 Drillhole

The fieldworks at the drillholes (S2-DH01, S2-DH02, S2-DH04, S2-DH05, S2-DH06, S2-DH07, S2-DH08, S2-DH09, S2-DH10, S2-DH12, S2-DH17 and S2-DH18) were carried out using the hydraulic rotary drilling rig with air-foam as flushing medium. SW, PW, HW and NW sized casings equipped with tungsten carbide cutting shoes were used to advance the holes. The drillholes were terminated at specified depths.

4.1 Drillhole (Cont'd)

Undisturbed Mazier samples were taken in soil generally at 2.00m intervals commencing at the base of inspection pits by using a modified Mazier triple tube retractable core barrel, which was fitted with a detachable 74mm I.D., 1000mm long clear ABS plastic liner. A retractable cutting shoe projecting from the tungsten carbide core bit was used to penetrate the materials being sampled and to protect the sample from being disturbed by the drilling fluid.

The recovered samples were sealed with metal foil disc and wax and protected with rubber caps at both ends. Small disturbed samples were retrieved from the cutting shoes and were kept in airtight jars as jar samples.

Where rock materials were encountered, rock core samples were taken using T2-120, T2-101 and TNW double tubes core barrels.

Inspection pits at drillhole location were manually excavated by hand tools to specified depths prior to drilling commencement to ensure that the investigation works would not damage underground utilities.

The disturbed and undisturbed samples and rock core samples are reported at relevant depths in the Drillhole Record sheets in Appendix C. Record photographs of the jar samples and core samples are included in Appendix D.

4.2 Field Test

4.2.1 Standard Penetration Test

Standard penetration test with liner samples were carried out at specified depths. The tests were conducted according to BS1377 (1990 Part 9 Method 3.3) with modifications suggested in Geoguide 2 and the Contract Specification.

The numbers of blows to drive a standard split spoon sampler for the first 150mm penetration (seating drive) in 75mm increments and those for each 75mm penetration for the subsequent 300mm penetration were recorded. The 'N' value was taken as the sum of numbers of blows for the last 300mm penetration. Where the full penetration for seating drive was not achieved after 50 blows, the number of blows and the penetration achieved was recorded. During the test, the water level in the drillhole was maintained at or above the observed ground water level. Disturbed samples were retrieved from the cutting shoes as jar samples.

4.2.1 Standard Penetration Test (Cont'd)

Liner samples were taken with the SPTs by including a liner sample tube in the split barrel sampler in each test.

The depths of tests and the 'N' values are presented in the Drillhole Record sheets in Appendix C.

4.2.2 Constant Head Permeability Test

Twelve (12) constant head permeability tests were carried in all drillholes at specified sections.

The test section was formed by surrounding a 40mm I.D. G.I. standpipe, which was perforated over the test section, with filter materials and sealed with bentonite pellets according to the figure 27 of Geoguide 2.

The water table in the standpipe after installation was allowed to equalize with the ambient groundwater level before commencement of the test. This water level was measured and recorded. Fresh water was then fed at a constant rate into the standpipe to raise the water level in the standpipe to top of pipe. This water level was maintained by adjusting the rate of inflowing water. The inflow rates to maintain the constant water level were recorded at the intervals as specified in the Specification. The test was terminated when the inflow rates differed less than 10% in an interval of 10 minutes.

The test data and the test results are presented in Appendix E.

4.2.3 Digital Acoustic Borehole Televviewer Survey

Three (3) acoustic borehole televviewer surveys were carried out in drillholes S2-DH04, S2-DH08 and S2-DH10 at depths as instructed. The acoustic imaging equipment consists of a centralized sonde, with a rotating transducer and receiver orientated by a magnetometer and inclinometer capable of working in fluid filled holes. The sonde uses a focused ultrasound beam, measured in travel time and amplitude, to scan the borehole wall producing a full 360-degree image. The features azimuth and dip angle are derived by digital cross-referencing of the orientation data. The Travel Time and Amplitude, Joints Interpretation and Stereographic Plots Records are presented in Appendix F.

5 Soil and Rock Description

The soils and rocks encountered in the investigation have generally been described according to the Geoguide 3, Guide to Rock and Soil Description, except for the following terms, which are used for the secondary constituents other than clay, silt and sand, in composition of common ground:

- “with occasional” for less than 5%;
- “with some” for between 5% and 20%; and
- “with much or many” for greater than 20%.

The classification and definitions of the descriptive terms are presented in Appendix A.

The delineation of various strata was primarily based on examination of disturbed samples and core samples recovered from the drillholes. The results are presented in Appendix C in form of Drillhole Records, which have been finalized by incorporating comments provided by Ove Arup & Partners Hong Kong Limited.

The legends used in these records are summarized in Appendix B.

6 Surveying

The locations of investigation stations were surveyed using the theodolite and the results are related to the Hong Kong Grid System. The co-ordinates and levels of these investigation stations are presented on the relevant records and are summarized in Table 1.

7 Digital Data Record

The data of the ground investigation works are also provided in an electronic format. The format complies with the 3rd edition of the Association of Geotechnical and Geoenvironmental Specialists (AGS) Publication ‘Electronic Transfer of Geotechnical and Geoenvironmental Data’.

The final field work report was also created in Acrobat format and stored together with AGS on a CD-ROM in Appendix G.

8 References

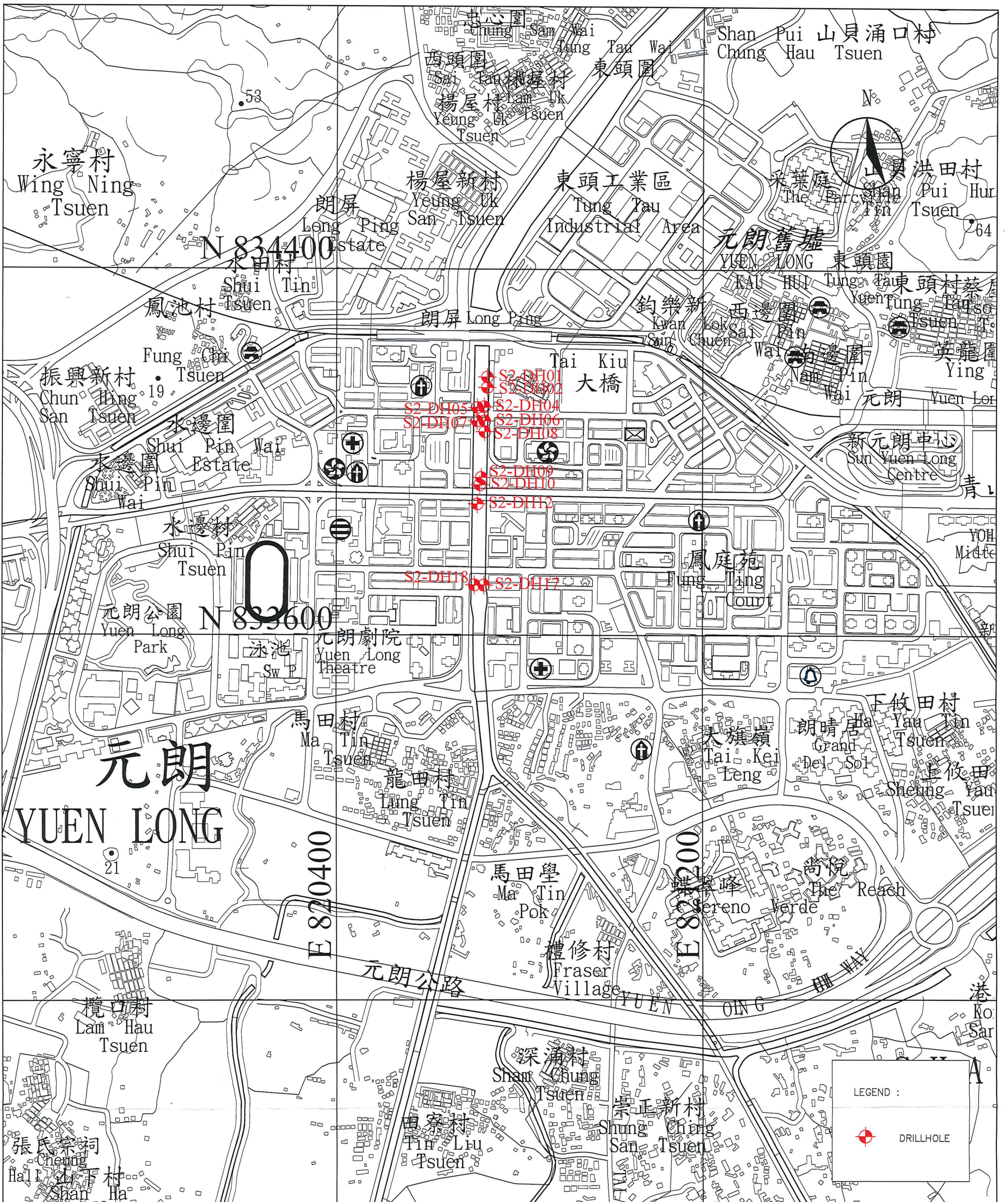
1. Geotechnical Engineering Office, Geological Map of Hong Kong HGM20, Sheet 6, (1:20,000) (1988)
2. Geotechnical Engineering Office (2000), The Pre-Quaternary Geology of Hong Kong
3. Geotechnical Engineering Office (2000), The Quaternary Geology of Hong Kong
4. Geotechnical Engineering Office, (2nd Reprint, 1994), Guide to Rock and Soil Descriptions (Geoguide 3)
5. Geotechnical Engineering Office, (4th Reprint, 2000), Guide to Site Investigation (Geoguide 2)
6. Association of Geotechnical & Geoenvironmental Specialists (1999), Electronic Transfer of Geotechnical and Geoenvironmental Data, 3rd edition
7. BS5930:1981, the “Code of Practice for Site Investigation”



Contract No. GE/2014/07
Ground Investigation - New Territories West (Term Contract)

Ground Investigation Plan

(Drawing No. D626/07.34A/GI/D001)



Ground Investigation Plan

Contract No. GE/2014/07
 Ground Investigation - New Territories West (Term Contract)
 Works Order No. GE/2014/07.34A
 Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town
 connecting with Long Ping Station - Investigation, Design and Construction

Drawing No. :
 D626/07.34A/GI/D001
 Date : April 2016
 Scale 1 : 8000





Contract No. GE/2014/07
Ground Investigation – New Territories West (Term Contract)

Tables



Contract No. GE/2014/07
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Works Order No. GE/2014/07.34A
Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station -
Investigation, Design and Construction
Ground Investigation (Stage 2)

Final Field Work Report

Table 1 - Survey Record

Station No.	Ground Level / Reference Level (mPD)	Easting	Northing	Remark
S2-DH01	+0.76	820730.30	834163.68	Drillhole
S2-DH02	+0.73	820730.23	834140.42	Drillhole
S2-DH04	+0.71	820723.54	834098.13	Drillhole
S2-DH05	+0.66	820708.65	834096.66	Drillhole
S2-DH06	+0.76	820724.53	834067.11	Drillhole
S2-DH07	+0.74	820707.98	834067.38	Drillhole
S2-DH08	+0.80	820724.52	834043.74	Drillhole
S2-DH09	+0.95	820717.40	833943.60	Drillhole
S2-DH10	+0.91	820714.11	833927.56	Drillhole
S2-DH12	+0.95	820708.71	833885.61	Drillhole
S2-DH17	+1.52	820723.09	833707.97	Drillhole
S2-DH18	+1.37	820702.30	833708.56	Drillhole

Table 2 - Summary of Rock and Soil Strata in Drillhole

Drillhole No.	Ground Level / Reference Level (mPD)	Fill		Pond Deposit		Alluvium		Debris Flow Deposits		Grade V to Grade IV Rock/ Cavity-fill Deposits / Karst Deposits / Fault Gouge / Cavity		Grade III or better Rock Top Level (mPD)	Rock Type	Erid of Hole (mPD)	Remark
		Bottom Level (mPD)	Thickness (m)	Bottom Level (mPD)	Thickness (m)	Bottom Level (mPD)	Thickness (m)	Bottom Level (mPD)	Thickness (m)	Level (mPD)	Thickness (m)				
S2-DH01	+0.76	-	-	-1.04	1.80	-15.04	14.00	-	-	-15.04 to -55.74 '##'	40.70	-55.74	IMPURE MARBLE	-76.43	-
S2-DH02	+0.73	-1.97	2.70	-	-	-11.57	9.60	-	-	-11.57 to -78.67 '##'	67.10	-78.67	IMPURE MARBLE	-102.80	-
S2-DH04	+0.71	-0.99	1.70	-	-	-10.49	9.50	-	-	-10.49 to -39.17	28.68	-39.17	IMPURE MARBLE	-60.87	-
S2-DH05	+0.66	-2.34	3.00	-	-	-14.34	12.00	-	-	-14.34 to -102.64 '##'	88.30 '^'	-	IMPURE MARBLE	-102.64	-
S2-DH06	+0.76	-0.24	1.00	-	-	-10.24	10.00	-43.34	33.10	-43.34 to -112.40 '##'	69.06	-112.40	IMPURE MARBLE	-133.73	-
S2-DH07	+0.74	-5.66	6.40	-	-	-11.66	6.00	-	-	-11.66 to -123.44 '##'	111.78 '^'	-	IMPURE MARBLE	-123.44	-
S2-DH08	+0.80	+0.30	0.50	-	-	-10.20	10.50	-	-	-10.20 to -106.07 '##'	95.87	-106.07	IMPURE MARBLE	-126.76	-
S2-DH09	+0.95	+0.45	0.50	-	-	-11.15	11.60	-	-	-11.15 to -53.49	42.34	-53.49	IMPURE MARBLE	-74.13	-
S2-DH10	+0.91	+0.41	0.50	-	-	-12.69	13.10	-	-	-12.69 to -54.83	42.14	-54.83	IMPURE MARBLE	-74.98	-
S2-DH12	+0.95	+0.45	0.50	-	-	-15.55	16.00	-	-	-15.55 to -119.50 '##'	103.95 '^'	-	MARBLE	-119.50	-
S2-DH17	+1.52	+0.62	0.90	-	-	-22.58	23.20	-	-	-22.58 to -37.53 '##'	14.95	-37.53	IMPURE MARBLE	-59.43	-
S2-DH18	+1.37	+0.77	0.60	-	-	-13.58	14.35	-	-	-13.58 to -50.49 '##'	36.91	-50.49	MARBLE	-72.11	-

Remarks:

- Where stratum descriptions straddle two decomposition grades, the most decomposed grade is reported in the above table.
- '##' Bottom level of the stratum cannot be determined.
- '##' Corestone was found in the stratum of Grade V to Grade IV rock.
- '^' This is only the minimum thickness as bottom level of the stratum cannot be determined.



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Investigation, Design and Construction
Ground Investigation (Stage 2)

Final Field Work Report

Table 3 - Summary of Field Testing and Field Installation

Station No.	Type of Test	Test Zone / Test Depth (m bgl)	Type of Installation	Installation Tip / End Depth (m bgl)	Response Zone (m bgl)	Halcrow Bucket Installation Detail		Remark
						Depth (m bgl)	Spacing (m)	
S2-DH01	Constant	16.80 to 18.30	-	-	-	-	-	-
S2-DH02	Constant	6.00 to 7.50	-	-	-	-	-	-
S2-DH04	Constant	5.20 to 6.70	-	-	-	-	-	-
	BHTV	41.49 to 61.49						
S2-DH05	Constant	6.50 to 8.00	-	-	-	-	-	-
S2-DH06	Constant	14.60 to 16.10	-	-	-	-	-	-
S2-DH07	Constant	8.40 to 9.90	-	-	-	-	-	-
S2-DH08	Constant	6.00 to 7.50	-	-	-	-	-	-
	BHTV	115.64 to 125.00						
S2-DH09	Constant	9.00 to 10.50	-	-	-	-	-	-
S2-DH10	Constant	11.50 to 13.00	-	-	-	-	-	-
	BHTV	62.00 to 72.00						
S2-DH12	Constant	4.00 to 5.50	-	-	-	-	-	-
S2-DH17	Constant	10.10 to 11.60	-	-	-	-	-	-
S2-DH18	Constant	12.70 to 14.20	-	-	-	-	-	-

Notes:	IP - Impression Packer Survey	Rising - Rising Head Permeability Test	Pressure - Pressuremeter Test
	Vane - Vane Shear Test	Constant - Constant Head Permeability Test	Packer - Water Absorption Test
	Sand - In-situ Density Test	Falling - Falling Head Permeability Test	GCOP - Dynamic Probing Test
	BHTV - Digital Acoustic Borehole Televiwer Survey		

CHECKLIST FOR ROCK DESCRIPTION

GEOTECHNICAL ENGINEERING OFFICE, HKSAR

1. STRENGTH

Term	Identification
Extremely weak	Easily crumbled by hand; indented deeply by thumbnail.
Very weak	Crumbled with difficulty; scratched easily by thumbnail; peeled easily by pocket knife.
Weak	Broken into pieces by hand; scratched by thumbnail; peeled by pocket knife; deep indentations (to 5 mm) by point of geological pick; hand-held specimen easily broken by single light hammer blow.
Moderately weak	Broken with difficulty in two hands; scratched with difficulty by thumbnail; difficult to peel but easily scratched by pocket knife; shallow indentations easily made by point of pick; hand-held specimen usually broken by single light hammer blow.
Moderately strong	Scratched by pocket knife; shallow indentations made by firm blow with point of pick; hand-held specimen usually broken by single firm hammer blow. Point load strength (PLS) 0.5 - 2 MPa.
Strong	Firm blows with point of pick cause only superficial surface damage; hand-held specimen requires more than one firm hammer blow to break. PLS 2 - 4 MPa.
Very strong	Many hammer blows required to break specimen. PLS 4 - 8 MPa.
Extremely strong	Specimen only chipped by hammer blows. PLS > 8 MPa.

2. COLOUR

Parameter	Terms
Value	Light, Dark
Chroma	Pinkish, Reddish, Yellowish, Orangish, Brownish, Greenish, Bluish, Purplish, Greyish
Hue	Pink, Red, Yellow, Orange, Brown, Green, Blue, Purple, White, Grey, Black

For uniform colour distribution, choose a hue, supplemented by a value and/or chroma if necessary.

For non-uniform distribution, repeat this procedure using one of the following descriptors: spotted, mottled, dappled, streaked, striped (e.g. light pinkish grey spotted with black).

State whether sample was wet or dry when described.

3. TEXTURE/FABRIC

Texture Terms (Applicable Mainly to Igneous Rocks)
Equigranular, Inequigranular, Megacrystic, Porphyritic, Crystalline, Cryptocrystalline, Aphanitic

Fabric
Describe preferred orientation of grains/crystals where apparent.

Describe intensity, spacing, continuity and any preferred orientation of microfractures where apparent.

4. MATERIAL WEATHERING/ALTERATION

Decomposition Term	Grade Symbol	Typical Characteristics
Residual Soil	VI	Original rock texture completely destroyed; can be crumbled by hand and finger pressure into constituent grains.
Completely Decomposed	V	Original rock texture preserved; can be crumbled by hand and finger pressure into constituent grains; easily indented by point of geological pick; slakes in water; completely discoloured compared with fresh rock.
Highly Decomposed	IV	Can be broken by hand into smaller pieces; makes a dull sound when struck by hammer; not easily indented by point of pick; does not slake in water; completely discoloured compared with fresh rock.
Moderately Decomposed	III	Cannot usually be broken by hand; easily broken by hammer; makes a dull or slight ringing sound when struck by hammer; completely stained throughout.
Slightly Decomposed	II	Not broken easily by hammer; makes a ringing sound when struck by hammer; fresh rock colours generally retained but stained near joint surfaces.
Fresh Rock	I	Not broken easily by hammer; makes a ringing sound when struck by hammer; no visible signs of decomposition (i.e. no discolouration).

This classification is applicable to igneous and volcanic rocks and other rocks of equivalent strength in fresh state.

Disintegration
Describe small-scale cracking and fracturing caused by mechanical weathering, where apparent.

Alteration
Describe state of alteration (e.g. mineralised, kaolinised) where apparent.

5. ROCK NAME (Including Grain Size)

Igneous	: Coarse- (6-20 mm), Medium- (2-6 mm) & Fine- (0.06-2 mm) grained GRANITE; GRANODIORITE. Very Fine-grained (< 0.06 mm) RHYOLITE; BASALT. (Common types only, see Geoguide 3 for others).
Pyroclastic	: PYROCLASTIC BRECCIA (> 60 mm), Lapilli TUFF (2-60 mm), Coarse ash TUFF (0.06-2 mm), Fine ash TUFF (< 0.06 mm).
Metamorphic	: Foliated - SCHIST (> 0.06 mm), PHYLLITE (< 0.06 mm). Non-foliated - MARBLE, QUARTZITE, FAULT BRECCIA.
Sedimentary	: CONGLOMERATE, BRECCIA (> 2 mm), SANDSTONE (0.06-2 mm), MUDSTONE (< 0.06 mm) = SILTSTONE (0.002-0.06 mm) + CLAYSTONE (< 0.002 mm). (Common types only).

If rock name cannot be identified, describe grain size quantitatively, including textural term where appropriate.

6. STRUCTURE

Structural Term	Rock Type
Bedded, Laminated, Massive	Sedimentary
Massive, Flow-banded	Igneous, Pyroclastic
Foliated, Banded, Cleaved	Metamorphic

Spacing of Planar Structures
Very thick (> 2 m), Thick (0.6-2 m), Medium (200-600 mm), Thin (60-200 mm), Very thin (20-60 mm), Thickly-laminated (Sedimentary) (6-20 mm) or Narrow (Igneous, Metamorphic) (6-20 mm), Thinly-laminated (Sedimentary) (< 6 mm) or Very narrow (Igneous, Metamorphic) (< 6 mm).
Examples: Thickly-bedded SANDSTONE. Narrowly flow-banded RHYOLITE.

7. DISCONTINUITIES

Nature (Type of Discontinuity)			
Fault zone	Cleavage	Fissure	Bedding
Fault	Schistosity	Tension crack	
Joint	Shear plane	Foliation	

Location and Orientation
Record location as co-ordinates or relative position along datum line, preferably on map or plan.
Record orientation as dip direction/dip in degrees (e.g. 032/55).

Spacing
Extremely widely-spaced (> 6 m), Very widely-spaced (2-6 m), Widely-spaced (0.6-2 m), Medium-spaced (200-600 mm), Closely-spaced (60-200 mm), Very closely-spaced (20-60 mm), Extremely closely-spaced (< 20 mm).
In exposures, supplement spacing with description of rock block shape where possible. Descriptors: Blocky, Tabular, Columnar, Polyhedral.

Persistence (Areal extent or size of a discontinuity within a plane)
Measured maximum persistence dimension should be used where possible (e.g. the discontinuity trace length on the surfaces of rock exposures). For general descriptions of different discontinuity sets, relative terms should be used.

Roughness
Waviness (large-scale): Estimate/measure wavelength and amplitude in metres.
Unevenness (small-scale), use one term from the following:

Rough stepped	Smooth stepped	Slickensided stepped
Rough undulating	Smooth undulating	Slickensided undulating
Rough planar	Smooth planar	Slickensided planar

Aperture Size
Wide (> 200 mm), Moderately wide (60-200 mm), Moderately narrow (20-60 mm), Narrow (6-20 mm), Very narrow (2-6 mm), Extremely narrow (> 0-2 mm), Tight (zero).

Infilling (Nature)		
Clean	Surface staining	Decomposed/ disintegrated rock
Non-cohesive soil	Cohesive soil	Quartz
Calcite	Manganese	Kaolin
Other (Specify)		

Give full description of infill materials/minerals where appropriate.

Seepage
Dry Damp/wet Seepage present (estimate quantity in 1/sec or 1/min)

Fracture State
In borehole cores, measure the following: Total Core Recovery (TCR), Solid Core Recovery (SCR), Rock Quality Designation (RQD), Fracture Index (FI). See Geoguide 3 for definitions.

8. MASS WEATHERING

Term	Zone Symbol	Typical Characteristics
Residual Soil	RS	Residual soil derived from insitu weathering; mass structure and material texture/fabric completely destroyed: 100% soil
Partially Weathered Rock	PW 0/30	Less than 30% rock Soil retains original mass structure and material texture/fabric (i.e. saprolite) Rock content does not affect shear behaviour of mass, but relict discontinuities in soil may do so.
	PW 30/50	30% to 50% rock Both rock content and relict discontinuities may affect shear behaviour of mass.
	PW 50/90	50% to 90% rock Interlocked structure.
	PW 90/100	Greater than 90% rock Small amount of the material converted to soil along discontinuities.
	Unweathered Rock UW	100% rock May show slight discolouration along discontinuities.

9. ADDITIONAL GEOLOGICAL INFORMATION

Record geological formation name if known. Avoid conjecture. Refer to HKGS maps & memoirs for further information.

NOTES:

- Rock material description normally includes: strength, colour, texture/fabric, material weathering/alteration and ROCK NAME.
- Rock mass description normally includes: strength, colour, structure, mass weathering, ROCK NAME, discontinuities and additional geological information. Can be supplemented with more detailed information on texture/fabric and material weathering/alteration of different materials within the mass where necessary.

CHECKLIST FOR SOIL DESCRIPTION

GEOTECHNICAL ENGINEERING OFFICE, HKSAR

1. STRENGTH (Compactness & Consistency)

Soil Type	Term	Identification
Very Coarse (COBBLES & BOULDERS)	Loose	By inspection of voids and particle packing in the field.
	Dense	
Coarse (SANDS & GRAVELS)	Very loose	SPT 'N' value 0-4.
	Loose	SPT 4-10; can be excavated with spade; 50 mm peg easily driven.
	Medium dense	SPT 10-30.
	Dense	SPT 30-50; requires pick for excavation; 50 mm peg hard to drive.
Fine (CLAYS & SILTS)	Very dense	SPT > 50.
	Very soft	Undrained shear strength (USS) < 20 kPa; exudes between fingers when squeezed in hand.
	Soft	USS 20-40 kPa; moulded by light finger pressure.
	Firm	USS 40-75 kPa; can be moulded by strong finger pressure.
	Stiff	USS 75-150 kPa; cannot be moulded by fingers; can be indented by thumb.
	Very stiff or hard	USS > 150 kPa; can be indented by thumbnail.
Organic (ORGANIC CLAYS, SILTS SANDS & PEATS)	Compact	Fibres already compressed together.
	Spongy	Very compressible and open structure.
	Plastic	Can be moulded in hand and smears fingers.

Terms applicable only to transported soils. For soils derived from insitu rock weathering, record actual values of quantitative tests (e.g. SPT 'N' value) as part of the description, where appropriate.

2. COLOUR

Parameter	Terms
Value	Light, Dark
Chroma	Pinkish, Reddish, Yellowish, Orangish, Brownish, Greenish, Bluish, Purplish, Greyish
Hue	Pink, Red, Yellow, Orange, Brown, Green, Blue, Purple, White, Grey, Black

For uniform colour distribution, choose a hue, supplemented by a value and/or chroma if necessary.

For non-uniform distribution, repeat this procedure using one of the following descriptors: spotted, mottled, dappled, streaked, striped (e.g. light yellowish brown mottled with red).

State whether sample was wet or dry when described.

3. PARTICLE SHAPE & COMPOSITION

Characteristic	Terms
Form	Equidimensional, Flat, Elongate, Flat & Elongate
Angularity	Angular, Subangular, Subrounded, Rounded
Surface Texture	Smooth, Rough, Glassy, Honeycombed, Pitted, Striated

Describe composition of coarse particles where appropriate. Gravel and larger particles are usually rock fragments (e.g. granite, tuff); sand particles are usually individual minerals (e.g. quartz, feldspar).

4. STRUCTURE

Soil Type	Term	Identification
Coarse & Fine	Homogenous	Deposit consists essentially of one type.
	Interstratified (Interbedded or Interlaminated)	Alternating layers of varying types or with bands or lenses of other materials.
Coarse	Heterogenous	A mixture of types.
Fine	Fissured	Breaks into polyhedral fragments along fissures.
	Intact	No fissures.
Organic	Fibrous	Plant remains recognizable & retain some strength.
	Amorphous	No recognizable plant remains.

Describe spacing of bedding planes, fissures, shell bands, etc using the spacing terms given in items 6 & 7 for rock description (see other side).

Above terms applicable only to transported soils. For soils derived from insitu rock weathering, describe relict structures in accordance with item 6 of rock description (see other side).

5. WEATHERING

Soils Derived from Insitu Weathering of Rocks

There are two main types: saprolites (rock texture/structure retained) and residual soils (rock texture/structure completely destroyed). Describe state of weathering in accordance with items 4 & 8 for rock description (see other side).

Sedimentary (Transported) Soils

Coarse soils: Describe overall discolouration of soil and degree of decomposition of gravel and larger particles (see item 4, other side). Also note any signs of disintegration of large particles where apparent.

Fine Soils: Describe overall discolouration of soil where apparent.

6. SOIL NAME

A. Basic Soil Types

Soil Type	Particle Sizes (mm)	Identification
BOULDERS	> 200	Only seen complete in pits or exposures.
COBBLES	60 - 200	Often difficult to recover from boreholes.
GRAVELS	Coarse 20 - 60	Easily visible to naked eye; particle shape and grading can be described.
	Medium 6 - 20	Well-graded: wide range of grain sizes.
	Fine 2 - 6	Poorly-graded: not well-graded (split further into uniform or gap-graded).
SANDS	Coarse 0.6 - 2	Visible to naked eye; very little or no cohesion; grading can be described.
	Medium 0.2 - 0.6	May be well-graded or poorly-graded (uniform or gap-graded) as for gravel.
	Fine 0.06 - 0.2	Only coarse silt barely visible to naked eye; exhibits little plasticity and marked dilatancy; slightly granular or silky to the touch. Disintegrates in water; lumps dry quickly; possesses cohesion but can be powdered easily between fingers.
SILTS	Coarse 0.02 - 0.06	Dry lumps can be broken by hand but not powdered between the fingers. Disintegrates in water more slowly than silt; smooth to the touch; exhibits plasticity but no dilatancy; sticks to the fingers and dries slowly; shrinks appreciably on drying, usually showing cracks. These properties more noticeable with increasing plasticity.
	Medium 0.006 - 0.02	
	Fine 0.002 - 0.006	
CLAYS	< 0.002	Contains much organic vegetable matter; often has a noticeable smell and changes colour on oxidation.
ORGANIC CLAYS, SILTS OR SANDS	varies	
PEATS	varies	Predominantly plant remains; usually dark brown or black in colour, often with distinctive smell; low bulk density.

B. Composite Soil Types (Mixtures of Basic Types)

Principal Soil Type	Terminology Sequence	Term for Secondary Constituent	% of Secondary Constituent
Very coarse (BOULDERS & COBBLES) (> 50% of soil > 60 mm)	Secondary constituents (finer material) ▲ after principal	With a little	< 5
		With some	5 - 20
		With much	20 - 50
		Slightly (silty, clayey or silty/clayey) *	< 5
Coarse (GRAVELS & SANDS) (> 65% gravel & sand sizes)	Secondary constituents before principal (excluding cobbles & boulders) +	(silty, clayey or silty/clayey) *	5 - 15
		Very (silty, clayey or silty/clayey) *	15 - 35
		AND/OR Slightly (gravelly or sandy) *	< 5
		(gravelly or sandy) *	5 - 20
Fine (SILTS & CLAYS) (> 35% silt & clay sizes)	Secondary constituents before principal (excluding cobbles & boulders) +	Very (gravelly or sandy) *	20 - 50
		Slightly (gravelly or sandy or both) *	< 35
		(gravelly or sandy) *	35 - 65

▲ Full name of finer material should be given (see examples below).

* Secondary soil type as appropriate; use 'silty/clayey' when a distinction cannot be made between the two.

+ If cobbles or boulders are also present in a coarse or fine soil, this can be indicated by using one of the following terms relating to the very coarse fraction after the principal: 'with occasional' (< 5), 'with some' (5-20), 'with many' (20-50), where figures in brackets are % very coarse material expressed as a fraction of the whole soil (see examples below).

Examples: Slightly silty/clayey, sandy GRAVEL. Slightly gravelly, sandy SILT. Very gravelly SAND. Sandy GRAVEL with occasional boulders. BOULDERS with much finer material (silty/clayey, very sandy gravel).

For fine soils, plasticity terms should also be described where possible, viz: 'non-plastic' (generally silts), 'intermediate plasticity' (lean clays), 'high plasticity' (fat clays).

7. DISCONTINUITIES

Full description of discontinuities, where necessary, should be made using the methods and terms given in item 7 for rock description (see other side).

8. ADDITIONAL GEOLOGICAL INFORMATION

Record geological name which indicates geological origin or soil type (e.g. Alluvium, Colluvium, Marine sand etc.). Refer to HKGS maps & memoirs for further information.

NOTES:

1. Mass characteristics of soils (i.e. structure, weathering, discontinuities) can only be described satisfactorily in undisturbed field exposures or large undisturbed samples.

2. For full descriptions of soils derived from insitu rock weathering:

- saprolites - describe as rocks, supplemented by soil strength and soil name terms in brackets,
- residual soils - describe as soils, supplemented by name of parent rock where apparent from field evidence.



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Ground Investigation - New Territories West (Term Contract)

Appendix B

Legends for Use on Drillhole Records

List of Material Names for the Legend Graphics on the Logging Records

Page 1 of 2

Name	Description
AGGLOM	PYROCLASTIC BRECCIA
ASPHALT	ASPHALT
BASALT	BASALT
BLANK	NO RECOVERY
BLDR	BOULDERS
BLDRCBBL	BOULDERS and COBBLES
BRECCIA	SEDIMENTARY BRECCIA
CBBL	COBBLE
CEMENT GROUT	Cement Grout
CLAY	CLAY
CLAYB	CLAY with shell fragments
CLAYG	Gravelly CLAY
CLAYO	CLAY with Peats
CLAYS	Sandy CLAY
CLAYSTON	CLAYSTONE / MUDSTONE
CLAYZ	Silty CLAY
CLAYZB	Silty CLAY with shells
CLAYZG	Silty CLAY with gravel
CLAYZGB	Silty CLAY with gravel and shell fragments
CLAYZO	Silty CLAY with peats
CLAYZS	Sandy silty CLAY
CLAYZSB	Sandy silty CLAY with shells
CLAYZSG	Sandy silty CLAY with gravel
CLAYZSGB	Sandy silty CLAY with gravel and shells
CLAYZSO	Sandy silty CLAY with peats
CONCRETE	CONCRETE
CONGLOM	CONGLOMERATE
CORAL	CORAL. NOT USED
DACITE	DACITE / LATITE / ANDESITE / TRACHYTE / TRACHYANDESITE
FILL	FILL (made ground)
GABBRO	GABBRO / LAMPROPHYRE
GLD	GRAVEL, COBBLES and BOULDERS
GLDS	GRAVEL, COBBLES and BOULDERS with sand
GLDZC	GRAVEL, COBBLES and BOULDERS with silt and clay
GLDZCS	GRAVEL, COBBLES and BOULDERS with sand, silt and clay
GNEISS	GNEISS
GRANITE	GRANITE
GRANODIO	GRANODIORITE / SYENITE / MONZONITE
GRAV	GRAVEL
GRAVB	GRAVEL with shell fragments
GRAVC	Clayey GRAVEL
GRAVCBBL	GRAVEL and COBBLES
GRAVCBBL SILTS	gravels & cobbles in sandy silt
GRAVCBBSANDCZ	gravel & cobble in silty sand
GRAVCBBSANDZ	gravel & cobble in silty sand
GRAVCZ	Silty clayey GRAVEL
GRAVCZB	Silty clayey GRAVEL with shell fragments
GRAVCZO	Silty clayey GRAVEL with peats
GRAVCZS	Sandy silty clayey GRAVEL
GRAVCZSB	Sandy silty clayey GRAVEL with shell fragments
GRAVO	GRAVEL with peats
GRAVS	Sandy GRAVEL
GRAVZ	Silty GRAVEL
GRAVZS	Sandy silty GRAVEL
LST	LIMESTONE

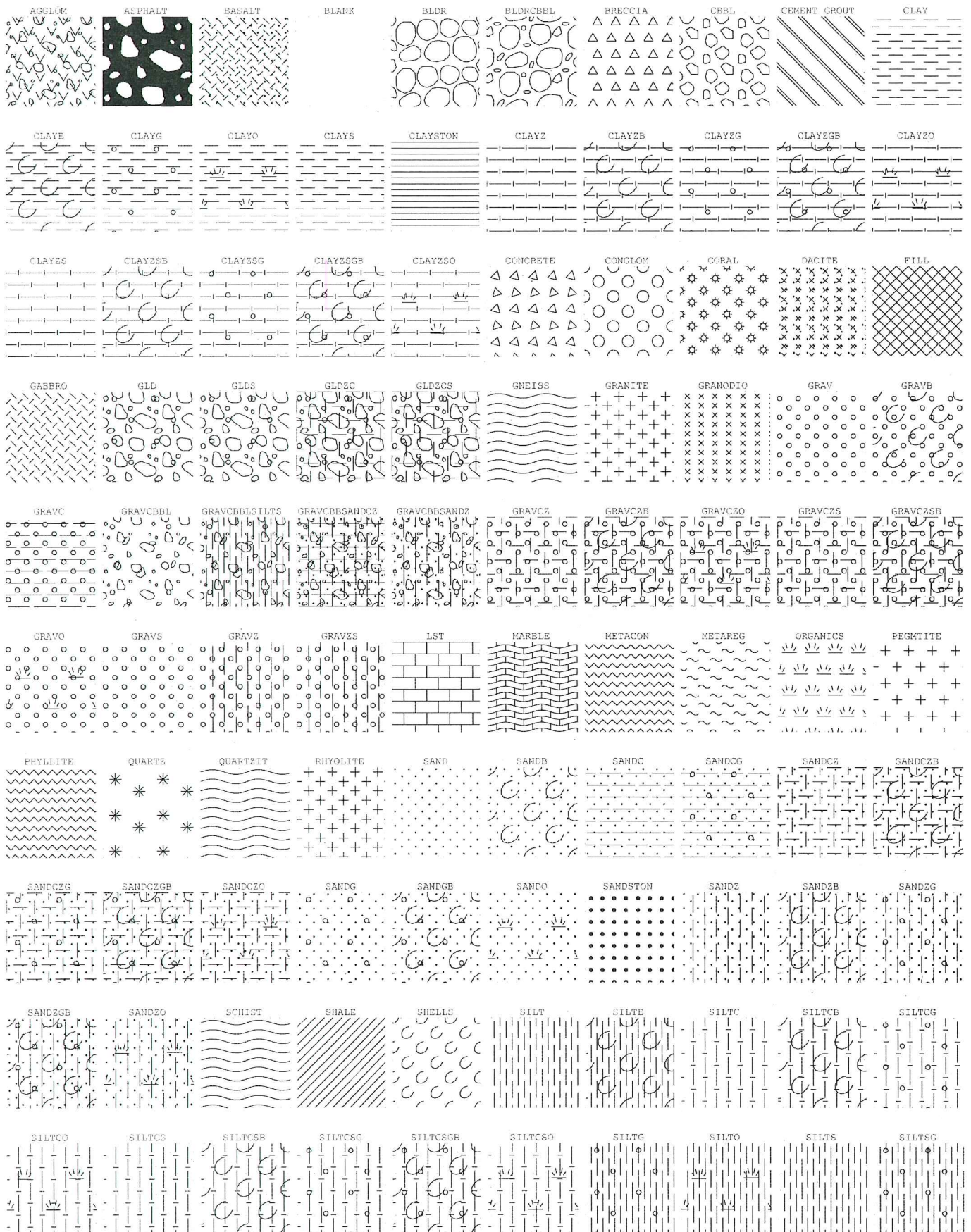
List of Material Names for the Legend Graphics on the Logging Records

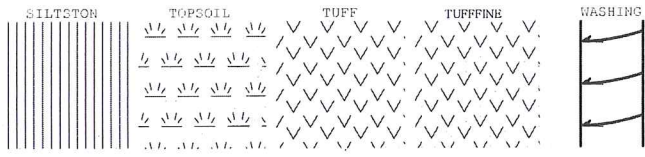
Page 2 of 2

Name	Description
MARBLE	MARBLE
METACON	Metamorphic Rocks - Contact
METAREG	Metamorphic Rocks - Regional
ORGANICS	PEAT
PEGMTITE	PEGMATITE, Coarse-grained GRANITE
PHYLLITE	PHYLLITE / MYLONITE
QUARTZ	Quartz
QUARTZIT	QUARTZITE
RHYOLITE	RHYOLITE
SAND	SAND
SANDB	SAND with shell fragments
SANDC	Clayey SAND
SANDCG	Clayey SAND with gravel
SANDCZ	Silty, clayey SAND
SANDCZB	Silty, clayey SAND with shells
SANDCZG	Silty, clayey SAND with gravel
SANDCZGB	Silty, clayey SAND with gravel and shells
SANDCZO	Silty, clayey SAND with peats
SANDG	Gravelly SAND
SANDGB	Gravelly SAND with shell fragments
SANDO	SAND with Peat
SANDSTON	SANDSTONE
SANDZ	Silty SAND
SANDZB	Silty SAND with shell fragments
SANDZG	Silty SAND with gravels
SANDZGB	Silty SAND with gravels and shells
SANDZO	Silty SAND with peats
SCHIST	SCHIST
SHALE	SHALE
SHELLS	Shells
SILT	SILT
SILTB	SILT with shell fragments
SILTC	Clayey SILT
SILTCB	Clayey SILT with shells
SILTCG	Clayey SILT with gravel
SILTCO	Clayey SILT with peat
SILTCS	Sandy Clayey SILT
SILTCSB	Sandy Clayey SILT with shells
SILTCSG	Sandy Clayey SILT with gravel
SILTCSGB	Sandy Clayey SILT with gravel and shells
SILTCSO	Sandy Clayey SILT with peat
SILTG	Gravelly SILT
SILTO	SILT with peat
SILTS	Sandy SILT
SILTSG	Gravelly sandy SILT
SILTSTON	SILTSTONE
TOPSOIL	Topsoil
TUFF	Coarse Ash TUFF, Lapilli Tuff
TUFFFINE	Fine Ash TUFF
WASHING	Wash Boring

Graphics Used for the Legends on the Logging Records

1/2







Contract No. GE/2014/07
Ground Investigation – New Territories West (Term Contract)

Appendix C

Drillhole Records

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **1** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**CO-ORDINATES
E 820730.30
N 834163.68WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **09.01.2016** to **19.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
09.01.2016	SW													
1				100				1,2 3,4,4,4 N=15	1 0.00 2 0.45 3 0.65 0.70	+0.76 +0.06	0.00 0.70			Very dark grey (10YR 3/1), silty CLAY. (POND DEPOSIT)
2								B=29	4 1.70 5 1.80 6 1.90 2.20	-1.04	1.80			Soft, very dark grey (10YR 3/1) spotted very pale brown, slightly sandy silty CLAY with some angular to subangular fine gravel of quartz fragments. (POND DEPOSIT)
3				100				2,2 3,3,4,5 N=15	7 2.70 8 3.15 9 3.30 10 3.60					Medium dense, grey (7.5YR 6/1), slightly silty fine to coarse SAND with some angular to subangular fine to coarse gravel of quartz fragments. (ALLUVIUM)
4								B=13	11 4.15 12 4.70	-3.94	4.70			Light grey (10YR 7/1), slightly silty very clayey fine SAND. (ALLUVIUM)
5				93				2,2 3,4,4,5 N=16	13 5.15 14 5.30 15 5.60	-4.44	5.20			Medium dense, yellowish brown (10YR 5/6), slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6								B=22	16 6.15 17 6.70	-5.94	6.70			Medium dense, yellowish brown (10YR 5/6) mottled light grey, slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
7				89				3,4 5,6,7,7 N=28	18 7.15 19 7.30 20 7.60	-6.44	7.20			Medium dense, dark grey (10YR 4/1), slightly silty clayey fine to coarse SAND with much angular to subangular fine to medium gravel of quartz fragments. (ALLUVIUM)
8								B=50	21 8.15 22 8.70					
9				100				3,5 5,6,6,8 N=25	23 8.15 24 9.30 25 9.60					
10										-9.24	10.00			

↑ SMALL DISTURBED SAMPLE
↑ LARGE DISTURBED SAMPLE
▨ U76 SAMPLE
▨ PISTON SAMPLE (76mm)
▨ MAZIER SAMPLE
□ SPT LINER SAMPLE
▲ WATER SAMPLE
■ U100 SAMPLE

↓ STANDARD PENETRATION TEST
▼ IN-SITU VANE SHEAR TEST
○ PACKER TEST
○ PERMEABILITY TEST
○ PRESSUREMETER TEST
○ BOREHOLE TELEVIEWER
○ PIEZOMETER TIP
○ STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **22.01.2016**
CHECKED **R. Chu**
DATE **25.01.2016**

REMARKS

1. An inspection pit was excavated to 0.70m deep by hand tools.
2. Constant head permeability test was carried out at section from 16.80m to 18.30m.

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **2** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820730.30**N 834163.68**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD17

DATE

09.01.2016 to 19.01.2016

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.76 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
														As sheet 1 of 8.
11				100				B=20 2.2 2.3,3.3 N=11	26 10.15 27 10.70 28 11.25 29 11.30 30 11.60	-9.94	10.70			Stiff, light grey (10YR 7/1), slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
12									31 12.15	-10.89	11.65			Light grey (10YR 7/1), angular to subangular, slightly silty clayey sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
13	SW 13.20m PW			100				B=64 2.2 2.3,4.4 N=13	32 12.70 33 13.15 34 13.30 35 13.60	-12.44	13.20			Stiff, yellowish red (5YR 5/8) mottled grey, slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
14									36 14.15					
15				100					37 14.70	-13.84	14.70			Light grey (10YR 7/1), angular to subangular, slightly silty clayey sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
16								1.2 2.3,3.3 N=11	38 15.70 39 15.90 40 16.20	-15.04	15.80		V	Extremely weak, brown (7.5YR 5/3), completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)
17				100					41 16.70	-15.94	16.70		V	Extremely weak, light grey (10YR 7/2) streaked white, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
18								2.3 3.3,4.4 N=14	42 17.70 43 17.80 44 18.20	-17.04	17.80		V	Extremely weak, brown (7.5YR 4/3) streaked reddish grey, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
19				100					45 18.70					
20								2.2 3.4,4.4	46 19.70 47 19.80 48 19.90	-19.24	20.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.01.2016

CHECKED

R. Chu

DATE

25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **3** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17****E 820730.30**DATE **09.01.2016** to **19.01.2016****N 834163.68**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
								VN=15	48	20.20			V	As sheet 2 of 8.
21				100					49	20.70	-19.94	20.70	V	Extremely weak, yellowish red (5YR 5/6) streaked white and black, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to coarse gravel of rhyolite fragments)
22								3.5 7.5, 11, 12 N=38	50	21.70	-21.04	21.80	V	Extremely weak, brown (7.5YR 4/3) mottled light grey, completely decomposed, slightly metamorphosed, SANDSTONE. (Clayey sandy SILT)
23				100					51	21.90				
24								3.4 4.6, 6.7 N=23	52	22.20				
25				100	51	41	>20		53	22.70				
26							8.1		54	23.70				
27				100	9	0	>20		55	23.80				
28							7.1		56	23.90				
29				100	72	69	>20			24.20				
30							2.3							
				99			>20							
							2.6							
				83	0	0	NI							
							NA							
							NR							
				95	17	13	5.3							

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BORHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.01.2016

CHECKED

R. Chu

DATE

25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**

SHEET 4 of 8

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD ROTARY

CO-ORDINATES

WORKS ORDER NO. GE/2014/07.34A

MACHINE SD17

E 820730.30
N 834163.68

DATE 09.01.2016 to 19.01.2016

FLUSHING MEDIUM AIRFOAM

ORIENTATION VERTICAL

GROUND LEVEL +0.76 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
31				83	78	68	>20 NI >20 NR 0.2 >20 5.3		T2-120 30.50	-29.27 -29.50 -29.74 -29.94	30.03 30.26 30.50 30.70	III IV III	As sheet 3 of 8.	
32				77	75	75	0.9 5.9 NR	T2-120 31.70		-30.85 -31.04 -31.23	30.85 31.04 31.23	II		
33				100				T2-120		-31.62 -31.79 -32.04	32.38 32.55 32.80	III		
34								5.7 9,9,15,17 N=50	57 58 59 60					Very stiff, dark brown (7.5YR 3/3) mottled very dark brown and white, slightly sandy clayey SILT. (CAVITY-FILL DEPOSITS)
35	PW 34.80m HW			100					61	-34.04	34.80			
36								8.7 7,9,13,15 N=44	62 63 64	-35.14	35.90			Very stiff, very dark brown (7.5YR 2.5/2) mottled white and pink, slightly sandy clayey SILT with much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
37				65					65 66 67	-36.04 -37.14	36.80 37.80 37.90			Very stiff, dark brown (7.5YR 3/3) streaked light brown, clayey SILT. (CAVITY-FILL DEPOSITS)
38				55					68 69 70					Very stiff, dark brown (7.5YR 3/3) streaked light brown, slightly sandy clayey SILT with some angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
39								5.7 8,10,12,15 N=45	71	-39.14	39.90			Very stiff, dark brown (7.5YR 3/3) spotted light brown and very dark brown, clayey SILT. (CAVITY-FILL DEPOSITS)
40														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 22.01.2016
CHECKED R. Chu
DATE 25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **5** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**E **820730.30**DATE **09.01.2016** to **19.01.2016**N **834163.68**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
41				100				7.11 9.8,10,11 N=39 ↓	72 40.90 41.00					Very stiff, greyish brown (10YR 4/2) spotted dark grey, slightly sandy silty CLAY with some to much angular to subangular fine to medium gravel of rock fragments. (CAVITY-FILL DEPOSITS)
42				88					74 41.90					
43				46	0	0	NA		75 42.70 42.80	-42.04	42.80			Black (10YR 2/1), angular to subangular, fine to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
							NR		T2-101		43.12			
44				0					76 44.20 44.30					Stiff, very dark greyish brown (10YR 3/1) spotted dark grey, slightly sandy silty CLAY with much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
				29	0	0	NA		T2-101		44.50			
45				0					77 45.00					
46								14.15 15.13,11.13 N=52 ↓	78 46.00 46.10	-45.34	46.10			Dark grey (10YR 4/1), angular to subangular, slightly clayey silty sandy fine to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
47				0					79 47.00					
48									80 48.00 48.10	-47.34	48.10			
49				55				11.13 17.10,11.13 N=51 ↓	81 49.10 49.20					Very stiff, greyish brown (10YR 5/2) and brown (7.5YR 4/3) mottled dark grey and white, slightly sandy silty CLAY with some angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
50									82 49.60					
										-49.24	50.00			

- ± SMALL DISTURBED SAMPLE
- ↓ LARGE DISTURBED SAMPLE
- ▨ U76 SAMPLE
- ▨ PISTON SAMPLE (76mm)
- ▨ MAZIER SAMPLE
- SPT LINER SAMPLE
- ▲ WATER SAMPLE
- U100 SAMPLE

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

LOGGED

S.L. Chiu

DATE

22.01.2016

CHECKED

R. Chu

DATE

25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **6** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD17**E 820730.30****N 834163.68**

DATE

09.01.2016 to 19.01.2016

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.76 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
51				60					83	50.10				As sheet 5 of 8.
52				0					84	51.10 51.20				
14.01.2016 18.01.2016									85	52.20 52.30				
									86	52.70				
53								7,10 14,9,11,13 N=47						Dark grey (10YR 4/1), angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
54				0										
55				0					87	54.20 54.30	-53.54	54.30		
									88	55.30 55.40				
56				67	0	0	NA	10,18 11,10,12,15 N=48	89	55.80 55.90	-55.14	55.90		Very dark grey (10YR 3/1) spotted brown, angular to subangular, slightly silty clayey sandy fine to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
	HW 56.50m						NR >20		T2-101			56.30		
57				100	96	95	11.8					56.50	56.58	
									T2-101			57.02		
58				100	99	99						58.00		Strong, grey streaked light grey, mottled dark grey, slightly decomposed IMPURE MARBLE. Joints are widely spaced, occasionally closely and medium spaced, rough planar, calcite coated, occasionally clean, dipping at 0° to 10°, 20° to 30°, 40° to 50° and 65° to 75°.
59									T2-101					
												59.50		
60									T2-101					
												59.24	60.00	

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.01.2016

CHECKED

R. Chu

DATE

25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **7** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820730.30**N **834163.68**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **09.01.2016** to **19.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
61				100	100	100			T2-101					As sheet 6 of 8.
									81.00					
62				100	100	97	0.8		T2-101					
									62.21					
63				100	100	100			T2-101					
									63.70					
64				100	100	100			T2-101					
									65.21					
65				100	100	100			T2-101					
									66.55					
66				100	100	100			T2-101					As sheet 6 of 8.
									66.77					
67				100	100	95			T2-101					
									68.21					
68				100	100	100	1.4		T2-101					As sheet 6 of 8.
									69.71					
69				100	100	100			T2-101					As sheet 6 of 8.
									69.24					
70														As sheet 6 of 8.

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.01.2016

CHECKED

R. Chu

DATE

25.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH01**SHEET **8** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820730.30

N 834163.68

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **09.01.2016** to **19.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
71				100	100	97			T2-101	70.25			II	As sheet 7 of 8.
									71.19					
72				100	100	100			T2-101					
							0.9		72.74					
73				100	100	100			T2-101					
									74.16					
74				100	100	100				74.74				End of hole at 77.19 m.
							3.8		T2-101	75.53				
75				100	100	100			75.71					
76				100	92	72	4.8		T2-101	76.43	77.19			
77														
18.01.2016														
78														
79														
80														

↓ SMALL DISTURBED SAMPLE

↓ LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

▲ WATER SAMPLE

■ U100 SAMPLE

↓ STANDARD PENETRATION TEST

✓ IN-SITU VANE SHEAR TEST

○ PACKER TEST

○ PERMEABILITY TEST

○ PRESSUREMETER TEST

○ BOREHOLE TELEVIEWER

■ PIEZOMETER TIP

○ STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **22.01.2016**
CHECKED **R. Chu**
DATE **25.01.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**

SHEET 1 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820730.23

N 834140.42

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD17

DATE

30.12.2015 to 08.01.2016

FLUSHING MEDIUM

AIRFOAM

ORIENTATION **VERTICAL**

GROUND LEVEL

+0.73 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
30.12.2015	SW									0.00	+0.73	0.00		Very dark grey (10YR 3/1), silty sandy CLAY with occasional angular to subangular fine gravel of quartz fragments. (FILL)
1				100				B=17 2.2 2.2,3.3 N=10	1 2 3 4 5 6	+0.03	0.70			Loose, dark grey (10YR 3/1), clayey silty fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (FILL)
2									7					
3				100				B=38 2.3 4.5,5.5 N=18	8 9 10 11	-1.97	2.70			Medium dense, light grey (10YR 7/2) mottled yellowish brown, slightly silty clayey fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
4									12					Medium dense, light grey (10YR 7/2), slightly silty clayey fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5				100				B=45 3.6 6.6,8.8 N=32	13 14 15 16	-3.97	4.70			Medium dense, brownish yellow (10YR 6/8), slightly clayey silty fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6									17					Dense, grey (10YR 6/1) mottled dark grey and brown, slightly silty clayey fine to coarse SAND with some angular to subangular fine gravel of quartz fragments and with occasional wood fragments. (ALLUVIUM)
7				100				B=41 3.4 4.3,2.5 N=14	18 19 20 21	-6.47	7.20			Stiff, grey (10YR 5/1) spotted dark grey, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8									22					
30.12.2015 02.01.2016	SW 8.70m PW			90					23	-7.97	8.70			Medium dense, grey (2.5Y 6/1), slightly silty clayey fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
9									24					
10								6.7 7.6,5.7	25	-9.27	10.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

14.01.2016

CHECKED

R. Chu

DATE

18.01.2016

REMARKS

- An inspection pit was excavated to 0.70m deep by hand tools.
- Constant head permeability test was carried out at section from 6.00m to 7.50m.

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **2** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820730.23**N **834140.42**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
														As sheet 1 of 11.
11				75				VN=25	26	10.20				Medium dense, grey (2.5Y 6/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
12				100				B=110	27	10.70	-9.97	10.70		
								3,4 4,5,3,3 N=15	28	11.70				Extremely weak, yellowish brown (10YR 5/4), completely decomposed SILTSTONE. (Slightly sandy silty CLAY)
13									29	11.80				
									30	12.35	-11.57	12.30	V	Extremely weak, brownish yellow (10YR 6/8), completely decomposed SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of rhyolite fragments)
14				100					31	12.40				
									32	12.70				Extremely weak, brownish yellow (10YR 6/8) mottled yellowish red, completely decomposed SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of rhyolite fragments)
15									33	13.25				
									34	13.80	-13.07	13.80	V	Extremely weak, brownish yellow (10YR 6/8) mottled yellowish red, completely decomposed SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of rhyolite fragments)
16				100					35	14.80				
									36	15.00				Extremely weak, brownish yellow (10YR 6/8) mottled yellowish red, completely decomposed SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of rhyolite fragments)
17								2,2 3,4,6,6 N=19	37	15.30				
									38	15.80				Extremely weak, brownish yellow (10YR 6/8) mottled yellowish red, completely decomposed SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of rhyolite fragments)
18									39	16.80	-16.17	16.90	V	
									40	17.00				Moderately strong to strong, light brown, moderately decomposed, moderately silicified, SILTSTONE.
19								3,4 5,7,10,11 N=33	41	17.30				
									42	17.60	-16.87	17.60	II	From 17.60m to 18.47m: Strong and slightly decomposed.
20				82	31	29	10.2		T2-120		-17.74	18.47	III	
											-17.95	18.68	V	From 18.68m to 18.75m: Extremely weak and completely decomposed. (Stiff, silty sandy CLAY with some angular fine gravel of rhyolite fragments)
											-18.27	19.00		
				100										From 18.75m to 19.00m: No recovery, assumed to be completely decomposed SILTSTONE.
														Very stiff, light grey (2.5Y 7/1) dappled yellowish red,

SMALL DISTURBED SAMPLE

LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED **S.L. Chiu**

DATE **14.01.2016**

CHECKED **R. Chu**

DATE **18.01.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **3** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.								
MACHINE		SD17		E 820730.23 N 834140.42		GE/2014/07.34A								
FLUSHING MEDIUM		AIRFOAM		ORIENTATION		VERTICAL								
GROUND LEVEL						+0.73 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				100				4.6 7.8, 10.12 N=37	43 20.00 44 20.20 45 20.50 20.65	-19.92	20.65			slightly sandy clayey SILT with occasional angular fine gravel of quartz and rock fragments. (KARST DEPOSITS)
22				100					T2-120		22.15			Very pale brown (10YR 7/4) mottled yellowish brown and yellowish red, angular, slightly silty sandy fine to coarse GRAVEL and COBBLE of rock fragments. (KARST DEPOSITS)
23				81			NA		T2-120		22.63			Firm, brown (10YR 5/3) mottled grey, slightly sandy silty CLAY with some angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
24				86			NA		46 23.50 47 24.20 24.30	-22.12	22.85			Grey (10YR 5/1) and yellowish brown (10YR 5/6) spotted brown, angular to subangular, slightly clayey silty sandy fine to coarse GRAVEL and COBBLE of rock fragments. (KARST DEPOSITS)
25				75	57	52	NR	>20 8.0	T2-120		24.15	24.88	III	Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
26				60	22	0	NR	7.1	T2-120		24.87	25.60		From 24.63m to 24.80m and 25.60m to 25.80m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
27				75	50	46	NR	13.5	48 25.80 25.90 26.00	-25.07	25.80			Soft, brown (7.5YR 4/4) mottled dark grey, slightly sandy silty CLAY with some angular to subangular fine to coarse gravel and cobble of rock fragments. (CAVITY-FILL DEPOSITS)
28				100			NR		49 26.80 50 27.80 27.90 28.00	-25.87	26.60			Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE. (CORESTONE)
29				77	61	53	4.8		51 28.30 28.40	-28.07	26.80			From 26.60m to 26.80m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
30								3.3 4.5, 7.7 N=23	52 28.30 28.40	-27.67	28.40		III	Stiff, brown (7.5YR 5/4), silty sandy CLAY. (CAVITY-FILL DEPOSITS)
									T2-120		28.45	29.18		Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
									59 29.50	-28.45	29.18			Stiff, brown (7.5YR 5/4) spotted grey, silty sandy CLAY with occasional angular to subangular fine to medium gravel of rock fragments. (CAVITY-FILL DEPOSITS)

LOGGED S.L. Chiu

DATE 14.01.2016

CHECKED R. Chu

DATE 18.01.2016

REMARKS

SMALL DISTURBED SAMPLE
LARGE DISTURBED SAMPLE
U76 SAMPLE
PISTON SAMPLE (76mm)
MAZIER SAMPLE
SPT LINER SAMPLE
WATER SAMPLE
U100 SAMPLE

STANDARD PENETRATION TEST
IN-SITU VANE SHEAR TEST
PACKER TEST
PERMEABILITY TEST
PRESSUREMETER TEST
BOREHOLE TELEVIEWER
PIEZOMETER TIP
STANDPIPE TIP

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 2px solid black; padding: 5px; font-weight: bold; font-size: 1.5em;">DRILTECH</div> <div style="text-align: center;"> DRILLHOLE RECORD CONTRACT NO. GE/2014/07 </div> <div style="text-align: right;"> HOLE NO. S2-DH02 SHEET 4 of 11 </div> </div>									
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. GE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)									
METHOD ROTARY					CO-ORDINATES E 820730.23 N 834140.42		WORKS ORDER NO. GE/2014/07.34A		
MACHINE SD17							DATE 30.12.2015 to 08.01.2016		
FLUSHING MEDIUM AIRFOAM					ORIENTATION VERTICAL		GROUND LEVEL +0.73 mPD		
Drilling Progress	Casing Size	Water Level (m) Shift Start/End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Description
31				100				3,5 5,6,7,9 N=27	From 29.25m to 29.50m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
32				96	88	76	7.1	T2-120	Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
33	PW 33.20m HW			0	0	0	NR	T2-120	No recovery, assumed to be CAVITY-FILL DEPOSITS.
34				53	41	41	2.7	T2-120	Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
35				0					Soft, brown (7.5YR 5/4), slightly sandy silty CLAY with some to much angular to subangular coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
36				55				10,6 7,12,14,17 N=50	Firm, brown (7.5YR 5/4) and greyish brown (2.5Y 5/2), slightly sandy silty CLAY. (CAVITY-FILL DEPOSITS)
37									
38				95				5,5 7,8,12,15 N=42	Firm, brown (7.5YR 5/4) mottled dark grey, clayey sandy SILT with some to much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
39									
40				40					

⬆ SMALL DISTURBED SAMPLE
 ⬆ LARGE DISTURBED SAMPLE
 ▨ U76 SAMPLE
 ▨ PISTON SAMPLE (76mm)
 ▨ MAZIER SAMPLE
 □ SPT LINER SAMPLE
 ▲ WATER SAMPLE
 ■ U100 SAMPLE

⬇ STANDARD PENETRATION TEST
 ⬇ IN-SITU VANE SHEAR TEST
 ⊞ PACKER TEST
 ⊞ PERMEABILITY TEST
 ⊞ PRESSUREMETER TEST
 ⊞ BOREHOLE TELEVIEWER
 ⊞ PIEZOMETER TIP
 ⊞ STANDPIPE TIP

LOGGED S.L. Chiu
 DATE 14.01.2016
 CHECKED R. Chu
 DATE 18.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **5** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17****E 820730.23**DATE **30.12.2015** to **08.01.2016****N 834140.42**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
41				0					67 40.00 40.10					As sheet 4 of 11.
42								9,12 8,10,13,16 N=47	68 41.10 69 41.20 70 41.30					
43				100					71 42.10	-41.37	42.10			Stiff, brown (7.5YR 5/4) streaked light grey and yellowish brown, slightly sandy clayey SILT with occasional angular to subangular fine gravel of rock fragments. (CAVITY-FILL DEPOSITS)
44								14,38/25mm 100/50mm 100bbs/50mm	72 43.10 73 43.20 43.30	-42.62 -42.71 -42.91	43.35 43.44 43.64			Moderately strong, dark grey streaked brown, moderately decomposed IMPURE MARBLE.
45					87	81	81	>20 NR	T2-101					From 43.44m to 43.64m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
46								3.5	44.68					Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE with some calcite veins (<80mm thick). Joints are medium to widely spaced, occasionally closely spaced, rough planar and rough undulating, calcite and quartz coated, dipping at 0° to 10°, 20° to 30°, 40° to 50° and 60° to 70°.
47					100	100	100	1.1	T2-101					
48								5.6	46.16					
49					100	100	91		T2-101					
50								1.7	47.67					
					100	100	100		T2-101					
									49.22					
									T2-101					
									49.27		50.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **14.01.2016**
CHECKED **R. Chu**
DATE **18.01.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **6** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD	ROTARY	CO-ORDINATES	WORKS ORDER NO.
MACHINE	SD17	E 820730.23 N 834140.42	GE/2014/07.34A
FLUSHING MEDIUM	AIRFOAM	ORIENTATION VERTICAL	DATE 30.12.2015 to 08.01.2016
		GROUND LEVEL	+0.73 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
51				100	100	100	10.0		T2-101 50.76	50.94 51.04			III	As sheet 5 of 11.
52				100	100	100	1.1		T2-101 52.23	52.83				
53				100	100	100	4.4		T2-101 53.73	53.51				
54				100	100	100			T2-101 55.25	55.25				
55				100	100	100	1.9		T2-101 56.75	56.63				
56				100	98	98			T2-101 58.30	58.30				
57				100	97	93	7.8		T2-101 59.75	59.17 59.43 59.75				
58				100			2.3		T2-101 59.75	59.75				
59				100	99	91	15.4 3.1		T2-101 59.75	59.75				
60				100			>20		T2-101 59.27	59.27				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 14.01.2016
CHECKED R. Chu
DATE 18.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**

SHEET 7 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820730.23

N 834140.42

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
61				100	79	68	5.0		T2-101	60.12	60.32		III	
									60.87					
62				100	98	98	0.5		T2-101	62.20	62.20			
									61.47					Casing installation, assumed to be CAVITY.
63														
64														
65														
66														
67														
68														
69														
06.01.2016 07.01.2016														
70				100	86	78	3.1		TNW	69.18	68.45	69.18	III	Moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
											69.34			From 70.20m to 70.26m: With a coarse gravel sized
										68.27	70.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **14.01.2016**
CHECKED **R. Chu**
DATE **18.01.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **8** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820730.23**N **834140.42**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
									TNW 70.30	-69.57	70.30		III	void. Casing installation, assumed to be CAVITY.
71														
72														
73														
74														
75														
76														
77														
78														
79														
80							16.7		TNW 79.40	-78.67	79.40 79.48		III	Moderately strong to strong, dark grey streaked light grey and white, moderately decomposed IMPURE MARBLE with some calcite and quartz veins

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **14.01.2016**
CHECKED **R. Chu**
DATE **18.01.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**SHEET **9** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820730.23**N 834140.42**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
81				100	95	88			TNW	80.77			III	(<20 mm thick). Joints are closely to medium spaced, occasionally very closely spaced, rough planar and rough undulating, calcite coated, occasionally quartz infilled (<20 mm thick) and iron oxide stained, dipping at 0° to 10° , 30° to 40° and 50° to 60° .
82				100	89	76	5.1		TNW	81.97	81.78			From 82.20m to 82.37m: Moderately strong and moderately decomposed with slight dissolution and some fine to medium gravel sized voids.
							>20				-81.64 -82.37 -81.77 82.50			From 82.37m to 82.50m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
83	NW 83.25m			90	30	0	NR		TNW				III	Moderately strong to strong, dark grey streaked light grey, mottled light grey, moderately decomposed IMPURE MARBLE.
84				100	100	91	6.8		TNW	84.45				Joints are closely to medium spaced, occasionally very closely and widely spaced, rough planar and rough undulating, calcite coated, occasionally iron oxide stained and clean, dipping at 0° to 10° , 20° to 30° and 45° to 55° .
85				100	98	94			TNW	85.55	85.32			From 82.50m to 82.77m: Moderately weak to moderately strong and moderately decomposed.
86				100	100	99	3.2		TNW					
87				100	100	100	1.1		TNW	87.08	87.54			
88				100	100	100	1.1		TNW	88.44 88.61 88.70				
89				100	99	95	1.1		TNW	88.57				
90											-89.27 90.00			

↓ SMALL DISTURBED SAMPLE
↓ LARGE DISTURBED SAMPLE
U76 SAMPLE
PISTON SAMPLE (76mm)
MAZIER SAMPLE
SPT LINER SAMPLE
▲ WATER SAMPLE
■ U100 SAMPLE

↓ STANDARD PENETRATION TEST
✓ IN-SITU VANE SHEAR TEST
PACER TEST
PERMEABILITY TEST
PRESSUREMETER TEST
BOREHOLE TELEVIEWER
PIEZOMETER TIP
STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

14.01.2016

CHECKED

R. Chu

DATE

18.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**

SHEET 10 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820730.23

N 834140.42

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
91				100	100	95	12.5		TNW	90.04	90.56 90.64		III	As sheet 9 of 11.
92				100	100	100	1.5		TNW	91.58				
93				100	100	94			TNW	93.08				
94				100	100	94			TNW	94.58	94.74			
95				100	98	96	7.1		TNW	96.03	95.02			
96				100	100	100	0.7		TNW	97.54	96.40			
97				100	100	100			TNW	99.06				
98				100	100	100	2.5		TNW					
99				100	100	96			TNW					
100				100	100	96			TNW	-99.27	100.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

14.01.2016

CHECKED

R. Chu

DATE

18.01.2016

REMARKS

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH02**

SHEET 11 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820730.23

N 834140.42

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **30.12.2015** to **08.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.73 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
101				100	100	98	1.6		TNW 100.54		100.40		III	As sheet 10 of 11.
102							5.8		TNW 102.06		101.03			
103				100	98	98	0.0		TNW 102.59		102.59			
104										-102.80	103.53			End of hole at 103.53 m.
105														
106														
107														
108														
109														
110														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 14.01.2016
CHECKED R. Chu
DATE 18.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **1** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.54**N **834098.13**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **20.01.2016** to **26.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.71 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
20.01.2016	SW													
1				74				B=45 2,3 2,3,3 N=11	1 T2-120 2 3 4 5	0.00 +0.71 +0.21 -0.49 -0.99	0.00 0.50 1.20 1.70			Grey (7.5YR 6/1) mottled red, angular to subangular, slightly sandy fine to coarse GRAVEL of rock fragments. (FILL) Grey (7.5YR 6/1) mottled reddish brown, angular to subangular, slightly sandy fine to coarse GRAVEL and some cobble of rock fragments. (FILL) Medium dense, grey (7.5YR 5/1), slightly silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (FILL)
2				100					6 7 8 9 10	2.10 2.65 3.20 4.20 4.30 4.40				Stiff, light grey (10YR 7/2), slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
3									11 12 13 14	5.20 5.95 5.80 6.10				Medium dense, dark grey (7.5YR 4/1), slightly clayey silty fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
4				100				B=25 2,2 2,2,3 N=10	15 16 17 18 19	6.65 7.20 7.65 7.70 7.80				Stiff, grey (10YR 6/1), slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of quartz fragments and with occasional wood fragments. (ALLUVIUM) Stiff, grey (10YR 6/1), slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5									20 21 22 23	8.65 9.20 9.95 9.80				
6								B=38 2,4 4,5,7,8 N=24						Grey (7.5YR 6/1), angular to subangular, slightly clayey silty sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
7				89										
8								B=85 3,5 5,6,7,10 N=28						
9														
10				100										

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

28.01.2016

CHECKED

R. Chu

DATE

29.01.2016

REMARKS

- An inspection pit was excavated to 0.50m deep by hand tools.
- Constant head permeability test was carried out at section from 5.20m to 6.70m.
- Acoustic borehole televiewer survey was carried out from 41.49m to 61.49m.

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **2** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820723.54

N 834098.13

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **20.01.2016** to **26.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.71 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									24	10.10				As sheet 1 of 7.
									25	10.65				
									26	11.20	-10.49	11.20		Very stiff, brown (7.5YR 4/2) spotted grey and light grey, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (KARST DEPOSITS)
12									27	11.55				
									28	11.80				
									29	12.10				
									30	12.65				
13									31	13.20	-12.49	13.20		Brown (7.5YR 4/4) and greyish brown (10YR 5/2), angular to subangular, clayey silty sandy fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
14									32	14.20				
									33	14.50	-13.88	14.60		Very dark grey (10YR 3/1) mottled brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS)
15									T2-120	15.30				Very dark grey (10YR 3/1) mottled brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS)
16									T2-120	16.10	-15.39	16.10		Very dark grey (10YR 3/1) dappled brown, angular to subangular, slightly sandy silty very clayey fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS)
17									T2-120	16.70	-15.99	16.70		Very dark grey (10YR 3/1) mottled brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS)
18									34	17.50	-16.79	17.50		Very stiff, dark grey (10YR 4/1) mottled brown, slightly sandy silty CLAY with much angular to subangular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
19									35	18.50				
									36	18.60				
20									37	19.60				
									38	19.70	-19.29	20.00		

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

28.01.2016

CHECKED

R. Chu

DATE

29.01.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH04										
				SHEET 3 of 7										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820723.54 N 834098.13		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD17				DATE 20.01.2016 to 26.01.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.71 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				40				7.11 11.5, 6.6 N=28 ↓	39	20.10				As sheet 2 of 7.
22				40					40	20.60				
									41	21.60				
									42	21.70				
23								13.28 62.38/25mm 1/100bls/100mm ↓	43	22.70	-22.09	22.80		Very stiff, very dark grey (10YR 3/1) streaked light grey, slightly sandy silty CLAY. (KARST DEPOSITS)
									44	22.80				
									45	22.90				
									46	23.20				
24				30				13.28 62.38/25mm 1/100bls/100mm ↓	46	23.70	-22.09	23.70		Very dark grey (10YR 3/1), angular to subangular, slightly clayey silty sandy fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
25				30					47	24.70				
									48	24.80				
									49	25.80				
26								13.28 62.38/25mm 1/100bls/100mm ↓	50	25.90				Very dark grey (10YR 3/1), angular to subangular, silty sandy very clayey fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
									51	26.80	-26.09	26.80		
27				30					52	27.80				
									53	27.90	-27.19	27.90		
28								5.8 9.8, 10.11 N=37 ↓	54	28.90				Very stiff, light brown (7.5YR 6/4) and dark grey (7.5YR 4/1) mottled very pale brown, slightly sandy clayey SILT with occasional angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)
29				100					55	29.00				
									56	29.10				
									57	29.40				
30									57	29.90	-28.18	29.90		REMARKS
<div style="display: flex; justify-content: space-between;"> <div> <p>↓ SMALL DISTURBED SAMPLE</p> <p>↑ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>↓ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>⊥ PACKER TEST</p> <p>⊥ PERMEABILITY TEST</p> <p>⊥ PRESSUREMETER TEST</p> <p>⊥ BOREHOLE TELEVIEWER</p> <p>⊥ PIEZOMETER TIP</p> <p>⊥ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 28.01.2016 CHECKED R. Chu DATE 29.01.2016					



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **4** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820723.54**N 834098.13**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **20.01.2016** to **26.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.71 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
31				95				4.5 7.9, 10, 12 N=38	58 30.80 59 31.10 60 31.40	-30.29	31.00			Very stiff, yellowish red (5YR 5/8) mottled dark grey, slightly sandy silty CLAY with some to much angular to subangular fine to coarse gravel of quartz and rock fragments. (KARST DEPOSITS)
32				100				7.10 8.13, 15, 20 N=58	61 31.90 62 32.60 63 33.00 64 33.10 65 33.40					Very stiff, greyish brown (10YR 5/2) mottled light grey and grey, slightly sandy silty CLAY with some to much angular to subangular fine to coarse gravel of quartz and rock fragments. (KARST DEPOSITS)
33														
34				35				7.16 35.65/65mm 100bbls/130mm	66 34.90 67 35.00 68 36.00 69 36.10 70 36.33					
35				0										
36														
37				0										Dark grey (10YR 4/1) streaked brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
38				40										
39								13.30 52.48/35mm 100bbls/110mm	71 39.10 72 39.20 73 39.41					
40	PW 39.88m								72 39.88	-39.17	39.88			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

28.01.2016

CHECKED

R. Chu

DATE

29.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **5** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.54**N **834098.13**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD17

DATE

20.01.2016 to 26.01.2016

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.71 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
41	HW			100	98	75	0.9		T2-120		41.01		II	Strong, dark grey streaked light grey, slightly decomposed IMPURE MARBLE. Joints are closely to medium spaced, occasionally very closely and widely spaced, rough planar and rough undulating, calcite coated. occasionally clean, dipping at 0° to 10°, 10° to 20°, 20° to 30°, 30° to 40° and 50° to 60°.
23.01.2016 25.01.2016							7.9		41.21		41.39			
42				100	100	100			T2-120					
							0.9		42.68					
43				100	99	96			T2-120		43.70			
44							7.7		44.15		43.96			
							5.6		44.67					
45				100	98	98	1.5		T2-120		45.32			
							7.1		45.84		45.46			
46							1.3		T2-120		46.24			
				100	100	100	6.3		46.82		46.40			
47									T2-120					
				100	99	94			48.31					
48							3.8		T2-120					
49				100	100	89			49.56		49.56			
	HW 49.56m								T2-101		50.00			
50										-49.29				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

28.01.2016

CHECKED

R. Chu

DATE

29.01.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **6** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.54**N **834098.13**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **20.01.2016** to **26.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.71 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
51				100	100	100		3.6	T2-101	50.96				As sheet 5 of 7.
52				100	100	100			T2-101	51.78				
53				100	100	100		1.3	T2-101	53.25				
54				100	100	99		5.7	T2-101	54.69				
55				100	96	96	16.7	0.8	T2-101	55.43				Strong to very strong, grey and light grey streaked dark grey, dappled light reddish brown, slightly decomposed IMPURE MARBLE. Joints are closely to medium spaced, occasionally very closely and widely spaced, rough planar and rough undulating, calcite coated, occasionally iron and manganese oxide stained, dipping at 10° to 20°, 40° to 50° and 60° to 70°.
56				100	98	97		3.1	T2-101	56.19				
57				100	100	100		1.0	T2-101	57.68				
58				100	62	48		6.3	T2-101	58.75				
59							9.4			59.23				
60										59.55				
										60.00				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **28.01.2016**
CHECKED **R. Chu**
DATE **29.01.2016**

REMARKS

**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH04**SHEET **7** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.54**N **834098.13**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **20.01.2016** to **26.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.71 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
61				100	63	61	15.8		T2-101	60.20	60.20		III	As sheet 6 of 7.
28.01.2016							1.3		T2-101	60.87	61.58		II	End of hole at 61.58 m.
62														
63														
64														
65														
66														
67														
68														
69														
70														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

28.01.2016

CHECKED

R. Chu

DATE

29.01.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**

SHEET 1 of 11

PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.65

N 834096.66

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **08.01.2016 to 04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
08.01.2016	SW													
1				0				B=28	1	0.00	0.00			Grey (7.5YR 6/1) spotted brown and white, angular to subangular, slightly sandy fine to coarse GRAVEL of quartz and rock fragments. (FILL)
2				100				B=38	2	0.45	0.50			
3								1,2 3,3,3,4 N=13	3	0.95	1.00			Medium dense, very pale brown (10YR 7/3), slightly silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (FILL)
4									4	1.45	1.50			
5									5	1.90	2.00			Medium dense, very pale brown (10YR 7/3) spotted red, clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (FILL)
6									6	2.45	2.50			
7				100				B=13	7	3.00	3.00			Firm, light grey (10YR 7/1) spotted red, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8								1,1 2,4,3,1 N=10	8	3.55	3.60			Loose, very pale brown (10YR 7/3) spotted reddish brown, slightly silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
9									9	3.90	4.00			Soft, light grey (10YR 7/1) mottled reddish brown, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
10									10	4.45	4.50			Loose, light grey (10YR 7/1), slightly clayey silty fine to coarse SAND with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
11				100				B=30	11	5.00	5.00			Medium dense, dark greyish brown (10YR 4/2) mottled light grey and very dark grey, slightly silty clayey fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
12								3,4 3,2,2,2 N=6	12	5.55	5.60			
13									13	5.90	6.00			
14									14	6.45	6.50			
15				100				B=16	15	7.00	7.00			Medium dense, light grey (2.5YR 7/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
16								1,2 3,3,3,4 N=13	16	7.55	7.60			
17									17	7.60	7.70			
18									18	7.90	8.00			
19									19	8.45	8.50			
20				100				B=37	20	9.00	9.00			
21								2,3 2,4,3,3 N=12	21	9.45	9.50			
22									22	9.90	10.00			

- ↑ SMALL DISTURBED SAMPLE
↑ LARGE DISTURBED SAMPLE
▨ U76 SAMPLE
▨ PISTON SAMPLE (76mm)
▨ MAZIER SAMPLE
▨ SPT LINER SAMPLE
▲ WATER SAMPLE
■ U100 SAMPLE

- ↓ STANDARD PENETRATION TEST
↓ IN-SITU VANE SHEAR TEST
↓ PACKER TEST
↓ PERMEABILITY TEST
↓ PRESSUREMETER TEST
↓ BOREHOLE TELEVIEWER
↓ PIEZOMETER TIP
□ STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS

1. An inspection pit was excavated to 0.50m deep by hand tools.
2. Constant head permeability test was carried out at section from 6.50m to 8.00m.

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **2** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820708.65**N **834096.66**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD10

DATE

08.01.2016 to **04.02.2016**

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.66 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				100				B=56 2,2 3,3,4,5 N=15 ↓	23 = 10.45 24 11.00 25 11.55 26 11.60 27 11.90				Medium dense, light grey (2.5YR 7/1), slightly clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)	
12	SW 12.50m PW								28 = 12.45					
13				100				B=66 3,3 4,4,3,5 N=16 ↓	29 13.00 30 13.55 31 13.60 32 13.90					
14									33 = 14.45					
09.01.2016 12.01.2016				100				B=76 8,8 5,6,7,11 N=29 ↓	34 15.00 35 15.55	-14.34 15.00 -14.84 15.50			Firm, dark grey (10YR 5/1), angular to subangular, slightly sandy clayey silty fine to medium GRAVEL of rock fragments. (KARST DEPOSITS)	
16									36 = 15.90 37 = 16.45				Very stiff, dark yellowish brown (10YR 4/4) mottled grey and very dark grey, slightly sandy clayey SILT with occasional angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)	
17				100				B=56 3,4 7,7,8,9 N=31 ↓	38 17.00 39 17.55 40 17.60 41 17.90					
18									42 = 18.45					
19				0					19.00	-18.34 19.00			Greyish brown (2.5Y 5/2) and yellowish brown (10YR 5/4) mottled grey, dark grey and white, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS)	
20										-19.34 20.00				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U78 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **3** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.65**N 834096.66**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
				0					43 20.00 20.10 44 20.65 20.75 T2-120 21.78 T2-120					As sheet 2 of 11.
21				96						-20.09 -20.24 20.75 20.90				Grey (10YR 5/1) mottled white, angular to subangular, fine to coarse GRAVEL of quartz and rock fragments. (KARST DEPOSITS) Dark grey (10YR 4/1) streaked light grey, angular to subangular, BOULDER of slightly decomposed impure marble fragments. (KARST DEPOSITS)
22				90						-21.92 -22.32 22.58 22.98				Dark grey (10YR 4/1) streaked light brown, angular to subangular, COBBLE and some coarse gravel of rock fragments. (KARST DEPOSITS) Dark grey (10YR 4/1) streaked grey and light grey, angular to subangular, medium to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
23				0										From 23.96m to 24.23m: With a boulder of slightly decomposed impure marble fragment.
24				55					45 23.86 23.96 T2-120 24.50					
25				0						-24.94 25.60				
26				0					46 25.50 25.60 T2-120	-25.94 26.60				Firm, grey (7.5YR 5/1) mottled yellowish brown, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (KARST DEPOSITS)
27				96					47 26.50 26.60 T2-120					Grey (7.5YR 5/1) streaked light grey, mottled yellowish brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS) From 26.60m to 26.82m and 27.46m to 27.80m: With some boulder of slightly decomposed impure marble fragments.
28				0					48 27.80 28.06 28.16 T2-120	-27.14 -27.50 27.80 28.16				Firm, yellowish brown (10YR 5/6) mottled grey, slightly sandy silty CLAY with some angular to subangular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
29				76					T2-120	-28.04 28.70				Dark grey (10YR 4/1) streaked light grey, angular to subangular, COBBLE and BOULDER of moderately decomposed impure marble fragments. (KARST DEPOSITS) Firm, yellowish brown (10YR 5/6) spotted light grey and grey, slightly sandy silty CLAY with some to much angular to subangular fine to coarse gravel of
30				0					29.30					

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **4** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.65**N 834096.66**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
31	PW 30.60m HW			0					49 30.30 50 30.40 30.60	-29.94	30.60			rock fragments. (KARST DEPOSITS)
32 13.01.2016 14.01.2016				100	91	89	0.7		T2-120		31.98		II	Strong, dark grey streaked light grey, slightly decomposed IMPURE MARBLE. From 33.25m to 33.50m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
33				82	73	73	0.9		T2-120		33.12 33.25			
34				0			>20 NR		33.50	-32.59	33.50			Dark grey (10YR 4/1) streaked light grey, angular to subangular, fine to coarse GRAVEL and occasional cobble of rock fragments. (CAVITY-FILL DEPOSITS) From 33.50m to 34.60m and 35.65m to 36.00m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
35				0					51 34.60 34.60					
36				30	18	0	6.7 NR		52 35.40 35.50		35.50 35.65			
37				0					T2-101		36.00			
38				95	53	47	12.8		53 36.00 37.00	-38.34	37.00		III	Moderately strong, dark grey (10YR 4/1) streaked light grey, moderately decomposed IMPURE MARBLE. From 38.75m to 39.00m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
39				50	6	6	>20 NR		T2-101		38.50 38.75			
40				0						-38.34	39.00			No recovery, assumed to be CAVITY-FILL DEPOSITS.

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U78 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **13.02.2016**
CHECKED **R. Chu**
DATE **26.02.2016**

REMARKS





DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **6** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.65

N 834096.66

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD10

DATE

08.01.2016 to 04.02.2016

FLUSHING MEDIUM

AIRFOAM

ORIENTATION **VERTICAL**

GROUND LEVEL

+0.66 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
51				0										be CAVITY-FILL DEPOSITS. No recovery, assumed to be CAVITY-FILL DEPOSITS.
				42	24	19	13.2							Moderately strong, dark grey mottled yellowish brown, moderately decomposed IMPURE MARBLE.
							NR							From 50.98m to 51.50m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
52				0										Dark grey (10YR 4/1) streaked light grey and yellowish brown, angular to subangular, coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
														From 52.60m to 53.50m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
53				0										
54														Moderately weak to moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
														From 53.95m to 54.35m, 55.50m to 56.30m, 57.00m to 57.52m, 58.02m to 58.30m and 60.66m to 61.29m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
														From 59.39m to 59.70m: With some dissolutions.
55														
56														
57														
58														
59														
60														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**

SHEET 7 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.								
MACHINE		SD10		E 820708.65 N 834096.66		GE/2014/07.34A								
FLUSHING MEDIUM		AIRFOAM		ORIENTATION		VERTICAL								
GROUND LEVEL		+0.66 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
61	NW 61.29m			100	64	61	>20		TNW	60.26	60.08		III	As sheet 6 of 11.
62				39	16	16	6.3		TNW	61.29	61.29		II	Strong, dark grey streaked light grey, slightly decomposed IMPURE MARBLE with some calcite veins (<300mm thick). Joints are closely to medium spaced, occasionally widely spaced, rough planar and rough undulating, iron oxide stained and calcite infilled, dipping at 30° to 40° and 50° to 60°. From 64.85m to 65.52m: Moderately strong and moderately decomposed. From 71.32m to 71.55m, 72.27m to 72.50m, 72.75m to 72.95m, 74.16m to 74.36m and 75.40m to 75.60m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
63				95	91	91	2.3		TNW	62.59	62.69			
65				100	100	100	0.9		TNW	63.95	64.19		III	
66				100	91	87	2.6		TNW	65.43	65.24		II	
67				100	98	94	1.9		TNW	66.95	66.95			
68				100	86	77	4.5		TNW	68.46	68.46			
69				100	88	88	5.5		TNW	69.73	69.73			
70							>20		TNW	69.73	69.73			

SMALL DISTURBED SAMPLE

LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED S.L. Chiu
DATE 13.02.2016
CHECKED R. Chu
DATE 26.02.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **8** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820708.65**N **834096.66**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
71				100	86	84	2.9		↑ TNW				II	As sheet 7 of 11.
				100	100	100			↓ -71.02					
									↑ -71.32	-70.66	71.32			
									↓ -70.66	-70.66	71.32			
72				81	61	43	4.2		↑ TNW				II	
							NR		↓ -71.81	-71.81	72.27			
							8.0		↑ -72.50	-71.84	72.50		II	
							NR		↓ -72.09	-72.09	72.75		II	
73				82	79	51	11.8		↑ TNW				II	
									↓ -72.29	-72.29	72.95			
73.01.2016 25.01.2016							2.9		↑ -73.60					Lowering casing, assumed to be CAVITY.
74				83	82	68	NR		↓ -73.50	-73.50	74.16			
									↑ -73.70	-73.70	74.36		II	
									↓ -74.80					
75				75	65	58	6.7		↑ TNW					
							NR		↓ -74.74	-74.74	75.40			
25.01.2016 01.02.2016									↓ -75.60	-74.94	75.60			
76														
77														
78														
79														
80										-79.34	80.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 13.02.2016
CHECKED R. Chu
DATE 26.02.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **9** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10****E 820708.65
N 834096.66**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
01.03.2016 02.02.2016														As sheet 8 of 11.
82				51	8	0	>20			-80.97	-80.31	-80.97	III	Moderately weak to moderately strong, grey mottled light grey, moderately decomposed IMPURE MARBLE.
							NR			-80.84	81.50			From 81.50m to 82.00m and 82.32m to 82.60m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
							3.1			-82.00	-81.34	82.00	III	
							NR			-81.66	82.32			From 83.83m to 84.23m: Stiff, yellowish brown (10YR 5/4) streaked grey, slightly sandy clayey SILT with occasional angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
83				78	75	75				-81.84	82.60		III	
							3.3			-83.30				
84				97	66	62	NA			-83.17	83.83			
							8.0			-83.57	84.23		III	
85										-84.73	-84.07	84.73		Lowering casing, assumed to be CAVITY.
										-85.17	-84.51	85.17	III	Moderately weak to moderately strong, grey mottled light grey, moderately decomposed IMPURE MARBLE.
86				95	94	94	0.7			-86.65	-85.99	86.65		Lowering casing, assumed to be CAVITY.
87														
02.02.2016 03.02.2016							>20			-87.54	-86.88	87.54	III	Moderately weak to moderately strong, grey mottled light grey, moderately decomposed IMPURE MARBLE.
88				39	9	0	NA			-87.28	87.94	88.04		Firm, greyish brown (2.5Y 5/2) streaked light grey, mottled grey, slightly sandy clayey SILT with much angular to subangular coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
							NR			-88.82	-88.16	88.82		
89				83	21	0	>20			-88.41	89.07		III	From 88.04m to 88.82m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
							NA			-89.30	89.30			Moderately weak to moderately strong, grey mottled light grey, moderately decomposed IMPURE MARBLE.
90														

- | | |
|--------------------------|-----------------------------|
| ↓ SMALL DISTURBED SAMPLE | ↓ STANDARD PENETRATION TEST |
| ↑ LARGE DISTURBED SAMPLE | ↓ IN-SITU VANE SHEAR TEST |
| ▨ U76 SAMPLE | ↓ PACKER TEST |
| ▨ PISTON SAMPLE (76mm) | ↓ PERMEABILITY TEST |
| ▨ MAZIER SAMPLE | ↓ PRESSUREMETER TEST |
| ▨ SPT LINER SAMPLE | ↓ BOREHOLE TELEVIEWER |
| ▲ WATER SAMPLE | ↓ PIEZOMETER TIP |
| ■ U100 SAMPLE | □ STANDPIPE TIP |

LOGGED **S.L. Chiu**
DATE **13.02.2016**
CHECKED **R. Chu**
DATE **26.02.2016**

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**SHEET **10** of **11**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820708.65**N **834096.66**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
91														Stiff, brown (10YR 5/3) mottled grey, slightly sandy clayey SILT with much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS) Lowering casing, assumed to be CAVITY.
92														
93														
94														
95														
96														
97														
98														
99														
100														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BORHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **13.02.2016**
CHECKED **R. Chu**
DATE **26.02.2016**

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH05**

SHEET 11 of 11

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**E **820708.65**N **834096.66**DATE **08.01.2016** to **04.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.66 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
101														As sheet 10 of 11.
102														
103														
04.02.2016										-102.64	103.30			
104														End of hole at 103.30 m.
105														
106														
107														
108														
109														
110														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 13.02.2016
CHECKED R. Chu
DATE 26.02.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH06									
		SHEET 1 of 14												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820724.53 N 834067.11		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD13					DATE 02.01.2016 to 15.02.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.76 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
02.01.2016	SW													
1				100				B=13 1.1 1.1,2.2 N=8	1 0.00 2 0.45 3 0.50 4 0.95 5 1.10 6 1.40	+0.76 -0.24 -0.89	0.00 1.00 1.45			Greyish brown (10YR 5/2) spotted yellowish brown and dark brown, angular to subangular, sandy fine GRAVEL of quartz fragments. (FILL)
2									7 1.95 8 2.50 9 3.05 10 3.10 11 3.40	-1.74	2.50			Loose, light grey (10YR 7/1), slightly silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM) Firm, grey (10YR 5/1), slightly sandy silty CLAY with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
3				100				B=64 2.3 2.3,5.2 N=18	12 4.50 13 5.05 14 5.10 15 5.40	-3.74	4.50			Medium dense, very pale brown (10YR 7/3) mottled light grey and brownish yellow, spotted dark grey, slightly silty clayey fine to coarse SAND with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
4									16 5.95					
5				89				B=51 2.2 3.4,5.6 N=18	17 6.50 18 6.95 19 7.00 20 7.65 21 7.50 22 7.90	-5.74	6.50			Medium dense, very pale brown (10YR 7/3), slightly silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6									23 8.45					
7				33				B=15 B=44 2.2 5.6,8.11 N=30	24 9.00 25 9.85 26 9.60 27 9.90	-8.74	9.50			Medium dense, dark grey (10YR 4/1), slightly silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8														
9				100				B=46 5.0 12.18,25.34 N=89		-9.19	9.95			Very dense, grey (10YR 6/1), slightly silty fine to coarse SAND with some angular to subangular fine
10														
<div style="display: flex; justify-content: space-between;"> <div> <p>SMALL DISTURBED SAMPLE</p> <p>LARGE DISTURBED SAMPLE</p> <p>U76 SAMPLE</p> <p>PISTON SAMPLE (76mm)</p> <p>MAZIER SAMPLE</p> <p>SPT LINER SAMPLE</p> <p>WATER SAMPLE</p> <p>U100 SAMPLE</p> </div> <div> <p>STANDARD PENETRATION TEST</p> <p>IN-SITU VANE SHEAR TEST</p> <p>PACKER TEST</p> <p>PERMEABILITY TEST</p> <p>PRESSUREMETER TEST</p> <p>BOREHOLE TELEVIEWER</p> <p>PIEZOMETER TIP</p> <p>STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 22.02.2016 CHECKED R. Chu DATE 23.02.2016		REMARKS 1. An inspection pit was excavated to 0.50m deep by hand tools. 2. Constant head permeability test was carried out at section from 14.60m to 16.10m.			

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **2** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820724.53**N 834067.11**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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				100				B=103 2.2 4.3, 5.6 N=18	28 10.45 29 11.00 30 11.55 31 11.60 32 11.90	-10.24	11.00			gravel of quartz fragments. (ALLUVIUM) Dark grey (10YR 4/1) spotted light grey, angular to subangular, slightly silty sandy fine to coarse GRAVEL of quartz fragments. (ALLUVIUM)
12									33 12.45 34 13.00 35 14.00 36 14.10 37 14.20 38 14.50					Very stiff, yellowish red (5YR 5/6) spotted very dark grey, black and light grey, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
13	SW 13.00m PW			100				4.6 6.6, 8.12 N=32	39 15.00 40 16.00 41 16.10 42 16.20 43 16.50					
14									44 17.00 45 18.00 46 18.10 47 18.20 48 18.50					
15				95				4.5 7.7, 9.9 N=32						
16														
17				100				4.5 6.6, 6.7 N=25						
18														Very stiff, yellowish red (5YR 5/6) spotted very dark grey, black and light grey, slightly sandy silty CLAY with occasional angular fine to medium gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
19														Very stiff, reddish yellow (7.5YR 6/6) spotted very brown and dark brown, slightly sandy clayey SILT with some angular fine to coarse gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
20				100										

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **22.02.2016**
CHECKED **R. Chu**
DATE **23.02.2016**

REMARKS

**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **3** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**CO-ORDINATES
E 820724.53
N 834067.11WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
05.01.2016 06.01.2016								4,6 5,6,7,8 N=26	47 20.00 48 20.20 49 20.50					As sheet 2 of 14.
21				100				6,7 8,8,10,12 N=38	50 21.00 51 22.00 52 22.10 53 22.50					
22								8,9 9,13,13,16 N=51	54 23.00 55 24.00 56 24.10 57 24.50					
23				100					58 25.00					
24								6,7 9,10,12,15 N=48	59 26.00 60 26.10 61 26.50	-25.34	26.10			
25				100					62 27.00					
26								7,9 11,12,13,15 N=51	63 28.00 64 28.10 65 28.20 66 28.50					
27				100										
28														
29														
30				100						-29.24	30.00			Very stiff, yellowish brown (10YR 5/4) spotted greyish brown, light brown and grey, slightly sandy clayey SILT with occasional angular fine to medium gravel of rock fragments. (DEBRIS FLOW DEPOSITS)

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 22.02.2016
CHECKED R. Chu
DATE 23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **4** of **14**

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13****E 820724.53**DATE **02.01.2016** to **15.02.2016****N 834067.11**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
31								5,6 7,8,10,13 N=38	67 30.00 68 30.10 69 30.20					As sheet 3 of 14.
32				100				6,7 10,11,12,13 N=48	70 31.00 71 32.00 72 32.10 73 32.20	-30.24	31.00			Very stiff, yellowish red (5YR 5/8) streaked very dark brown and light brown, slightly sandy silty CLAY with some angular fine to coarse gravel of quartz fragments (DEBRIS FLOW DEPOSITS)
33				100					74 33.00					Very stiff, yellowish red (5YR 5/8) streaked very dark brown and light brown, slightly sandy silty CLAY. (DEBRIS FLOW DEPOSITS)
34 06.01.2016 07.01.2016								3,4 5,6,7,8 N=26	75 34.00 76 34.10 77 34.20	-33.34	34.10			Very stiff, yellowish red (5YR 5/8) streaked very dark grey, slightly sandy silty CLAY with some angular fine to coarse gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
35				100					78 35.00					
36								12,19 22,20,22,24 N=88	79 36.00 80 36.10 81 36.20	-35.34	36.10			Very stiff, black (10YR 2/1) streaked brown, slightly sandy SILT with occasional angular fine to medium gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
37				92					82 37.00					
38								8,18 39,81/75mm 100bls/150mm	83 38.00 84 38.10 85 38.20 86 38.35					
39				33						-38.24	39.00			Black (10YR 2/1) spotted brown, angular, slightly clayey silty sandy fine to coarse GRAVEL of rock fragments. (DEBRIS FLOW DEPOSITS)
40										-39.24	40.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 22.02.2016
CHECKED R. Chu
DATE 23.02.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **5** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820724.53**N **834067.11**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD13

DATE

02.01.2016 to **15.02.2016**

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.76 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
41				43				9,14 15,24,24,25 N=88	87 40.00 88 40.10					As sheet 4 of 14.
42	PW 42.10m HW			100				6,10 10,10,11,13 N=44	89 41.10 90 41.20 91 41.30 92 42.10	-40.44	41.20			Very stiff, dark greyish brown (10YR 4/2) streaked black and white, mottled brown, slightly sandy clayey SILT with some angular fine gravel of rock fragments. (DEBRIS FLOW DEPOSITS)
43				100				9,10 12,12,15,17 N=56	93 43.10 94 43.20 95 43.60					
44				100				9,9 12,12,15,17 N=56	96 44.10 97 45.10 98 45.20 99 45.30	-43.34	44.10		V	Extremely weak, dark grey (5Y 4/1) streaked light yellowish brown, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
45				100				8,18 25,25,32,18/25mm 100bls/250mm	100 46.10 101 47.10 102 47.25 103 47.55	-44.44	45.20		V	Extremely weak, dark grey (5Y 4/1) streaked yellowish brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
46				100				12,22 30,38,32/50mm 100bls/200mm	104 48.10 105 49.10 106 49.20 107 49.50	-46.44	47.20		V	Extremely weak, dark grey (5Y 4/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)
47														
48														
49														
50										-49.24	50.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BORHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **6** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820724.53**N **834067.11**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
51				100				19.31 72.28/15mm 100bls/80mm	108 50.10 109 51.10 110 51.20 111 51.39	-49.34	50.10		V	As sheet 5 of 14. Extremely weak to very weak, very dark grey (5Y 3/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to coarse gravel of siltstone fragments)
52				100				15.35 56.44/55mm 100bls/130mm	112 52.10 113 53.10 114 53.20 115 53.43					
53				100										
54				100				15.24 32.35/33/40mm 100bls/180mm	116 54.10 117 55.10 118 55.20 119 55.49	-53.34	54.10		IV	Weak to moderately weak, very dark grey (5Y 3/1) streaked yellowish brown and yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
55				100										
56				100				12.19 24.38/38/70mm 100bls/220mm	120 56.10 121 57.10 122 57.22 123 57.52	-55.34	56.10		V	Extremely weak to very weak, very dark grey (5Y 3/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to coarse gravel of siltstone fragments)
57				100										
58				100				11.13 18.38/44/70mm 100bls/220mm	124 58.10 125 59.10 126 59.22 127 59.52					
59				100										
60										-59.24	60.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **7** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820724.53**N **834067.11**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD13

DATE

02.01.2016

to

15.02.2016

FLUSHING MEDIUM

AIRFOAM

ORIENTATION

VERTICAL

GROUND LEVEL

+0.76 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
61 09.01.2016 12.01.2016				100				14.27 53.47/55mm 100bbls/130mm	128 60.10 129 61.10 130 61.20 131 61.43				V	As sheet 6 of 14.
62				100				50/70mm 81.19/5mm 100bbls/60mm	132 62.10 133 63.10 134 63.20 135 63.30 136 63.46					
63														
64														
65				100				15.27 37.51,12/10mm 100bbls/160mm	137 65.10 138 65.20 139 65.46				IV	Weak, very dark grey (5Y 3/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
66														
67				90				50/50mm 100/50mm 100bbls/50mm	140 66.10 141 67.10 142 67.28				IV	Moderately weak, very dark grey (5Y 3/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy fine to coarse GRAVEL of highly decomposed siltstone fragments)
68														
69				100				9.10 14.16,21,24 N=75	143 68.10 144 69.10 145 69.20 146 69.30 147 69.60					Very stiff, yellowish red (5YR 5/6) streaked grey and dark red, spotted light yellowish brown, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
70 12.01.2016 13.01.2016														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **8** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820724.53**N 834067.11**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
71				100				6.5 5,16,18,20 N=62 ↓	47 70.10 48 71.10 49 71.20 50 71.30 51 71.60				As sheet 7 of 14.	
72				100					52 72.10 53 73.10 54 73.20					
73								10.22 23,26,50/70mm 54bls/220mm ↓	55 74.10 56 75.10 57 75.20 58 75.27	-72.44	73.20		Yellowish red (5YR 5/6) spotted grey, angular, slightly sandy silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)	
74				100					59 76.10 60 77.10 61 77.20 62 77.52	-74.44	75.20		Yellowish red (5YR 5/6) streaked dark grey, angular, slightly sandy fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)	
75								50/70mm 100/50mm 100bls/50mm ↓	63 78.10 64 79.10 65 79.20 66 79.32	-75.34	76.10		Very stiff, yellowish red (5YR 5/8) streaked dark grey, slightly sandy silty CLAY with occasional to some angular fine gravel of rock fragments. (KARST DEPOSITS)	
76				100					67 78.10 68 79.10 69 79.20 70 79.32					
77								5.12 16,34,50/70mm 100bls/220mm ↓	71 79.10 72 80.00					
78				100					73 79.10 74 80.00					
79								50/70mm 75,25/25mm 100bls/100mm ↓	75 79.10 76 80.00					
80									77 80.00	-79.24	80.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH06									
		SHEET 9 of 14												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820724.53 N 834067.11		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD13					DATE 02.01.2016 to 15.02.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.76 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
81				95				7,8 19,22,26,32 N=99	165 80.10	-79.34	80.10			As sheet 8 of 14. Grey (5Y 3/1) streaked yellowish red, angular, slightly sandy silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
82									166 81.10 167 81.20 168 81.30	-80.44	81.20			Very stiff, yellowish red (5YR 5/8) streaked dark grey, slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of rock fragments. (KARST DEPOSITS)
83				80					169 82.10					
84				90				50/60mm 100/40mm 100bbs/40mm	170 83.10 171 83.20					
85									172 84.20 173 84.30					
86				72					174 85.20	-84.44	85.20			Very stiff, yellowish red (5YR 5/8) streaked dark grey, spotted white, slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of rock fragments. (KARST DEPOSITS)
87				100					175 86.20 176 86.30	-85.54	86.30			Very stiff, yellowish red (5YR 5/8) streaked dark grey, slightly sandy silty CLAY with occasional to some angular to subangular fine gravel of rock fragments. (KARST DEPOSITS)
88								20.20 35,65/65mm 100bbs/140mm	177 87.30 178 87.40 179 87.64					
89				50					180 88.30	-87.54	88.30			Very stiff, yellowish red (5YR 5/6) spotted dark grey and light yellowish brown, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
90				100					181 89.30 182 89.40					
⬆ SMALL DISTURBED SAMPLE ⬆ LARGE DISTURBED SAMPLE U76 SAMPLE PISTON SAMPLE (76mm) MAZIER SAMPLE SPT LINER SAMPLE WATER SAMPLE U100 SAMPLE ⬆ STANDARD PENETRATION TEST ⬆ IN-SITU VANE SHEAR TEST PACKER TEST PERMEABILITY TEST PRESSUREMETER TEST BORSHOLE TELEVIEWER PIEZOMETER TIP STANDPIPE TIP									LOGGED <u>S.L. Chiu</u> DATE <u>22.02.2016</u> CHECKED <u>R. Chu</u> DATE <u>23.02.2016</u>		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**SHEET **10** of **14**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820724.53**N 834067.11**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
21.01.2016 22.01.2016 91								10.17 34.68/85mm 100bbs/140mm	83 90.40 84 90.50 85 90.74	-89.74	90.50			As sheet 9 of 14.
92				0					86 91.40 87 92.40 87 92.50	-90.64	91.40			Very stiff, yellowish red (5YR 5/6) spotted grey, slightly sandy clayey SILT with some angular fine gravel of rock fragments. (KARST DEPOSITS)
93				100					88 93.50 89 93.50 89 93.50	-91.74	92.50			Greyish brown (5Y 5/2) streaked yellowish brown and and very dark brown, slightly clayey silty fine to coarse SAND with some angular fine gravel of rock fragments. (KARST DEPOSITS)
22.01.2016 23.01.2016 94								50/60mm 100/50mm 100bbs/50mm	90 94.50 91 95.50 92 95.50 92 95.57					Very stiff, dark greyish brown (10YR 5/2) spotted grey, slightly sandy silty CLAY with occasional to some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
95				95					93 96.50 94 97.50 94 97.60 94 97.85					
96								50/70mm 100/50mm 100bbs/50mm						
97				50										
98	HW 97.60m NW			100	72	56			T2-101 95 98.93 96 99.27 97 99.95	-96.84	97.60		III	Moderately strong to strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
23.01.2016 25.01.2016 99				93	30	0	>20							
100							NA	11.16 26.46, 28/20mm 100bbs/170mm						Very stiff, brown (10YR 5/3), slightly sandy clayey SILT with occasional angular fine gravel of rock fragments. (CAVITY-FILL DEPOSITS)

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE
- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **22.02.2016**
CHECKED **R. Chu**
DATE **23.02.2016**

REMARKS

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 2px solid black; padding: 5px; font-weight: bold; font-size: 1.5em;">DRILTECH</div> <div style="text-align: center;"> DRILLHOLE RECORD CONTRACT NO. GE/2014/07 </div> <div style="text-align: right;"> HOLE NO. S2-DH06 SHEET 11 of 14 </div> </div>														
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY					CO-ORDINATES E 820724.53 N 834067.11			WORKS ORDER NO. GE/2014/07.34A						
MACHINE SD13					DATE 02.01.2016 to 15.02.2016									
FLUSHING MEDIUM AIRFOAM					ORIENTATION VERTICAL			GROUND LEVEL +0.76 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
101								12.39/55mm 100/70mm 100bbls/70mm	101.00 101.15	-100.24	101.00			As sheet 10 of 14.
102									101.95					Very stiff, brown (10YR 4/3) spotted dark grey, slightly sandy silty CLAY with some to much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
103								20.30/35mm 46.54/75mm 100bbls/150mm	103.00 103.21					
104									103.95					
25.01.2016 03.02.2016				81	0	0	NA		104.40 104.72	-103.64	104.40			
105								50/40mm 100/70mm 100bbls/70mm	105.00 105.08					Very stiff, brown (10YR 4/3) spotted dark grey, slightly sandy silty CLAY with some angular to subangular fine to medium gravel of rock fragments. (CAVITY-FILL DEPOSITS)
106									105.95					
107								50/50mm 100/40mm 100bbls/40mm	107.00 107.09					
03.02.2016 04.02.2016									107.95					
108														
109								50/70mm 100/50mm 100bbls/50mm	109.00 109.07					Brown (10YR 4/3) mottled dark grey and dark grey, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
110									109.95	-109.24	110.00			

SMALL DISTURBED SAMPLE
 LARGE DISTURBED SAMPLE
 U78 SAMPLE
 PISTON SAMPLE (76mm)
 MAZIER SAMPLE
 SPT LINER SAMPLE
 WATER SAMPLE
 U100 SAMPLE

STANDARD PENETRATION TEST
 IN-SITU VANE SHEAR TEST
 PACKER TEST
 PERMEABILITY TEST
 PRESSUREMETER TEST
 BOREHOLE TELEVIEWER
 PIEZOMETER TIP
 STANDPIPE TIP

LOGGED S.L. Chiu

DATE 22.02.2016

CHECKED R. Chu

DATE 23.02.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**

SHEET 12 of 14

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD ROTARY

CO-ORDINATES

WORKS ORDER NO. GE/2014/07.34A

MACHINE SD13

E 820724.53

DATE 02.01.2016 to 15.02.2016

N 834067.11

FLUSHING MEDIUM AIRFOAM

ORIENTATION VERTICAL

GROUND LEVEL +0.76 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
111	NW 111.45m													As sheet 11 of 14.
112				100	18	0	>20	38, 12/20mm 50, 50/30mm 100bbs/105mm	TNW	111.00 111.15 111.45	111.45		III	Moderately strong to strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE.
113				100	100	95	6.4		TNW	111.05	111.86			
113				98	49	24	NA		TNW	112.75	112.19	112.95		
113				100	67	0	>20		TNW	113.16	112.40	113.16		II
113				100	88	44	>20		TNW	113.31	113.66			Very stiff, grey (7.5YR 5/1) spotted brown, slightly sandy clayey SILT with occasional angular fine to medium gravel of rock fragments. (CAVITY-FILL DEPOSITS)
114				100	98	98	3.3		TNW	113.63	113.66			Strong, dark grey streaked light grey and grey, dappled very dark grey and light grey, slightly decomposed IMPURE MARBLE. Joints are medium to widely spaced, occasionally closely spaced, rough planar and rough undulating, calcite coated, occasionally quartz infilled (<3mm thick) and clean, dipping at 0° to 10°, 20° to 30°, 45° to 55° and 65° to 75°.
115				100	100	100	1.4		TNW	115.02	115.18			
116				100	100	100	1.4		TNW	115.92	115.92			
117				100	100	89	6.0		TNW	117.25	117.25	117.44		
118				95	88	88	3.3		TNW	118.80	118.66			
119				100	100	100	1.0		TNW	119.24	120.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS

**DRILLHOLE RECORD**

CONTRACT NO: GE/2014/07

HOLE NO. **S2-DH06**

SHEET 13 of 14

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820724.53

N 834067.11

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD13**DATE **02.01.2016** to **15.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.76 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
121				100	100	100	4.6		TNW	120.30	120.81		II	As sheet 12 of 14.
122				100	100	97	2.0		TNW	121.85	121.91			
123				100	100	100	0.6		TNW	123.29	122.41			
12.02.2016 13.02.2016				100	100	100	4.8		TNW	124.54	124.12			
124				100	100	100	>20		TNW	124.54	124.54			
125				100	98	85			TNW	126.04	124.82			
126				100	100	100			TNW	127.29				
127				100	100	100	0.9		TNW	128.49				
128				100	100	100			TNW	129.60				
129				100	100	100			TNW					
130									TNW	-129.24	130.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 22.02.2016
CHECKED R. Chu
DATE 23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH06**

SHEET **14** of **14**

PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD **ROTARY**

CO-ORDINATES

E **820724.53**

N **834067.11**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD13

DATE

02.01.2016 to **15.02.2016**

FLUSHING MEDIUM

AIRFOAM

ORIENTATION **VERTICAL**

GROUND LEVEL

+0.76 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
131				100	99	99	4.4		TNW	130.12	131.03		II	As sheet 13 of 14.
132				100	100	100	2.3		TNW	131.13	132.56			
133				100	100	100	0.9		TNW	133.17	133.69			
134				100	100	100	5.3		TNW	133.73	134.30			
135														End of hole at 134.49 m.
136														
137														
138														
139														
140														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

22.02.2016

CHECKED

R. Chu

DATE

23.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**

SHEET 1 of 13

PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820707.98

N 834067.38

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
23.02.2016	SW													
1				89				B=13 1,1 1,1,2,2 N=8	1 0.00 2 0.35 3 0.40 4 0.85 5 0.90	+0.74 +0.34	0.00 0.40			Dark grey (7.5YR 4/1) mottled brown, slightly silty clayey fine to coarse SAND with much angular to subangular fine to coarse gravel of rock fragments. (FILL)
2									6 1.30 7 1.85					
3				89				B=15 2,2 2,3,3,4 N=12	8 2.40 9 2.85 10 3.00 11 3.30					Loose to medium dense, light grey (7.5YR 7/1), fine to coarse SAND with much angular to subangular fine gravel of quartz and rock fragments. (FILL)
23.02.2016 24.02.2016									12 3.85					
5				89				B=19 1,1 2,2,2,2 N=8	13 4.40 14 4.85 15 5.30	-3.66	4.40			Loose, light brown (7.5YR 6/3), fine to coarse SAND with occasional angular to subangular fine gravel of quartz and rock fragments. (FILL)
6									16 5.85					
7				100				2,3 3,3,4,3 N=13	17 6.40 18 7.40 19 7.50	-5.66	6.40			Medium dense, dark grey (10YR 4/1), slightly silty clayey fine to coarse SAND with some to much angular to subangular fine gravel of quartz and rock fragments. (ALLUVIUM)
8									20 7.90					
9				89				B=102 3,4 3,3,5,7 N=18	21 8.40 22 8.85 23 9.00 24 9.30 25 9.85	-7.66	8.40			Dark grey (10YR 4/1), angular to subangular, slightly silty clayey very sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
24.02.2016 25.02.2016										-9.26	10.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 15.03.2016

REMARKS

- An inspection pit was excavated to 0.40m deep by hand tools.
- Constant head permeability test was carried out at section from 8.40m to 9.90m.



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**SHEET **2** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10****E 820707.98****N 834067.38**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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								B=91 2.3 3,4,4,8 N=18	23 10.40 24 10.85 25 11.00 26 11.30	-9.66	10.40			As sheet 1 of 13.
12									27 11.85					
13	SW 12.90m PW							B=26 2.2 3,4,6,7 N=20	28 12.40 29 12.85 30 13.00 31 13.30	-11.66	12.40		V	Extremely weak, grey (7.5YR 5/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
14									32 13.85	-12.16	12.90		V	Extremely weak, grey (2.5Y 5/1) streaked pale brown, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
15									33 14.40				V	Extremely weak, dark red (10R 3/6) streaked grey, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
16								3.4 5,8,16,18 N=47	34 15.40 35 15.50 36 15.90	-13.66	14.40		V	Extremely weak, dark red (10R 3/6) spotted pink and light brown, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
17									37 16.40				V	Extremely weak, dark red (10R 3/6) mottled very pale brown, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
18								3.4 7,11,12,14 N=44	38 17.40 39 17.50 40 17.90	-16.76	17.50		V	Extremely weak, dark red (10YR 4/1) streaked light brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)
19									41 18.40	-17.66	18.40		V	
20								3.4 7,12,13,18 N=50	42 19.40 43 19.50 44 19.90	-19.26	20.00		V	

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE
- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

<div style="border: 2px solid black; padding: 5px; display: inline-block; font-size: 24px; font-weight: bold;">DRILTECH</div>		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH07									
		SHEET 3 of 13												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820707.98 N 834067.38		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD10				DATE 23.02.2016 to 07.03.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.74 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
				100				2,8 11,12,14,17 N=54	45 20.40 46 21.40 21.50 47 21.60 48 21.90	-19.88 20.40		V	As sheet 2 of 13.	
21				100				2,8 11,12,14,17 N=54	46 21.40 21.50 47 21.60 48 21.90	-19.88 20.40		V	Extremely weak, very dark grey (10YR 3/1), completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)	
22				100				2,8 11,12,14,17 N=54	49 22.40 50 23.40 51 23.50 52 23.60	-21.66 22.40		V	Extremely weak, yellowish red (5YR 5/8) streaked black, completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)	
23				100				2,8 11,12,14,17 N=54	53 24.40 54 25.40 55 25.50 56 25.90	-23.66 24.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)	
24				100				2,8 11,12,14,17 N=54	57 26.40 58 27.40 59 27.50 60 27.60	-25.66 26.40		V	Extremely weak, reddish yellow (5YR 6/6) mottled red, completely decomposed, metamorphosed, SILTSTONE. (Clayey sandy SILT)	
25				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
26				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
27				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
28				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
29				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
30				100				2,8 11,12,14,17 N=54	61 28.40 62 29.40 63 29.90	-27.86 28.40		V	Extremely weak, black (10YR 2/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly clayey sandy SILT)	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> ⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE ▨ U76 SAMPLE ▩ PISTON SAMPLE (76mm) ▨ MAZIER SAMPLE □ SPT LINER SAMPLE ▲ WATER SAMPLE ■ U100 SAMPLE </p> </div> <div style="width: 45%;"> <p> ⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ○ PACKER TEST ○ PERMEABILITY TEST ○ PRESSUREMETER TEST ○ BOREHOLE TELEVIEWER ○ PIEZOMETER TIP ○ STANDPIPE TIP </p> </div> </div>									LOGGED S.L. Chiu DATE 11.03.2016 CHECKED R. Chu DATE 15.03.2016		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**SHEET **4** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820707.98**N 834067.38**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
31				100				3,4 12,14,16,22 N=84	64 30.40	-29.66	30.40		V	As sheet 3 of 13.
32									65 31.40 66 31.50 67 31.60				V	Extremely weak, dark red (10R 3/6) mottled grey, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)
33				100				8,11 12,18,19,45 N=84	68 32.40	-31.66	32.40		IV	Extremely weak to weak, red (10R 5/8) spotted white and grey, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
34									69 33.40 70 33.50 71 33.60					
35				0					72 34.40	-33.66	34.40		IV	Extremely weak to weak, yellowish red (5YR 5/8) spotted light brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine to medium gravel of siltstone fragments)
36				0					73 35.40 74 35.50					
37								3,7 10,11,12,15 N=45	75 36.50 76 36.60 77 36.70	-35.66	36.60		IV	Extremely weak to weak, dark greyish brown (2.5Y 4/2), highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
38				100					78 37.50					
39								3,7 12,11,13,12 N=48	79 38.50 80 38.60 81 38.70					
40									82 39.50	-38.76	39.50			Very dark grey (10YR 3/1), angular, slightly sandy silty very clayey fine to coarse GRAVEL of rock

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH07										
				SHEET 5 of 13										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820707.98 N 834067.38		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD10				DATE 23.02.2016 to 07.03.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.74 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
41				100				3,8 12,14,15,17 N=58 ↓	81 40.50 82 40.60 83 40.70 84 41.00					fragments. (FAULT GOUGE)
42				0					41.50					
43				40					84 42.50 85 42.60					
44								2,6 7,18,15,16 N=54 ↓	86 43.60 87 43.70 88 44.10					
45		PW 44.90m HW		0					44.60					
46				30					88 45.60 89 45.70	-44.98	45.70			Very stiff, dark greyish brown (2.5Y 4/2), slightly sandy silty CLAY with occasional angular fine gravel of quartz and rock fragments. (FAULT GOUGE)
47								4,8 6,7,12,14 N=39 ↓	90 46.70 91 46.80	-48.08	46.80		Very stiff, yellowish red (5YR 5/8), slightly sandy silty CLAY with some angular fine to coarse gravel of rock fragments. (FAULT GOUGE)	
48				0					47.70					
49				0					92 48.70 93 48.80					
50								14,7	93 49.80 94 49.90	-49.16	49.90			
<div style="display: flex; justify-content: space-between;"> <div> ⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE ▨ U76 SAMPLE ▩ PISTON SAMPLE (76mm) ▤ MAZIER SAMPLE □ SPT LINER SAMPLE ▲ WATER SAMPLE ■ U100 SAMPLE </div> <div> ⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ▭ PACKER TEST ▭ PERMEABILITY TEST ▭ PRESSUREMETER TEST ▭ BOREHOLE TELEVIEWER ▭ PIEZOMETER TIP ▭ STANDPIPE TIP </div> </div>									LOGGED S.L. Chiu DATE 11.03.2016 CHECKED R. Chu DATE 15.03.2016		REMARKS			

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**SHEET **6** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10****E 820707.98**DATE **23.02.2016** to **07.03.2016****N 834067.38**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
51				0				11,10,18,16 N=58	94 = 50.30					Brown (7.5YR 5/2) spotted grey, slightly clayey silty fine to coarse SAND with much angular fine to medium gravel of rock fragments. (FAULT GOUGE)
52				100					95 = 50.80 96 = 51.80 98 = 51.90					
53								3,8 11,16,17,15 N=59	97 = 52.90 98 = 53.00 99 = 53.40	-52.26	53.00			
54				0					100 = 53.90	-53.16	53.90			Very stiff, yellowish red (5YR 4/6), slightly sandy silty CLAY. (FAULT GOUGE)
55				0					101 = 54.90 102 = 55.00					Very stiff, black (10YR 2/1), silty sandy CLAY with much angular fine to coarse gravel of rock fragments. (FAULT GOUGE)
56								14,10 9,12,14,19 N=54	101 = 56.00 102 = 56.10					
57				0					103 = 57.00	-56.26	57.00			Very dark grey (10YR 3/1), angular, slightly clayey silty sandy fine to coarse GRAVEL of rock fragments. (FAULT GOUGE)
58				0					103 = 58.00 104 = 58.10					
59								3,8 12,16,14,18 N=60	104 = 59.10 105 = 59.20					
60									105 = 59.60	-59.26	60.00			

- ± SMALL DISTURBED SAMPLE
- ↑ LARGE DISTURBED SAMPLE
- ▨ U76 SAMPLE
- ▨ PISTON SAMPLE (76mm)
- ▨ MAZIER SAMPLE
- SPT LINER SAMPLE
- ▲ WATER SAMPLE
- U100 SAMPLE

- ↓ STANDARD PENETRATION TEST
- ▼ IN-SITU VANE SHEAR TEST
- ⊥ PACKER TEST
- ⊥ PERMEABILITY TEST
- ⊥ PRESSUREMETER TEST
- ⊥ BOREHOLE TELEVIEWER
- ⊥ PIEZOMETER TIP
- ⊥ STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS





DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**SHEET **8** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820707.98**N 834067.38**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
71								4,6 8,12,18,19 N=57	116 70.40 70.50	-69.76	70.50			DEPOSITS)
72				0					117 70.90					Very stiff, greyish brown (2.5Y 5/2) mottled brown, slightly sandy silty CLAY with much angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
73				0					118 71.40 72.40 72.50					
74								6,5 12,14,18,20 N=64	119 73.50 73.60					
75				65	0	0	>20		120 74.10					Grey (5Y 3/1), angular, coarse GRAVEL and COBBLE of rock fragments. (KARST DEPOSITS)
76							NR		74.47 T2-101	-73.73	74.47			From 75.47m to 76.00m: No recovery, assumed to be KARST DEPOSITS.
77				0					121 77.00 77.10					Very stiff, very dark grey (10YR 3/1) and greyish brown (2.5Y 5/2), slightly sandy silty CLAY with some to much angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
78				40					122 77.10					From 89.50m to 90.40m: No recovery, assumed to be KARST DEPOSITS.
79								6,9 18,17,16,18 N=69	123 78.10 78.20					
80				0					124 78.60					Very stiff, brown (7.5YR 5/6) mottled grey and dark grey, slightly sandy silty CLAY with some to much angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)

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

- ↓ STANDARD PENETRATION TEST
- ▼ IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

		DRILLHOLE RECORD		HOLE NO. S2-DH07										
		CONTRACT NO. GE/2014/07		SHEET 9 of 13										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. GE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820707.98 N 834067.38		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD10				DATE 23.02.2016 to 07.03.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.74 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
81				0				4,7 9,16,18,22 N=65	125 = 80.10 126 = 81.20 127 = 81.70				As sheet 8 of 13.	
82														
83				0					128 = 82.20 129 = 83.20 130 = 83.30					
84				0				131 = 84.30 132 = 84.40						
85								133 = 84.80						
86				90				134 = 85.30						
87								135 = 86.30 136 = 86.40						
88				0				137 = 87.30						
89				0				138 = 88.30 139 = 88.40						
90								140 = 89.40 141 = 89.50						
HW 88.40m NW														
89				0				142 = 89.40 143 = 89.50					Grey (10YR 5/1), angular, fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS) From 89.50m to 90.40m: No recovery, assumed to be KARST DEPOSITS.	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> ⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE ▨ U76 SAMPLE ▩ PISTON SAMPLE (76mm) ▨ MAZIER SAMPLE □ SPT LINER SAMPLE ▲ WATER SAMPLE ■ U100 SAMPLE </p> </div> <div style="width: 45%;"> <p> ⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ○ PACKER TEST ○ PERMEABILITY TEST ○ PRESSUREMETER TEST ○ BOREHOLE TELEVIEWER ○ PIEZOMETER TIP ○ STANDPIPE TIP </p> </div> </div>								LOGGED <u>S.L. Chiu</u> DATE <u>11.03.2016</u> CHECKED <u>R. Chu</u> DATE <u>15.03.2016</u>		REMARKS				

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**

SHEET 10 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820707.98

N 834067.38

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
91								6,10 14,18,21,24 N=77	37 90.40 38 90.50 38 90.80 39 91.35	-89.66 90.40				As sheet 9 of 13.
92														
93														
94														
95														
96														
97														
98														
99														
100														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS





DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**

SHEET 12 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820707.98

N 834067.38

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
111														As sheet 11 of 13.
112														
113														
114														
115														
116														<p>Moderately weak to moderately strong, dark grey streaked brown moderately decomposed IMPURE MARBLE. Joints are extremely closely to very closely spaced, rough planar and rough undulating, silty clay infilled (<50mm), dipping at 30° to 40° and 60° to 70°.</p> <p>From 117.84m to 117.95m: No recovery, assumed to be CAVITY-FILL DEPOSITS.</p> <p>Strong, dark grey streaked light grey, slightly decomposed IMPURE MARBLE. Joints are closely to medium spaced, occasionally very closely spaced, rough planar, calcite coated, dipping at 0° to 10°, 20° to 30° and 50° to 60°.</p> <p>From 122.35m to 122.56m: With some dissolution features.</p>
117	NW 117.00m													
118														
119														
120														

04.03.2016
07.03.2016

117.00
117.26
117.10
117.21
117.84
117.95
118.10
118.10
119.66
119.26
120.00

TNW
TNW
TNW

III
II

90
53
21
NI
NR
13.3
100
100
100
1.3

SMALL DISTURBED SAMPLE
LARGE DISTURBED SAMPLE
U76 SAMPLE
PISTON SAMPLE (76mm)
MAZIER SAMPLE
SPT LINER SAMPLE
WATER SAMPLE
U100 SAMPLE

STANDARD PENETRATION TEST
IN-SITU VANE SHEAR TEST
PACKER TEST
PERMEABILITY TEST
PRESSUREMETER TEST
BOREHOLE TELEVIEWER
PIEZOMETER TIP
STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH07**SHEET **13** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820707.98

N 834067.38

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD10**DATE **23.02.2016** to **07.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.74 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
121				100	100	100	5.1		TNW	-120.33	-120.33		II	As sheet 12 of 13.
122				100	84	67	9.7		TNW	-121.01	-121.11			
123				100	83	71	4.6		TNW	-121.61	-122.35		III	
124				100	100	100	1.0		TNW	-122.46	-122.56		II	
124				100	100	100	1.0		TNW	-123.21	-123.21			
124				100	100	100	1.0		TNW	-123.44	-124.18			End of hole at 124.18 m.
125														
126														
127														
128														
129														
130														

↑ SMALL DISTURBED SAMPLE

↓ LARGE DISTURBED SAMPLE

▨ U76 SAMPLE

▨ PISTON SAMPLE (76mm)

▨ MAZIER SAMPLE

□ SPT LINER SAMPLE

▲ WATER SAMPLE

■ U100 SAMPLE

↓ STANDARD PENETRATION TEST

✓ IN-SITU VANE SHEAR TEST

○ PACKER TEST

○ PERMEABILITY TEST

○ PRESSUREMETER TEST

○ BOREHOLE TELEVIEWER

■ PIEZOMETER TIP

□ STANDPIPE TIP

LOGGED S.L. Chiu

DATE 11.03.2016

CHECKED R. Chu

DATE 15.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**

SHEET 1 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820724.52

N 834043.74

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **02.02.2016** to **19.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.80 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
02.02.2016	SW													
1				100				2,2 3,4,4,6 N=17	1 2	0.00 +0.30	0.00 0.50			Pale brown (10YR 6/3), slightly silty fine to coarse SAND with some angular to subangular fine to coarse gravel of quartz and rock fragments. (FILL)
2								B=45	3 4 5	1.50 1.60 1.70				Medium dense, reddish grey (10R 6/1), slightly silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
3				100				3,4 6,6,7,7 N=26	6 7 8 9	2.50 3.05 3.10 3.40				
4								B=30	10	3.95				
5				100				2,3 3,2,3,4 N=12	11 12	4.50 5.05	-4.20	5.00		Stiff, pale brown (10YR 6/3) spotted dark grey, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6								B=28	13 14	5.10 5.40	-4.85	-5.45		Medium dense, pale brown (10YR 6/3), slightly clayey silty fine to coarse SAND with some to much angular to subangular fine to occasional medium gravel of quartz fragments. (ALLUVIUM)
7				100				3,4 5,5,7,9 N=28	15 16 17 18 19	5.95 6.50 6.85 7.10 7.40	-5.70	6.50		Medium dense to dense, dark grey (10YR 4/1), slightly clayey silty fine to coarse SAND with some to much angular to subangular fine to occasional medium gravel of quartz fragments. (ALLUVIUM)
8								B=59	20 21	7.95 8.50				
9				100				3,5 8,9,12,14 N=43	22 23 24	8.95 9.10 9.40				
02.10.2016									25	9.85	-9.20	10.00		

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

- ↓ STANDARD PENETRATION TEST
✓ IN-SITU VANE SHEAR TEST
PACKER TEST
PERMEABILITY TEST
PRESSUREMETER TEST
BOREHOLE TELEVIEWER
PIEZOMETER TIP
STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

24.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS

1. An inspection pit was excavated to 0.50m deep by hand tools.
2. Constant head permeability test was carried out at section from 6.00m to 7.50m.
3. Acoustic borehole televiewer survey was carried out from 115.64m to 125.00m.

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH08	
				SHEET 2 of 13	
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)					
METHOD ROTARY		CO-ORDINATES E 820724.52 N 834043.74		WORKS ORDER NO. GE/2014/07.34A	
MACHINE SD17				DATE 02.02.2016 to 19.02.2016	
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.80 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			
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>03.02.2016</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> </div> <div style="width: 30%;"> <p>SW 14.50m PW</p> </div> <div style="width: 30%;"> <p>B=71</p> <p>2,3 3,3,3,4 N=13</p> <p>8,5 8,5,13,17 N=44</p> <p>5,7 8,12,12,13 N=45</p> <p>4,6 8,11,15,16 N=50</p> <p>5,8 9,12,14,17 N=52</p> </div> <div style="width: 30%;"> <p>26 10.50</p> <p>27 10.85</p> <p>28 11.10</p> <p>29 11.40</p> <p>30 11.95</p> <p>31 12.50</p> <p>32 13.50</p> <p>33 13.60</p> <p>34 13.70</p> <p>35 14.50</p> <p>36 15.50</p> <p>37 15.60</p> <p>38 15.70</p> <p>39 16.50</p> <p>40 17.50</p> <p>41 17.60</p> <p>42 17.70</p> <p>43 18.50</p> <p>44 19.50</p> <p>45 19.60</p> <p>19.20 20.00</p> </div> <div style="width: 30%;"> <p>V</p> <p>V</p> </div> <div style="width: 30%;"> <p>As sheet 1 of 13.</p> <p>Extremely weak, dark grey (10YR 4/1) streaked white, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of quartz fragments)</p> <p>Extremely weak, dark grey (5Y 4/1) streaked yellowish red and yellowish brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)</p> </div> </div>					
⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE U76 SAMPLE PISTON SAMPLE (76mm) MAZIER SAMPLE SPT LINER SAMPLE WATER SAMPLE U100 SAMPLE			⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ○ PACKER TEST ○ PERMEABILITY TEST ○ PRESSUREMETER TEST ○ BOREHOLE TELEVIEWER ○ PIEZOMETER TIP ○ STANDPIPE TIP		
LOGGED S.L. Chiu DATE 24.02.2016 CHECKED R. Chu DATE 26.02.2016			REMARKS		



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**SHEET **3** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820724.52**N 834043.74**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **02.02.2016** to **19.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.80 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				100				9,8,11,14 N=41	46 20.00 47 20.50 48 21.50 49 21.60 50 21.70	-19.70	20.50		V	As sheet 2 of 13.
22									51 22.50 52 23.50 53 23.60 54 23.70	-20.80	21.60		V	Extremely weak, red (10R 4/8) spotted very dark brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
23				100					55 24.50 56 25.50 57 25.60 58 25.70	-24.80	25.60		V	Extremely weak to very weak, grey (5YR 5/1) streaked yellowish brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
24								5,6 6,8,10,12 N=38	59 26.50 60 27.50 61 27.60 62 27.70	-25.70	26.50		V	Extremely weak, dark grey (5Y 4/1), completely decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
25				100					63 28.50 64 29.50 65 29.60 66 29.70	-28.20	30.00		IV	Extremely weak to very weak to weak, dark grey (5Y 4/1) streaked yellowish brown and dark brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to medium gravel of siltstone fragments)
26								7,11 14,20,25,30 N=89						
27				100										
28								8,9 16,19,28,35 N=98						
29														
30														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **24.02.2016**
CHECKED **R. Chu**
DATE **26.02.2016**

REMARKS

		DRILLHOLE RECORD		HOLE NO. S2-DH08											
		CONTRACT NO. GE/2014/07		SHEET 4 of 13											
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)															
METHOD ROTARY		CO-ORDINATES E 820724.52 N 834043.74		WORKS ORDER NO. GE/2014/07.34A											
MACHINE SD17				DATE 02.02.2016 to 19.02.2016											
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.80 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	
31				100				8,10 13,16,21,27 N=70	66 30.00 67 30.50 68 31.50 69 31.70 70 32.00				IV	As sheet 3 of 13.	
32															
33				100				8,9 10,14,16,19 N=53	71 32.50 72 33.50 73 33.80 74 34.00						
34															
35				100				8,10 13,16,20,25 N=74	75 34.50 76 35.50 77 35.70 78 36.00						
36															
37				100				10,13 15,17,28,33 N=63	79 36.50 80 37.50 81 37.70 82 38.00						
38															
39				100				16,32/35mm 100/50mm 100bls/50mm	83 38.50 84 39.50 85 39.71	-37.70 38.50 -39.20 40.00			IV	Weak, brownish yellow (10YR 6/6) streaked grey, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly clayey silty sandy fine to coarse GRAVEL of highly decomposed siltstone fragments)	
40															
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> ⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE ▨ U76 SAMPLE ▩ PISTON SAMPLE (76mm) ▨ MAZIER SAMPLE □ SPT LINER SAMPLE ■ WATER SAMPLE ■ U100 SAMPLE </p> </div> <div style="width: 45%;"> <p> ⬇ STANDARD PENETRATION TEST ▽ IN-SITU VANE SHEAR TEST ○ PACKER TEST ○ PERMEABILITY TEST ○ PRESSUREMETER TEST ○ BOREHOLE TELEVIEWER ○ PIEZOMETER TIP ○ STANDPIPE TIP </p> </div> </div>									LOGGED S.L. Chiu DATE 24.02.2016 CHECKED R. Chu DATE 26.02.2016		REMARKS				

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**SHEET **5** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. GE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17****E 820724.52**DATE **02.02.2016** to **19.02.2016****N 834043.74**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.80 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
41				100					86	40.50			IV	As sheet 4 of 13.
42								20,30/45mm 100/60mm 100bls/60mm	87	41.50	-40.80	41.60	IV	Weak to moderately weak, grey (5Y 5/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey silty fine to medium GRAVEL of highly decomposed siltstone fragments)
43				60					88	41.73			IV	Extremely weak to very weak, yellowish red (5YR 4/6) streaked grey, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with some angular fine to medium gravel of siltstone fragments)
44				80					89	42.50	-41.70	42.50	IV	Moderately weak, dark grey (5Y 4/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, fine to coarse GRAVEL of highly decomposed siltstone fragments)
45				89	0	0	>20 NI		90	43.50	-42.80	43.60	IV	Weak to moderately weak, dark grey (5Y 4/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, fine to coarse GRAVEL of highly decomposed siltstone fragments)
46				100					91	43.80	-43.40	44.20	IV	Weak to moderately weak, dark grey (5Y 4/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, fine to coarse GRAVEL and occasional cobble of highly decomposed siltstone fragments)
47									92	44.10	-43.70	44.50	IV	From 44.20m to 44.50m: Moderately strong and moderately decomposed.
48									93	45.00	-44.20	45.00	IV	Extremely weak to very weak, grey (5Y 5/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some to much angular fine to coarse gravel of siltstone fragments)
49								10,14 15,18,20,28 N=79	94	46.00	-45.30	46.10	IV	Extremely weak to weak, dark grey (5Y 4/1) streaked yellowish red and yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
50	PW							8,11 14,16,21,30 N=61	95	46.20				
									96	46.50				
									97	47.00				
									98	48.00				
									99	48.10				
									100	48.20				
									101	48.50				
											-49.20	50.00		

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **24.02.2016**
CHECKED **R. Chu**
DATE **26.02.2016**

REMARKS



DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**

SHEET 7 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD	ROTARY	CO-ORDINATES	WORKS ORDER NO.
MACHINE	SD17	E 820724.52 N 834043.74	GE/2014/07.34A
FLUSHING MEDIUM	AIRFOAM	ORIENTATION	VERTICAL
		GROUND LEVEL	+0.80 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
61				100				9,13 15,20,24,38 N=87	20 60.00 21 60.10 22 60.20				IV	As sheet 6 of 13.
62								8,13 14,19,28,37 N=86	23 61.00 24 62.00 25 62.10 26 62.20					
63				100					27 63.00					
64								9,14 16,20,24,39 N=89	28 64.00 29 64.10 30 64.20					
65				100					31 65.00	-64.20 65.00			IV	Extremely weak to weak, dark grey (5Y 4/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
66								21,29/25mm 100/80mm 100bls/80mm	32 66.00 33 66.10 34 66.21					
67				100					35 67.00					
68								9,11 16,20,25,38 N=87	36 68.00 37 68.10 38 68.20					
69									39 69.00					
70				95						-69.20 70.00				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 24.02.2016
CHECKED R. Chu
DATE 26.02.2016

REMARKS

		DRILLHOLE RECORD		HOLE NO. S2-DH08										
		CONTRACT NO. GE/2014/07		SHEET 8 of 13										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820724.52 N 834043.74		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD17				DATE 02.02.2016 to 19.02.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.80 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
71				90				12.23 27.38, 55/50mm 120bls/200mm	39 70.00 40 70.10 41 70.40				IV	As sheet 7 of 13.
72								10.21 25.29, 36.10/15mm 100bls/240mm	42 71.00 43 72.00 44 72.10 45 72.44					
73				100					46 73.00 47 74.00 48 74.10 49 74.26	-72.20	73.00		IV	Extremely weak to weak, yellowish red (5YR 4/6) spotted pink and white, highly decomposed, metamorphosed, SILTSTONE. (Silty CLAY)
74								19.31/45mm 75.25/15mm 100bls/90mm	50 75.00 51 76.00 52 76.10 53 76.24	-75.30	76.10		IV	Extremely weak to weak, very dark grey (5Y 3/1) streaked brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
75				100					54 77.00 55 78.00 56 78.10 57 78.22	-76.20	77.00			Dark grey (5T 3/1) streaked brown, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
76								18.32/55mm 100/60mm 100bls/60mm	58 79.00 59 80.00	-79.20	80.00			
77								22.28/35mm 100/60mm 100bls/60mm						
78														
79				95										
80														
<div style="display: flex; justify-content: space-between;"> <div> ⬆ SMALL DISTURBED SAMPLE ⬇ LARGE DISTURBED SAMPLE ▨ U76 SAMPLE ▩ PISTON SAMPLE (76mm) ▨ MAZIER SAMPLE □ SPT LINER SAMPLE ▲ WATER SAMPLE ■ U100 SAMPLE </div> <div> ⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ○ PACKER TEST ○ PERMEABILITY TEST ○ PRESSUREMETER TEST ○ BOREHOLE TELEVIEWER ○ PIEZOMETER TIP ○ STANDPIPE TIP </div> </div>									LOGGED S.L. Chiu DATE 24.02.2016 CHECKED R. Chu DATE 26.02.2016		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**SHEET **9** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820724.52**N 834043.74**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **02.02.2016** to **19.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.80 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
81								16,34/55mm 70,30/25mm 100b/s/100mm	56 80.00 57 80.28					As sheet 8 of 13.
82				100				30,20/15mm 100b/s/50mm	58 81.00 59 82.00 60 82.10	-80.20	81.00			Very dark grey (5Y 3/1) streaked yellowish red, angular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
83				90					61 83.00					Very stiff, dark grey (5Y 4/1) streaked yellowish red, slightly sandy clayey SILT with some angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
84								16,34/55mm 100b/s/70mm	62 84.00 63 84.25					
85				100					64 85.00	-84.20	85.00			Very stiff, very dark grey (5Y 3/1), slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
86								25,25/15mm 100b/s/50mm	65 86.00 66 86.19					
87				100					67 87.00	-86.20	87.00			Brown (7.5YR 5/4) mottled dark grey, angular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
88								30,20/15mm 100b/s/80mm	68 88.00 69 88.20					
89				100					70 89.00	-89.20	90.00			

- SMALL DISTURBED SAMPLE
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- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
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- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

24.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS





DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**

SHEET 11 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD ROTARY

CO-ORDINATES

WORKS ORDER NO. GE/2014/07.34A

MACHINE SD17

E 820724.52

N 834043.74

DATE 02.02.2016 to 19.02.2016

FLUSHING MEDIUM AIRFOAM

ORIENTATION VERTICAL

GROUND LEVEL +0.80 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
101								20,30/15mm 100/40mm 100bbs/40mm	87 100.00 88 100.18	-99.30	100.10			As sheet 10 of 13. Very stiff, greyish brown (10YR 5/2) spotted grey and dark grey, slightly sandy clayey SILT with some to much angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
102								31,19/15mm 100/50mm 100bbs/50mm	89 100.95 90 102.00 91 102.09					
104								22,28/15mm 100/40mm 100bbs/40mm	92 104.00 93 104.08	-103.20	104.00			Very stiff, very dark grey (5Y 3/1), slightly sandy clayey SILT with some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
105				100	63	48	>20		TNW 104.30 104.70	-103.50	104.30		III	Moderately weak to moderately strong, dark grey streaked light grey, moderately decomposed IMPURE MARBLE. From 105.87m to 106.00m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
106				90	82	82	2.2		TNW 105.87 106.00	-105.20	105.87 106.00			Very stiff, very dark grey (5Y 3/1), slightly sandy clayey SILT with some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
107	NW 106.87m						>20	17,7 9,11,14,15 N=48	106.87 106.87	-106.07	106.87		II	Strong, grey and dark grey streaked light grey, slightly decomposed IMPURE MARBLE. Joints are medium to widely spaced, occasionally very closely and closely spaced, rough planar and rough undulating, iron and manganese oxide stained, occasionally calcite coated and clean, dipping at 0° to 10°, 20° to 30°, 40° to 50°, 55° to 65° and subvertically from 118.73m to 119.04m, 122.08m to 122.50m and 124.86m to 125.82m.
108				100	91	91	3.2		TNW 108.29	-108.16	108.16			
109				100	99	91	2.7		TNW 109.79	-109.20	109.20			
110									TNW 109.79	-109.20	110.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
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- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
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- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 24.02.2016
CHECKED R. Chu
DATE 26.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**

SHEET 12 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD ROTARY

CO-ORDINATES

WORKS ORDER NO. GE/2014/07.34A

MACHINE SD17

E 820724.52

DATE 02.02.2016 to 19.02.2016

N 834043.74

FLUSHING MEDIUM AIRFOAM

ORIENTATION VERTICAL

GROUND LEVEL +0.80 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
111				100	98	98	>20	0.9	TNW	110.33 110.43			II	As sheet 11 of 13.
									111.22					
112				100	100	99			TNW	111.54				
									112.75					
113				100	100	100		2.1	TNW					
									114.23					
114				100	100	100			TNW					
									115.64					
115				100	82	82	>20		TNW	115.77 115.85				
									116.29					
116				100	100	95		3.9	TNW					
									117.46					
117				100	83	80			TNW					
									118.42					
118				100	86	77	>20		TNW	118.61				
							8.3							
119							>20							
							5.6							
							>20							
120														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
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- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

24.02.2016

CHECKED

R. Chu

DATE

26.02.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH08**

SHEET 13 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

E 820724.52

N 834043.74

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **02.02.2016** to **19.02.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.80 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
121				100	100	100	4.4		TNW	120.18			II	As sheet 11 of 13.
									TNW					
122				100	80	70	1.3		TNW	121.66	121.29			
											122.08			
123							14.3		TNW	122.50				
124				100	100	100	4.5		TNW	123.18				
125				100	97	96	1.6		TNW	124.85	125.15			
126							5.0		TNW	126.14	126.40			End of hole at 127.56 m.
											126.60			
127				100	100	100	0.0		TNW					
127.56										126.76	127.56			
128														
129														
130														

SMALL DISTURBED SAMPLE

LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED **S.L. Chiu**

DATE **24.02.2016**

CHECKED **R. Chu**

DATE **26.02.2016**

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH09									
		SHEET 1 of 8												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820717.40 N 833943.60		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD38					DATE 04.01.2016 to 13.01.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
04.01.2016	SW													
1				100				B=6 1.0 1.1,1.1 N=4	1 0.00 2 0.45 3 0.50	+0.95 +0.45	0.00 0.50			Grey (10YR 4/1), slightly sandy silty CLAY with occasional angular to subangular fine gravel of rock fragments. (FILL)
2									4 1.40 5 1.95		1.00			Loose, light grey (10YR 7/2), slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
3				100					6 2.50 7 3.50 8 3.60 9 4.00	-1.55	2.50			Firm, light grey (10YR 7/2) mottled light yellowish brown, slightly sandy silty CLAY with occasional angular to subangular fine gravel of rock fragments. (ALLUVIUM)
4								1.0 1.1,2.1 N=5	10 4.50 11 5.50 12 5.80 13 6.00					Loose, light yellowish brown (2.5Y 6/4) and yellowish red (5YR 5/6) spotted red, slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5				100					14 6.50 15 7.50 16 7.60 17 8.00	-3.55	4.50			Loose, light grey (7.5YR 7/1) and yellowish red (5YR 5/6) spotted red, slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6								1.1 1.1,1.3 N=8	18 8.50 19 9.50 20 9.60	-4.85	5.80			Firm, light grey (10YR 7/1), silty CLAY. (ALLUVIUM)
7				90						-5.55	6.50			Medium dense, dark grey (10YR 4/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8								1.0 0.2,4.5 N=11		-6.85	7.60			Medium dense, light grey (7.5YR 7/2), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
9				55						-7.55	8.50			Medium dense, dark grey (10YR 4/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
10				100				B=56		-9.05	10.00			
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬇ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>⬇ PACKER TEST</p> <p>⬇ PERMEABILITY TEST</p> <p>⬇ PRESSUREMETER TEST</p> <p>⬇ BOREHOLE TELEVIEWER</p> <p>⬇ PIEZOMETER TIP</p> <p>⬇ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 18.01.2016 CHECKED R. Chu DATE 21.01.2016		REMARKS 1. An inspection pit was excavated to 0.50m deep by hand tools. 2. Constant head permeability test was carried out at section from 9.00m to 10.50m.			

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH09**SHEET **2** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820717.40**N 833943.60**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD38**DATE **04.01.2016** to **13.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
04.01.2016 05.01.2016								3,4 4,4,10,13 N=31	21 10.95 22 10.20	-9.15	10.10			As sheet 1 of 8. Medium dense, dark grey (10YR 4/1), slightly clayey silty fine to coarse SAND with much angular to subangular fine to medium gravel of quartz fragments. (ALLUVIUM) Soft, light grey (10YR 7/1), silty CLAY. (ALLUVIUM)
11								B=105	23 10.50 24 10.95	-9.60	10.55			
12				100				1,1 1,2,2,5 N=10	25 11.60 26 12.05 27 12.20	-10.65	11.60			Dark grey (10YR 4/1), slightly silty fine to coarse SAND with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
13	SW 12.60m PW								28 12.50 29 12.95	-11.60	12.55	V	V	Extremely weak, grey (2.5Y 5/1) mottled reddish brown, completely decomposed, slightly metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
14				100					30 13.60 31 14.60 32 14.80	-12.65	13.60		V	Extremely weak, grey (2.5Y 5/1) streaked light grey, completely decomposed, slightly metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
15								3,10 6,12,20,19 N=57	33 15.10 34 15.60	-13.75	14.70		V	Extremely weak, grey (2.5Y 5/1) streaked light greyish white, mottled grey, completely decomposed, slightly metamorphosed, SILTSTONE. (Slightly sandy silty CLAY)
16				100					35 16.60 36 16.70 37 17.10					Extremely weak to very weak, grey (2.5Y 5/1) streaked yellowish brown, completely decomposed, slightly metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some to much angular fine to medium gravel of siltstone fragments)
17								2,4 6,8,11,11 N=36	38 17.60 39 18.60 40 18.70					
18				100					41 19.10 42 19.60					
19								3,4 5,9,9,14 N=37						
20										-19.05	20.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **18.01.2016**
CHECKED **R. Chu**
DATE **21.01.2016**

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH09									
		SHEET 3 of 8												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820717.40 N 833943.60		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD38					DATE 04.01.2016 to 13.01.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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				100				2,6 5,8,11,12 N=38 ↓	43 20.60 44 20.70 45 21.10	-19.75	20.70		V	As sheet 2 of 8.
22				100					46 21.60 47 22.60 48 22.70 49 23.10	-21.75	22.70		V	Extremely weak, dark red (10R 3/6) mottled dark grey, completely decomposed, metamorphosed, SILTSTONE. (Clayey SILT)
23								5,9 12,15,19,20 N=68 ↓	50 23.60 51 24.60 52 24.70 53 25.10	-22.65	23.60		V	Extremely weak, dark grey (2.5Y 4/1) streaked yellowish brown and yellowish red, completely decomposed, slightly metamorphosed, SILTSTONE. (Clayey sandy SILT with some angular fine gravel of siltstone fragments)
24				100					54 25.60 55 26.60 56 26.70 57 27.10	-23.75	24.70		IV	Weak, dark grey (2.5Y 4/1) streaked yellowish red, highly decomposed, slightly metamorphosed, SILTSTONE. (Angular, slightly sandy clayey silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
25								6,11 13,16,17,26 N=72 ↓	58 27.60 59 28.60 60 28.70 61 29.08	-24.65	25.60		V	Extremely weak, grey (10YR 5/1) streaked yellowish brown, completely decomposed, slightly metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to medium gravel of siltstone fragments)
26				95					62 29.60	-26.05	26.00		V	Extremely weak, grey (2.5Y 5/1) streaked yellowish brown, mottled red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT)
27								4,8 11,14,20,24 N=89 ↓	60 28.60 61 28.70 62 29.08	-27.75	28.70		IV	Extremely weak to very weak, grey (2.5Y 5/1) streaked light yellowish brown, mottled red, highly decomposed, slightly metamorphosed, SILTSTONE. (Clayey sandy SILT with much angular fine to medium gravel of siltstone fragments)
28				100					10,16 25,29,30,17/50mm 100bls/275mm ↓					
29														
30														
<div style="display: flex; justify-content: space-between;"> <div> ↑ SMALL DISTURBED SAMPLE ↓ LARGE DISTURBED SAMPLE U76 SAMPLE PISTON SAMPLE (76mm) MAZIER SAMPLE SPT LINER SAMPLE WATER SAMPLE U100 SAMPLE </div> <div> ↓ STANDARD PENETRATION TEST ✓ IN-SITU VANE SHEAR TEST Packer TEST PERMEABILITY TEST PRESSUREMETER TEST BOREHOLE TELEVIEWER PIEZOMETER TIP STANDPIPE TIP </div> </div>									LOGGED S.L. Chiu DATE 18.01.2016 CHECKED R. Chu DATE 21.01.2016		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH09**SHEET **4** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820717.40**N 833943.60**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD38**DATE **04.01.2016** to **13.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
31				100				5.8 12,15,21,25 N=73	63 30.60 64 30.70 65 31.10				IV	As sheet 3 of 8.
32				100				6.9 13,17,20,24 N=74	66 31.60 67 32.60 68 32.70 69 33.10	-30.65	31.60			Very stiff, grey (2.5Y 5/1) streaked yellowish brown, mottled red, clayey sandy SILT with much angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
33									70 33.60 71 34.60 72 34.70 73 35.10					
34				100				8.15 17,20,27,30 N=84	74 35.60 75 36.60 76 36.70 77 36.83	-34.65	35.60			Very stiff, yellowish brown (10YR 5/6) mottled grey and dark grey, slightly sandy clayey SILT with some angular fine to coarse gravel of rock fragments. (KARST DEPOSITS)
35								20,30/60mm 100/45mm 100bls/45mm	78 37.60 79 38.60 80 38.70 81 39.07 82 39.60	-35.75	38.70			Grey (2.5Y 5/1) streaked yellowish brown, angular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
36				100				18.20 22,24,26,28/45mm 100bls/270mm						Grey (2.5Y 5/1) streaked yellowish brown, angular, slightly sandy clayey silty fine to coarse GRAVEL of
37														
38				100										
39														
40														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **18.01.2016**
CHECKED **R. Chu**
DATE **21.01.2016**

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH09										
				SHEET 5 of 8										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820717.40 N 833943.60		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD38				DATE 04.01.2016 to 13.01.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
41				100				19.31 42.58/35mm ✓100bls/110mm	83 84 85	40.60 40.70 40.91				rock fragments. (KARST DEPOSITS)
42				100					86	41.60				Very stiff, dark greyish brown (10YR 4/2) spotted yellowish brown and white, slightly sandy clayey SILT with occasional to some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
43								18.28 45.55/45mm ✓100bls/120mm	87 88 89	42.60 42.70 42.92				
44				100					90	43.60				Very stiff, grey (10YR 5/1) and dark grey (10YR 4/1) streaked yellowish brown, slightly sandy clayey SILT with occasional to some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
45		FW 44.70m HW						5.8 12.16,17.23 N=68	91 92 93	44.60 44.70 44.80				
46				90					94	45.60				
47								9.18 18.22,25.34 N=99	95 96 97	46.60 46.70 46.80				Very stiff, grey (10YR 5/1) and dark grey (10YR 4/1) mottled brownish yellow, slightly sandy clayey SILT with occasional to some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
48				100					98	47.60				
49								10.20 31.44,25/20mm ✓100bls/170mm	99 100 101	48.60 48.70 48.97				Very stiff, grey (2.5Y 5/1) streaked light yellowish brown, slightly sandy clayey SILT with occasional to some angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
50									102	49.60				
<div style="display: flex; justify-content: space-between;"> <div> <p>↑ SMALL DISTURBED SAMPLE</p> <p>↑ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>↓ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>— PACKER TEST</p> <p>— PERMEABILITY TEST</p> <p>— PRESSUREMETER TEST</p> <p>— BOREHOLE TELEVIEWER</p> <p>— PIEZOMETER TIP</p> <p>□ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 18.01.2016 CHECKED R. Chu DATE 21.01.2016		REMARKS			



		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH09										
				SHEET 7 of 8										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820717.40 N 833943.60		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD38					DATE 04.01.2016 to 13.01.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
61				100	100	100	0.6		T2-101 60.20				II	As sheet 6 of 8.
62				100	100	100	2.0		T2-101 61.73		62.05			
63				100	100	100	7.7		T2-101 63.25		63.03			
64				100	86	84	>20		T2-101 64.77		63.55 63.66			
65				100	100	100	2.3		T2-101 65.91					
66				100	91	90			T2-101 67.43		67.59			
67				100	100	100	0.9		T2-101 68.86					
68				100	97	93	12.1		T2-101 69.70		69.70			
69											70.00			
70														
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬇ LARGE DISTURBED SAMPLE</p> <p>▨ U70 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>⬇ IN-SITU VANE SHEAR TEST</p> <p>⬇ PACKER TEST</p> <p>⬇ PERMEABILITY TEST</p> <p>⬇ PRESSUREMETER TEST</p> <p>⬇ BOREHOLE TELEVIEWER</p> <p>⬇ PIEZOMETER TIP</p> <p>⬇ STANDPIPE TIP</p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>18.01.2016</u> CHECKED <u>R. Chu</u> DATE <u>21.01.2016</u>		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH09**SHEET **8** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820717.40

N 833943.60

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD38**DATE **04.01.2016** to **13.01.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
71				100	100	100			T2-101 70.33		70.03		II	As sheet 7 of 8.
				100	100	100	0.6		T2-101 71.33					
72				100	100	100			T2-101 72.03					
				100	100	100			T2-101 73.56		73.27			
73				100	100	100			T2-101 74.12					
74				100	99	99	0.0		T2-101 75.08		74.12			End of hole at 75.08 m.
75														
76														
77														
78														
79														
80														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **18.01.2016**
CHECKED **R. Chu**
DATE **21.01.2016**

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH10**

SHEET 1 of 8

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD ROTARY

CO-ORDINATES

WORKS ORDER NO. GE/2014/07.34A

MACHINE SD38

E 820714.11

DATE 19.01.2016 to 05.02.2016

N 833927.56

FLUSHING MEDIUM AIRFOAM

ORIENTATION VERTICAL

GROUND LEVEL +0.91 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
19.01.2016	SW													
1				100				B=7 1,2 2,4,5,5 N=16	1 0.00 2 0.45 3 0.50 4 0.85 5 1.10	+0.91 +0.41	0.00 0.50			Black (2.5Y 2.5/1), slightly clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments and with some refuse fragments. (FILL)
2									6 1.40 7 1.45	-0.09 -0.54	1.00 1.45			Medium dense, light grey (7.5YR 7/1) spotted very dark grey, slightly silty clayey fine SAND with occasional angular to subangular fine to medium gravel of quartz fragments. (ALLUVIUM)
3				100				B=17 1,1 2,2,2,2 N=8	8 1.95 9 2.50 10 3.05 11 3.10					Medium dense, grey (7.5YR 6/1), angular to subangular, slightly clayey silty sandy fine to occasional medium GRAVEL of quartz fragments. (ALLUVIUM)
4									12 3.40 13 3.45	-1.59 -2.54	2.50 3.45			Firm, grey (7.5YR 6/1) spotted red, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5				90					14 3.95 15 4.50					Firm, light grey (10YR 7/1) spotted red, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6									16 4.50 17 5.60 18 5.70	-3.59 -4.69	4.50 5.60 5.70			Medium dense, light grey (10YR 7/2) spotted red, slightly silty clayey fine to coarse SAND with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
7				80					19 5.80 20 6.00					Firm, light grey (2.5Y 7/1), slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8				100				B=27 2,4 8,10,13,12 N=43	21 6.50 22 7.60 23 8.05 24 8.20	-5.59 -6.69	6.50 7.60			Loose, light yellowish brown (10YR 6/4), slightly clayey silty fine to coarse SAND with much subangular fine gravel of quartz fragments. (ALLUVIUM)
9									25 8.50 26 8.95					Light yellowish brown (10YR 6/4), angular to subangular, slightly clayey silty sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
10				100				B=49	27 9.60	-8.69	9.60			Light yellowish brown (10YR 6/4) and grey (7.5YR 6/1), angular to subangular, sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
														Medium dense, dark grey (7.5YR 4/1), slightly silty clayey fine to coarse SAND with some to much
<div><div><div>↑ SMALL DISTURBED SAMPLE</div><div>↑ LARGE DISTURBED SAMPLE</div><div>▨ U76 SAMPLE</div><div>▨ PISTON SAMPLE (76mm)</div><div>▨ MAZIER SAMPLE</div><div>□ SPT LINER SAMPLE</div><div>▲ WATER SAMPLE</div><div>■ U100 SAMPLE</div></div><div><div>↓ STANDARD PENETRATION TEST</div><div>▽ IN-SITU VANE SHEAR TEST</div><div>○ PACKER TEST</div><div>○ PERMEABILITY TEST</div><div>○ PRESSUREMETER TEST</div><div>○ BOREHOLE TELEVIEWER</div><div>○ PIEZOMETER TIP</div><div>○ STANDPIPE TIP</div></div></div> <div>LOGGED S.L. Chiu</div> <div>DATE 13.02.2016</div> <div>CHECKED R. Chu</div> <div>DATE 16.02.2016</div> <div>REMARKS</div>										1. An inspection pit was excavated to 0.50m deep by hand tools. 2. Constant head permeability test was carried out at section from 11.50m to 13.00m. 3. Acoustic borehole televiewer survey was carried out from 62.00m to 72.00m.				

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH10**SHEET **2** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820714.11**N 833927.56**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD38

DATE

19.01.2016 to **05.02.2016**

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.91 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
								24 2,4 9,8,6,4 N=22 ↓	24 10.05 25 10.20 26 10.50					angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
11									27 10.95	-8.59	10.50			Medium dense, dark grey (7.5YR 4/1), slightly silty clayey fine to coarse SAND with some to much angular to subangular fine to medium gravel of quartz fragments. (ALLUVIUM)
12				100				B=49 3,6 7,10,11,15 N=43 ↓	28 11.60 29 12.05 30 12.20 31 12.50	-10.69 -11.19	11.60 12.10		Dense, dark grey (7.5YR 4/1), slightly clayey silty fine to coarse SAND with occasional to some angular to subangular fine gravel of quartz fragments and with occasional wood fragments. (ALLUVIUM) Dense, dark grey (7.5YR 4/1), slightly clayey silty fine to coarse SAND with occasional to some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)	
21.12.2016 23.01.2016	SW 13.60m PW			100				B=36 8,10 10,11,13,14 N=48 ↓	32 12.95 33 13.60 34 14.05 35 14.20 36 14.50	-12.69	13.60	V	Extremely weak, dark grey (10YR 4/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)	
14				100					37 14.95					
15									38 15.60 39 16.60 40 16.70 41 16.80	-14.69 -15.79	15.60 16.70	IV	Weak, very dark grey (10YR 3/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly clayey silty sandy fine to coarse GRAVEL of highly decomposed siltstone fragments)	
16				100				5,6 9,12,12,13 N=46 ↓	42 17.60 43 18.60 44 18.70 45 18.80			V	Extremely weak, dark grey (10YR 4/1) and very dark grey (10YR 3/1) streaked yellowish brown and yellowish red, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)	
17									46 19.60					
18				100				5,7 10,14,16,17 N=57 ↓						
19														
20														

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

- ↓ STANDARD PENETRATION TEST
- ✓ IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

16.02.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH10									
		SHEET 3 of 8												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820714.11 N 833927.56		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD38					DATE 19.01.2016 to 05.02.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.91 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				100				8,7 11,13,17,13 N=54 ↓	47 20.60 48 20.70 49 21.10				V	As sheet 2 of 8.
22				100					50 21.60					
23								4,7 12,12,14,18 N=50 ↓	51 22.60 52 22.70 53 23.10					
24				100					54 23.60	-22.69	23.60		IV	Weak, dark grey (10YR 4/1) streaked yellowish brown and yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
25								3,13 14,19,20,25 N=78 ↓	55 24.60 56 24.70 57 25.10					
26				100					58 25.60	-24.69	25.60		IV	Weak to moderately weak, dark grey (10YR 4/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
27								8,9 15,18,21,30 N=84 ↓	59 26.60 60 26.70 61 27.10					
28				100					62 27.60	-26.69	27.60		IV	Extremely weak to very weak, dark grey (10YR 4/1) streaked yellowish brown, mottled red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine to medium gravel of siltstone fragments)
29								10,13 17,23,28,29 N=67 ↓	63 28.60 64 28.70 65 29.10	-27.79	28.70		IV	Weak, very dark grey (10YR 3/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey very silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
30									66 29.60	-29.09	30.00			
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬆ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>⬇ IN-SITU VANE SHEAR TEST</p> <p>⬇ PACKER TEST</p> <p>⬇ PERMEABILITY TEST</p> <p>⬇ PRESSUREMETER TEST</p> <p>⬇ BOREHOLE TELEVIEWER</p> <p>⬇ PIEZOMETER TIP</p> <p>⬇ STANDPIPE TIP</p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>13.02.2016</u> CHECKED <u>R. Chu</u> DATE <u>16.02.2016</u>		REMARKS			



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH10**SHEET **4** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD. **ROTARY**

CO-ORDINATES

E 820714.11**N 833927.56**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD38

DATE

19.01.2016 to 05.02.2016

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+0.91 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
31				100				6,12 13,18,20,27 N=78	67 30.60 68 30.70 69 31.10				IV	As sheet 3 of 8.
32				100					70 31.60					
33								5,7 10,19,28,30 N=85	71 32.60 72 32.70 73 33.10					
34				100					74 33.60	-32.69	33.60		IV	Extremely weak to very weak, dark grey (10YR 4/1) streaked yellowish brown and yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
35								8,8 13,15,21,27 N=78	75 34.60 76 34.70 77 35.10					
36				100					78 35.60	-34.69	35.60		IV	Weak, dark grey (10YR 4/1) mottled yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly sandy clayey very silty fine to coarse GRAVEL of highly decomposed siltstone fragments)
37								8,14 17,19,24,27 N=87	79 36.60 80 36.70 81 37.10					
38				100					82 37.60					
39								5,10 15,20,28,32 N=95	83 38.60 84 38.70 85 39.10					
40									86 39.60	-38.69	39.60		IV	Extremely weak to very weak, dark grey (10YR 4/1) streaked yellowish brown, highly decomposed,

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

16.02.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH10											
				SHEET 5 of 8											
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)															
METHOD ROTARY		CO-ORDINATES E 820714.11 N 833927.56		WORKS ORDER NO. GE/2014/07.34A											
MACHINE SD38				DATE 19.01.2016 to 05.02.2016											
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.91 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	
41				60					87 88	40.60 40.70			IV	metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine to medium gravel of siltstone fragments)	
42				100				8,11 13,19,25,29 N=88	89 90 91	41.70 41.80 41.90 42.20					
43				100					92	42.70					
44								8,9 14,14,19,20 N=87	93 94 95	43.70 43.80 43.90 44.20					
45				100					96	44.70					
46								8,8 7,10,13,19 N=48	97 98 99	45.70 45.80 45.90 46.20					
47				100					100	46.70					
48	PW 47.80m HW							8,7 9,12,15,20 N=55	01 02 03	47.70 47.80 47.90 48.20	-48.89 47.80		IV		Extremely weak to very weak, dark grey (7.5YR 4/1) and black (7.5YR 2.5/1), streaked light brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with occasional angular fine gravel of siltstone fragments)
49				100					04	48.70					
26.01.2016 02.02.2016 50								4,8 14,17,22,27	05 06	49.70 49.80 49.90	-49.09 50.00				
<div style="display: flex; justify-content: space-between;"> <div> ⬆ SMALL DISTURBED SAMPLE ⬆ LARGE DISTURBED SAMPLE ▨ U78 SAMPLE ▨ PISTON SAMPLE (76mm) ▨ MAZIER SAMPLE □ SPT LINER SAMPLE ▲ WATER SAMPLE ■ U100 SAMPLE </div> <div> ⬇ STANDARD PENETRATION TEST ⬇ IN-SITU VANE SHEAR TEST ▨ PACKER TEST ▨ PERMEABILITY TEST ▨ PRESSUREMETER TEST ▨ BOREHOLE TELEVIEWER ▨ PIEZOMETER TIP ▨ STANDPIPE TIP </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>13.02.2016</u> CHECKED <u>R. Chu</u> DATE <u>16.02.2016</u>		REMARKS				



		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH10										
				SHEET 7 of 8										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820714.11 N 833927.56		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD38				DATE 19.01.2016 to 05.02.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +0.91 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
61				100	100	100	6.7		T2-101	60.11	60.71 60.86		II	As sheet 6 of 8.
62				100	100	97	1.0		T2-101	61.58				
63				100	100	90			T2-101	63.09				
64				100	100		6.4		T2-101	64.32				
65				100	96	96	1.2		T2-101	65.84				
66				100	88	88	3.4		T2-101	66.24				
67				100	100	94	2.2		T2-101	68.04				
68				100	100				T2-101	68.47				
69				100	100	100	7.4		T2-101	69.09	69.21			
70							1.3				69.69			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> SMALL DISTURBED SAMPLE LARGE DISTURBED SAMPLE U76 SAMPLE PISTON SAMPLE (76mm) MAZIER SAMPLE SPT LINER SAMPLE WATER SAMPLE U100 SAMPLE </p> </div> <div style="width: 45%;"> <p> STANDARD PENETRATION TEST IN-SITU VANE SHEAR TEST PACKER TEST PERMEABILITY TEST PRESSUREMETER TEST BOREHOLE TELEVIEWER PIEZOMETER TIP STANDPIPE TIP </p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>13.02.2016</u> CHECKED <u>R. Chu</u> DATE <u>16.02.2016</u>		REMARKS			

DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH10**SHEET **8** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820714.11

N 833927.56

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD38

DATE

19.01.2016 to 05.02.2016

FLUSHING MEDIUM

AIRFOAM

ORIENTATION **VERTICAL**

GROUND LEVEL

+0.91 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
71				100	89	87	6.3		T2-101	69.99	70.62		II	As sheet 7 of 8.
							1.5			71.40	71.29			
72				100	100	96	4.9		T2-101	72.92	71.70			
							1.4			73.15	73.30			
73				100	100	100	6.7		T2-101	74.42	74.90			
74				100	100	100	0.6							End of hole at 75.89 m.
75				100	100	100	0.0		T2-101	74.98	75.89			
76														
77														
78														
79														
80														

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

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

LOGGED

S.L. Chiu

DATE

13.02.2016

CHECKED

R. Chu

DATE

16.02.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH12									
		SHEET 1 of 13												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD17					DATE 24.02.2016 to 04.03.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
24.02.2016	SW													
1				100				1,2 2,2,3,4 N=11	1 0.00 2 0.45 3 0.50	+0.95 +0.45	0.00 0.50			Grey (7.5YR 6/1) mottled brown, angular to subangular, slightly sandy clayey silty fine to coarse GRAVEL of rock fragments. (FILL)
2								B=23	4 1.50 5 1.60 6 1.70	-0.85	1.80			Firm, light grey (10YR 7/1), slightly silty sandy CLAY. (ALLUVIUM)
3				100				1,2 2,2,3,3 N=10	7 2.50 8 3.05 9 3.10	-1.55	2.50			Stiff, light grey (10YR 7/1), slightly sandy silty CLAY with occasional angular to subangular fine to coarse gravel of quartz and rock fragments. (ALLUVIUM)
4								B=23	10 3.40 11 3.95					Medium dense, light grey (10YR 7/1) mottled very pale brown, slightly silty clayey fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5				100				1,2 2,2,3,3,4 N=15	12 4.50 13 5.05 14 5.10	-3.55	4.50			Medium dense, light grey (10YR 7/2) streaked yellowish red, slightly silty clayey fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6								B=43	15 5.40 16 5.95					Medium dense, light grey (10YR 7/1) mottled very pale brown, slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
7				100				2,3 3,4,4,4 N=21	17 6.50 18 6.95 19 7.10	-5.55	6.50			Medium dense, light grey (10YR 7/1) mottled very pale brown, slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
8								B=57	20 7.40 21 7.95					Medium dense, grey (7.5YR 6/1) mottled very pale brown, slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
9				100				3,3 4,5,5,7 N=21	22 8.50 23 8.95 24 9.10	-7.55	8.50			Medium dense, grey (7.5YR 6/1) mottled very pale brown, slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
10									25 9.95	-9.05	10.00			
<div style="display: flex; justify-content: space-between;"> <div> <p>↑ SMALL DISTURBED SAMPLE</p> <p>↓ LARGE DISTURBED SAMPLE</p> <p>▨ U78 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>▨ SPT LINER SAMPLE</p> <p>▨ WATER SAMPLE</p> <p>▨ U100 SAMPLE</p> </div> <div> <p>↓ STANDARD PENETRATION TEST</p> <p>↓ IN-SITU VANE SHEAR TEST</p> <p>○ PACKER TEST</p> <p>○ PERMEABILITY TEST</p> <p>○ PRESSUREMETER TEST</p> <p>○ BOREHOLE TELEVIEWER</p> <p>○ PIEZOMETER TIP</p> <p>○ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 11.03.2016 CHECKED R. Chu DATE 14.03.2016		REMARKS 1. An inspection pit was excavated to 0.50m deep by hand tools. 2. Constant head permeability test was carried out at section from 4.00m to 5.50m.			

DRILTECH

DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**

SHEET **2** of **13**

PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**

MACHINE **SD17**

E 820708.71

DATE **24.02.2016** to **04.03.2016**

N 833885.61

FLUSHING MEDIUM **AIRFOAM**

ORIENTATION **VERTICAL**

GROUND LEVEL **+0.95 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				100				B=76 3.5 6.8,7.9 N=28	28 10.50 27 10.85 28 11.10 29 11.40	-9.55	10.50			As sheet 1 of 13.
12									30 11.95					
13				100				B=63 3.5 7.7,9.8 N=31	31 12.50 32 13.05 33 13.10 34 13.40	-11.55	12.50			Medium dense to dense, grey (10YR 6/1) spotted white, slightly clayey silty fine to coarse SAND with much angular to subangular fine to coarse gravel of quartz fragments. (ALLUVIUM)
14									35 13.95					
15				100				B=78 7.11 5.5,7.8 N=25	36 14.50 37 15.05 38 15.40					
16									39 15.95					
17	SW 17.00m PW			100				B=62 4.4 5.6,6.7 N=24	40 16.50 41 16.85 42 17.10 43 17.40	-15.55	16.50		V	Extremely weak, grey (2.5Y 5/1) streaked reddish brown and light grey, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine to medium gravel of siltstone fragments)
18									44 17.95					
19				95					45 18.50 46 19.50 47 19.70					
20								3.4 5.7,8,10 N=30		-19.05	20.00			

- ⬆ SMALL DISTURBED SAMPLE
- ⬆ LARGE DISTURBED SAMPLE
- ▨ U76 SAMPLE
- ▨ PISTON SAMPLE (76mm)
- ▨ MAZIER SAMPLE
- ▨ SPT LINER SAMPLE
- ▲ WATER SAMPLE
- U100 SAMPLE

- ⬇ STANDARD PENETRATION TEST
- ⬇ IN-SITU VANE SHEAR TEST
- ⬇ PACKER TEST
- ⬇ PERMEABILITY TEST
- ⬇ PRESSUREMETER TEST
- ⬇ BOREHOLE TELEVIEWER
- ⬇ PIEZOMETER TIP
- ⬇ STANDPIPE TIP

LOGGED **S.L. Chiu**

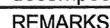
DATE **11.03.2016**

CHECKED **R. Chu**

DATE **14.03.2016**

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07			HOLE NO. S2-DH12									
		SHEET 3 of 13												
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD17					DATE 24.02.2016 to 04.03.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 mPD									
Drilling Progress	Casing Size	Water Level (m) Shift/End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
21				100				4,6 7,9,10,14 N=40	48 20.00 49 20.50 50 21.50 51 21.60 52 21.70 52 22.00				V	As sheet 2 of 13.
22														
23				100				4,6 5,11,12,14 N=45	53 22.50 54 23.50 55 23.60 56 23.70 56 24.00	-21.55	22.50		V	Extremely weak, yellowish red (5YR 4/6) and reddish brown (5YR 4/4), completely decomposed, metamorphosed, SILTSTONE. (Silty sandy CLAY)
24														
25				100				5,7 11,13,19,21 N=84	57 24.50 58 25.50 59 25.60 60 25.70 60 26.00	-23.55	24.50		V	Extremely weak, bluish grey (5B 6/1) streaked white, completely decomposed, metamorphosed, SILTSTONE. (Clayey sandy SILT)
26														
27				100				4,7 8,10,11,14 N=43	61 26.50 62 27.50 63 27.60 64 27.70 64 28.00	-25.55	26.50		V	Extremely weak, dark reddish brown (5YR 3/4) mottled reddish grey, completely decomposed, metamorphosed, SILTSTONE. (Clayey sandy SILT)
28														
29				100				5,7 10,12,13,18 N=53	65 28.50 66 29.50 67 29.60 67 29.70	-28.05	30.00			
30														
<div style="display: flex; justify-content: space-between;"> <div> <p>↑ SMALL DISTURBED SAMPLE</p> <p>↓ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▩ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>■ WATER SAMPLE</p> <p>▲ U100 SAMPLE</p> </div> <div> <p>↓ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>○ PACKER TEST</p> <p>○ PERMEABILITY TEST</p> <p>○ PRESSUREMETER TEST</p> <p>○ BOREHOLE TELEVIEWER</p> <p>○ PIEZOMETER TIP</p> <p>○ STANDPIPE TIP</p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>11.03.2016</u> CHECKED <u>R. Chu</u> DATE <u>14.03.2016</u>		REMARKS			



		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH12										
				SHEET 5 of 13										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD17					DATE 24.02.2016 to 04.03.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
41				100				19, 12 18, 24, 30, 28/25mm 100bls/250mm	86 40.50 87 41.50 88 41.88 89 41.95				IV	(Angular, slightly clayey silty sandy fine to coarse GRAVEL of highly decomposed siltstone fragments)
42														
43				100				13, 18 23, 28, 49/60mm 100bls/210mm	90 42.50 91 43.50 92 43.89 93 43.91					
44														
45				100				10, 31/35mm 100/50mm 100bls/50mm	94 44.50 95 45.50 96 45.60 97 45.71	-43.55	44.50		IV	Weak to moderately weak, grey (2.5Y 5/1) streaked reddish brown and yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly silty sandy fine to coarse GRAVEL of highly decomposed tuff fragments)
46														
47				100									IV	Extremely weak to very weak, grey (2.5Y 5/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to medium gravel of siltstone fragments)
48								9, 11 14, 16, 24, 33 N=89	98 47.50 99 47.60 100 47.70 101 48.00					
49				100										
50								10, 12 14, 20, 26, 37 N=97	102 48.50 103 49.50 104 49.60 105 49.70	-45.55	46.50			
50														

LEGEND

SMALL DISTURBED SAMPLE
 LARGE DISTURBED SAMPLE
 U78 SAMPLE
 PISTON SAMPLE (76mm)
 MAZIER SAMPLE
 8PT LINER SAMPLE
 WATER SAMPLE
 U100 SAMPLE

STANDARD PENETRATION TEST
 IN-SITU VANE SHEAR TEST
 PACKER TEST
 PERMEABILITY TEST
 PRESSUREMETER TEST
 BOREHOLE TELEVIEWER
 PIEZOMETER TIP
 STANDPIPE TIP

LOGGED S.L. Chiu

DATE 11.03.2016

CHECKED R. Chu

DATE 14.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**SHEET **6** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.71**N 833885.61**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **24.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
	PW 50.50m HW												IV	As sheet 5 of 13.
51				100					04 50.00 05 50.50					
52								9,12 15,18,27,34 N=84	06 51.50 07 51.60 08 51.70	-50.65	51.60		IV	Extremely weak to weak, dark grey (2.5Y 4/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
53				100					09 52.00 10 52.50					
54								8,13 16,20,23,35 N=84	11 53.50 12 53.60 13 53.70					
55				95					14 54.00 15 54.50	-53.55	54.50		IV	Extremely weak to very weak, grey (2.5Y 5/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy clayey SILT with some angular fine to medium gravel of siltstone fragments)
56								10,14 16,19,25,31 N=91	17 55.50 18 55.60 19 55.70					
57				100					20 56.00 21 56.50					
58								8,11 13,18,24,32 N=87	22 57.50 23 57.60 24 57.70					
59				100					25 58.00 26 58.50					
60								9,12 15,19,26,35 N=95	27 59.50 28 59.60 29 59.70	-59.05	60.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

14.03.2016

REMARKS

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 2px solid black; padding: 5px; font-weight: bold; font-size: 1.5em;">DRILTECH</div> <div style="text-align: center;"> DRILLHOLE RECORD CONTRACT NO. GE/2014/07 </div> <div style="text-align: right;"> HOLE NO. S2-DH12 SHEET 7 of 13 </div> </div>										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)										
METHOD ROTARY					CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A			
MACHINE SD17							DATE 24.02.2016 to 04.03.2016			
FLUSHING MEDIUM AIRFOAM					ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
61				95				8.8 11,12,17,25 N=85	24 60.00 25 60.50 26 61.50 27 61.60 28 61.70 29 62.00 30 62.50 31 63.50 32 63.60 33 63.72	IV As sheet 6 of 13.
62										IV Extremely weak to weak, very dark grey (10YR 3/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
63				90						
64								13,37/35mm 100/60mm 100bls/60mm	34 64.50 35 65.50 36 65.60	IV Extremely weak to weak, very dark grey (10YR 3/1) streaked yellowish brown and white, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
65				80						IV Extremely weak to weak, very dark grey (10YR 3/1) streaked yellowish brown, highly decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine gravel of siltstone fragments)
66				100						
67								6.9 11,13,16,22 N=82	37 66.60 38 66.70 39 66.80 40 67.10	IV Weak to moderately weak, very dark grey (10YR 3/1) streaked yellowish red, highly decomposed, metamorphosed, SILTSTONE. (Angular, slightly silty sandy fine to coarse GRAVEL of highly decomposed siltstone fragments)
68				90						
69								7.7 8,12,20,28 N=88	41 67.60 42 68.60 43 68.70 44 68.80 45 69.10 46 69.60	IV Extremely weak, very dark grey (10YR 3/1) spotted light brown and brown, completely decomposed, metamorphosed, SILTSTONE. (Slightly sandy silty CLAY with occasional angular fine to medium gravel of siltstone fragments)
70									47 69.05 48 70.00	

⬆ SMALL DISTURBED SAMPLE
 ⬇ LARGE DISTURBED SAMPLE
 ▨ U78 SAMPLE
 ▩ PISTON SAMPLE (76mm)
 ▤ MAZIER SAMPLE
 □ SPT LINER SAMPLE
 ▲ WATER SAMPLE
 ■ U100 SAMPLE

⬇ STANDARD PENETRATION TEST
 ⬇ IN-SITU VANE SHEAR TEST
 ▬ PACKER TEST
 ▬ PERMEABILITY TEST
 ▬ PRESSUREMETER TEST
 ▬ BOREHOLE TELEVIEWER
 ▬ PIEZOMETER TIP
 □ STANDPIPE TIP

LOGGED S.L. Chiu
 DATE 11.03.2016
 CHECKED R. Chu
 DATE 14.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**SHEET **8** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD	ROTARY	CO-ORDINATES	WORKS ORDER NO.
MACHINE	SD17	E 820708.71 N 833885.61	GE/2014/07.34A
FLUSHING MEDIUM	AIRFOAM	ORIENTATION	DATE
		VERTICAL	24.02.2016 to 04.03.2016
		GROUND LEVEL	+0.95 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
71				95				8,10 14,17,23,29 N=83	43 70.60 44 70.80 45 71.10				IV	As sheet 7 of 13.
72				95					46 71.60					
73								8,9 12,15,21,27 N=75	47 72.60 48 72.70 49 73.10					
74				100					50 73.60	-72.65	73.60			Very stiff, dark grey (10YR 4/1) spotted light brown and brown, slightly sandy silty CLAY with occasional angular fine to medium gravel of rock fragments. (KARST DEPOSITS)
75								8,11 16,18,18,22 N=74	51 74.60 52 74.70 53 75.10					
76				65					54 75.60	-74.65	75.60			Very stiff, very dark greyish brown (2.5Y 3/2) spotted light brown and grey, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
77				100					55 76.60 56 76.70	-75.75	76.70			Very stiff, brown (7.5YR 4/3) spotted light brown, slightly sandy silty CLAY with occasional angular fine gravel of rock fragments. (KARST DEPOSITS)
78								8,10 13,19,23,30 N=85	57 77.70 58 77.80 59 78.20					
79				100	99	99				-77.75	78.70		II	Strong, white, slightly decomposed MARBLE. Joints are widely spaced, rough planar and rough undulating, iron and manganese oxide stained, dipping at 0° to 10°, 20° to 30° and 40° to 50°.
80							0.4		T2-101	-79.05	80.00			

- ↑ SMALL DISTURBED SAMPLE
↓ LARGE DISTURBED SAMPLE
▨ U76 SAMPLE
▨ PISTON SAMPLE (76mm)
▨ MAZIER SAMPLE
□ SPT LINER SAMPLE
▲ WATER SAMPLE
■ U100 SAMPLE
- ↓ STANDARD PENETRATION TEST
✓ IN-SITU VANE SHEAR TEST
○ PACKER TEST
○ PERMEABILITY TEST
○ PRESSUREMETER TEST
○ BOREHOLE TELEVIEWER
○ PIEZOMETER TIP
○ STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 14.03.2016

REMARKS

<div style="display: inline-block; border: 2px solid black; padding: 5px; font-weight: bold; font-size: 1.2em;">DRILTECH</div> <div style="display: inline-block; margin-left: 20px;"> DRILLHOLE RECORD CONTRACT NO. GE/2014/07 </div> <div style="display: inline-block; margin-left: 20px; text-align: right;"> HOLE NO. S2-DH12 SHEET 9 of 13 </div>									
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)									
METHOD ROTARY					CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A		
MACHINE SD17							DATE 24.02.2016 to 04.03.2016		
FLUSHING MEDIUM AIRFOAM					ORIENTATION VERTICAL		GROUND LEVEL +0.95 mPD		
Drilling Progress	Casing Size	Water Level (m) Shift Start/End	Water Return%	TCR%	SCR%	RQD%	Fracture Index	Tests	Description
29.02.2016 01.03.2016				100	93	93			As sheet 8 of 13.
									Lowering casing, assumed to be CAVITY.
82				100	89	89	0.9	>20	Strong, white, slightly decomposed MARBLE. Joints are closely to medium spaced, rough planar and rough undulating, iron and manganese oxide stained, dipping at 0° to 10°, 20° to 30° and 40° to 50°.
83				73	51	51	7.9	NR	From 83.47m to 83.60m: No recovery, assumed to be CAVITY.
84									Lowering casing, assumed to be CAVITY.
85				100	80	80	0.5	>20	Strong, white, slightly decomposed MARBLE. Joints are widely spaced, occasionally closely and medium spaced, rough planar and rough undulating, iron and manganese oxide stained, dipping at 0° to 10° and 40° to 50°.
86				100	98	98			Lowering casing, assumed to be CAVITY.
87									
88									
89				100	90	90	3.6	>20	Strong, white, slightly decomposed MARBLE. Joints are medium to widely spaced, rough planar and rough undulating, iron and manganese oxide stained, dipping at 0° to 10°, 40° to 50° and 65° to 75°.
90									

SMALL DISTURBED SAMPLE
 LARGE DISTURBED SAMPLE
 U76 SAMPLE
 PISTON SAMPLE (76mm)
 MAZIER SAMPLE
 SPT LINER SAMPLE
 WATER SAMPLE
 U100 SAMPLE

STANDARD PENETRATION TEST
 IN-SITU VANE SHEAR TEST
 PACKER TEST
 PERMEABILITY TEST
 PRESSUREMETER TEST
 BOREHOLE TELEVIEWER
 PIEZOMETER TIP
 STANDPIPE TIP

LOGGED S.L. Chiu

DATE 11.03.2016

CHECKED R. Chu

DATE 14.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**SHEET **10** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820708.71**N 833885.61**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**DATE **24.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
				94	79	79			T2-101	-88.35	90.30		II	As sheet 9 of 13.
										-90.30				Lowering casing, assumed to be CAVITY.
				89	71	54	8.0		T2-101	-88.68	90.63		II	Strong, white mottled grey, slightly decomposed MARBLE.
91										-89.93	90.88			Joints are very closely to closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 20° to 30° and 50° to 60°.
							>20			-90.55	91.50			Lowering casing, assumed to be CAVITY.
92				93	71	71	1.3		T2-101	-91.75	92.70		III	Moderately strong, white mottled grey, moderately decomposed MARBLE.
							>20			-92.35				Joints are medium to widely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10°, 20° to 30° and 50° to 60°.
01.03.2016 02.03.2016										-91.75	92.70			Lowering casing, assumed to be CAVITY.
93										-92.55	93.50		III	
									T2-101	-92.71	93.66		II	Strong, white, slightly decomposed MARBLE.
94				100	83	83								Joints are medium to widely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10°, 50° to 60° and subvertically from 96.51m to 98.01m.
										-94.45				From 93.50m to 93.66m: Moderately strong and moderately decomposed.
95				97	95	95	0.7		T2-101					
										-95.95				
96	HW 95.95m NW			100	100	100			T2-101					
										-96.51				
97														
									T2-101					
							2.7			-97.24				
98				100	100	100			T2-101					
										-97.08	98.01			Lowering casing, assumed to be CAVITY.
99														
										-98.01				
100										-99.05	100.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

14.03.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH12										
				SHEET 11 of 13										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820708.71 N 833885.61		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD17					DATE 24.02.2016 to 04.03.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +0.95 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
101				100	49	0	>20		TNW	100.75	100.75		III	Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed IMPURE MARBLE. Joints are very closely to closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10° and 35° to 45°.
				100	71	63	9.4		TNW	101.10	101.26			
102														Lowering casing, assumed to be CAVITY.
				100	40	40	>20		TNW	102.05	102.05		III	Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed IMPURE MARBLE. Joints are very closely to closely spaced, occasionally medium spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10° and 35° to 45°.
							4.5		TNW	102.60	102.49			
103				100	94	90	1.4		TNW	103.42	103.42			Lowering casing, assumed to be CAVITY.
							0.1			103.75	103.75			
104														Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed MARBLE. Joints are widely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10° and 15° to 25°.
				100	100	100	1.1		TNW	104.13	104.13		III	
105														Lowering casing, assumed to be CAVITY.
				100	73	53	3.4		TNW	105.62	105.62		III	Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed MARBLE. Joints are closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10°, 15° to 25° and subvertically from 105.72m to 106.17m.
106							>20		TNW	106.17	106.17			
107														Lowering casing, assumed to be CAVITY.
				100	79	69	6.3		TNW	107.65	107.65		III	Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed MARBLE. Joints are closely to medium spaced, occasionally very closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10°, 15° to 25° and subvertically from 107.65m to 108.20m.
108							>20		TNW	108.35	108.35			
109														Lowering casing, assumed to be CAVITY.
110														
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬇ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>⬇ PACKER TEST</p> <p>⬇ PERMEABILITY TEST</p> <p>⬇ PRESSUREMETER TEST</p> <p>⬇ BOREHOLE TELEVIEWER</p> <p>⬇ PIEZOMETER TIP</p> <p>⬇ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 11.03.2016 CHECKED R. Chu DATE 14.03.2016		REMARKS			

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**

SHEET 12 of 13

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Lorig Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD17**

E 820708.71

N 833885.61

DATE **24.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+0.95 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
111														As sheet 11 of 13.
112				100	83	80	2.2		TNW	-111.45 -112.45	-110.50 -112.45	-111.45 -111.54	III	Moderately strong to strong, light grey and white dappled dark grey, moderately decomposed MARBLE. Joints are medium to widely spaced, occasionally closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10° and 15° to 25°.
113														Lowering casing, assumed to be CAVITY.
114														
115														
116														
03.03.2016 04.03.2016				100	0	0	>20		TNW	-116.48 -116.63	-115.53 -115.68	-116.48 -116.63	III	Moderately strong, pinkish white, moderately decomposed MARBLE. Joints are very closely spaced, rough planar and rough undulating, iron oxide stained, dipping at 35° to 45°.
117				100	84	84	4.0		TNW	-117.35 -117.60	-116.40 -116.65	-117.35 -117.60	II	Lowering casing, assumed to be CAVITY. Strong, pinkish white, moderately decomposed MARBLE. Joints are medium spaced, rough planar and rough undulating, iron oxide stained, dipping at 0° to 10°.
118														Lowering casing, assumed to be CAVITY.
119														
120										-119.05	120.00			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
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- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
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- STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 14.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH12**SHEET **13** of **13**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.								
MACHINE		SD17		E 820708.71 N 833885.61		DATE								
FLUSHING MEDIUM		AIRFOAM		ORIENTATION		VERTICAL								
GROUND LEVEL		+0.95 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
	NW									-119.50	-120.45			As sheet 12 of 13.
														End of hole at 120.45 m.
121														
122														
123														
124														
125														
126														
127														
128														
129														
130														

SMALL DISTURBED SAMPLE

LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 14.03.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH17**

SHEET 1 of 7

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD39**

E 820723.09

N 833707.97

DATE **27.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.52 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
27.02.2016	SW													
1				100				1.1 2.2,2.2 N=8	1 0.00 0.65 T2-120	+1.52 +1.02	0.00 0.50			Grey (2.5Y 6/1), angular to subangular, slightly sandy fine to coarse GRAVEL of rock fragments. (FILL)
2				100					2 0.00 1.00	+0.62	0.90			Grey (2.5Y 5/1) spotted yellowish brown, angular to subangular, slightly silty clayey sandy fine to coarse GRAVEL of rock fragments. (FILL)
3				0					3 2.00 2.10 4 2.20 5 2.50					Stiff, light grey (N7/) mottled brown, slightly sandy silty CLAY. (ALLUVIUM)
4				100				B=14	6 3.00 7 4.00 4.10	-1.48	3.00			Very loose, light grey (10YR 7/1), slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
5				100				5.5 2.2,3.3 N=10	8 4.60 4.70 9 5.00	-3.08	4.60			Very loose, pale brown (10YR 6/3), slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6				100				B=51	11 5.45	-3.53	5.05			Very loose, light grey (10YR 7/1), slightly clayey silty fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
7				100				2.3 3.4,4.4 N=12	12 6.10 13 6.55 14 6.70 15 7.00	-5.08	6.60			Medium dense, very pale brown (10YR 7/3) mottled brown and reddish brown, fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
27.02.2016	SW	7.50m							16 7.45					
29.02.2016	PW								17 8.10 18 8.55 19 8.70 20 9.00 21 9.45	-8.48	10.00			
8				100				B=73						
9								2.3 3.4,4.4 N=15						
10														

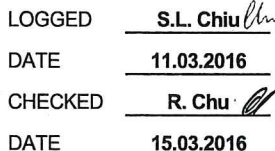
- SMALL DISTURBED SAMPLE
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- WATER SAMPLE
- U100 SAMPLE
- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

- An inspection pit was excavated to 0.50m deep by hand tools.
- Constant head permeability test was carried out at section from 10.10m to 11.60m.

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH17										
				SHEET 2 of 7										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY		CO-ORDINATES E 820723.09 N 833707.97		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD39				DATE 27.02.2016 to 04.03.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +1.52 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				100				B=11 1,2 3,3,3,3 N=12	22 10.10 23 10.65 24 10.70 25 11.00 26 11.45	-8.58 -9.53	10.10 11.05			As sheet 1 of 7. Stiff, light grey (10YR 7/1) streaked dark red, mottled yellowish brown, slightly silty sandy CLAY with much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
12				95					27 12.10					Medium dense, light grey (10YR 7/2) mottled yellowish brown, slightly silty clayey fine to coarse SAND with some to much angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
13								1,1 2,6,6,6 N=20	28 13.10 29 13.20 30 13.60	-11.68	13.20			Stiff, to very stiff, light grey (10YR 7/1) mottled dark red, silty CLAY. (ALLUVIUM)
14				100				2,3 3,3,3,5 N=14	31 14.10 32 15.10 33 15.20 34 15.30 35 15.60					
15									36 16.10					
16				100				1,2 2,3,3,3 N=11	37 17.10 38 17.20 39 17.30 40 17.60					
17									41 18.10					
18				100				2,2 3,4,4,4 N=15	42 19.10 43 19.20 44 19.30 45 19.60					
19									46 20.00					
20										-18.48	20.00			
<div style="display: flex; justify-content: space-between;"> <div> <p>↓ SMALL DISTURBED SAMPLE</p> <p>↑ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>↓ STANDARD PENETRATION TEST</p> <p>▽ IN-SITU VANE SHEAR TEST</p> <p>○ PACKER TEST</p> <p>○ PERMEABILITY TEST</p> <p>○ PRESSUREMETER TEST</p> <p>○ BOREHOLE TELEVIEWER</p> <p>○ PIEZOMETER TIP</p> <p>○ STANDPIPE TIP</p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>11.03.2016</u> CHECKED <u>R. Chu</u> DATE <u>15.03.2016</u>		REMARKS			



DRiLTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH17**SHEET **4** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820723.09**N 833707.97**

WORKS ORDER NO.

GE/2014/07.34A

MACHINE

SD39

DATE

27.02.2016 to 04.03.2016

FLUSHING MEDIUM

AIRFOAMORIENTATION **VERTICAL**

GROUND LEVEL

+1.52 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
31				100	60	44	16.0		T2-101	30.32	30.22			Moderately strong, white, moderately decomposed MARBLE.
				46	46	46	6.9		T2-101	30.80	30.80			From 30.80m to 31.60m: No recovery, assumed to be CAVITY-FILL DEPOSITS.
32							NR			31.60	31.60		III	
				50					63	32.00	32.00			Very stiff, very pale brown (10YR 8/2) mottled pale brown, clayey sandy SILT with some angular to subangular fine to medium gravel of rock fragments. (CAVITY-FILL DEPOSITS)
33									64	33.00	33.10			
				100					65	33.10	33.10			Very stiff, dark yellowish brown (10YR 4/4) mottled reddish brown, slightly sandy silty CLAY. (CAVITY-FILL DEPOSITS)
34									66	34.10	34.20			
								15,30 56,44/15mm V100bis/90mm	67	34.39	34.39			Very pale brown (10YR 8/2), angular to subangular, medium to coarse GRAVEL of rock fragments. (CAVITY-FILL DEPOSITS)
35									68	35.10	35.10			
				100					69	36.10	36.20			Very stiff, yellowish red (5YR 5/6) mottled dark greyish brown, slightly sandy silty CLAY with occasional angular to subangular fine gravel of rock fragments. (CAVITY-FILL DEPOSITS)
36								7,12 14,16,20,22 N=72	70	36.30	36.30			
									71	36.60	36.60			
37									72	37.10	37.10			
38								5,8 14,16,23,24 N=79	73	38.10	38.20			
									74	38.30	38.30			Very stiff, dark brown (7.5YR 3/2) streaked light grey, slightly sandy silty CLAY with occasional angular to subangular fine gravel of rock fragments. (CAVITY-FILL DEPOSITS)
39									75	38.60	38.60			
									76	39.10	39.10			Very stiff, light grey (7.5YR 7/1), slightly sandy silty CLAY with occasional angular to subangular fine gravel of rock fragments. (CAVITY-FILL DEPOSITS)
40	HW			82					77	39.65	39.65			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS

**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH17**SHEET **5** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.09**N **833707.97**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD39**DATE **27.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.52 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
41	40.05m			100	97	97	1.4		T2-101	40.05	40.05		II	<p>As sheet 4 of 7.</p> <p>Strong, grey dappled dark grey, slightly decomposed IMPURE MARBLE.</p> <p>Joints are medium to widely spaced, occasionally very closely and closely spaced, rough planar and rough undulating, iron oxide stained, calcite infilled (<2mm), occasionally clean, dipping at 0° to 10°, 10° to 20° and 55° to 65°.</p> <p>From 40.05m to 40.09m: With some dissolution features.</p>
							4.3				40.76			
											40.99			
42				100	100	100	1.1		T2-101	41.57				
43				100	91	91			T2-101	42.77	42.77			
44				100	100	100	3.5		T2-101	44.01				
45				100	100	100			T2-101	45.33				
46				100	100	100			T2-101	46.86	46.78			
47				100	100	100			T2-101	48.12				
48				100	100	100	0.9		T2-101	49.58				
49														
50														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BORHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH17 SHEET 6 of 7										
		PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)												
METHOD ROTARY		CO-ORDINATES E 820723.09 N 833707.97		WORKS ORDER NO. GE/2014/07.34A										
MACHINE SD39				DATE 27.02.2016 to 04.03.2016										
FLUSHING MEDIUM AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +1.52 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
51				100	100	100			T2-101				II	As sheet 5 of 7.
							4.0		51.07	51.07	51.32			
52				100	100	100			T2-101				II	Strong, light grey mottled grey and white, slightly decomposed MARBLE. Joints are widely to very widely to widely spaced, occasionally medium spaced, rough planar and rough undulating, iron oxide stained, locally clean, dipping at 20° to 30° and 55° to 65°.
							0.6		52.43					
53				100	100	100			T2-101		53.05			
							3.2		53.56		53.36			
54				100	100	100			T2-101					
55									55.10					
56				100	100	100			T2-101					
									56.63					
57				100	100	100			T2-101					
							0.3		58.12					
58									58.12					
59				100	100	100			T2-101					
									59.53					
60									T2-101		58.48	60.00		
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬇ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▨ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>▨ SPT LINER SAMPLE</p> <p>▨ WATER SAMPLE</p> <p>▨ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>⬇ IN-SITU VANE SHEAR TEST</p> <p>⬇ PACKER TEST</p> <p>⬇ PERMEABILITY TEST</p> <p>⬇ PRESSUREMETER TEST</p> <p>⬇ BOREHOLE TELEVIEWER</p> <p>⬇ PIEZOMETER TIP</p> <p>⬇ STANDPIPE TIP</p> </div> </div>									LOGGED <u>S.L. Chiu</u> DATE <u>11.03.2016</u> CHECKED <u>R. Chu</u> DATE <u>15.03.2016</u>		REMARKS			

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH17**SHEET **7** of **7**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E **820723.09**N **833707.97**WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD39**DATE **27.02.2016** to **04.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.52 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
04.03.2016				100	100	100			T2-101	-59.43	60.95		II	As sheet 6 of 7.
62														End of hole at 60.95 m.
63														
64														
65														
66														
67														
68														
69														
70														

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**

SHEET 1 of 8

PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)

METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD41****E 820702.30
N 833708.56**DATE **01.03.2016 to 09.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.37 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
01.03.2016	SW													
1				100				B=15 1.2, 2.2, 3.2 N=8	1 0.00 2 0.55 3 1.05 4 1.20 5 1.50 6 1.95	+1.37 +0.77	0.00 0.60			Light grey (10YR 7/1) mottled yellowish brown and brown, slightly sandy silty CLAY with some angular to subangular fine to medium gravel of rock fragments. (FILL) Firm, light grey (7.5YR 7/1) mottled yellowish brown, slightly sandy silty CLAY. (ALLUVIUM)
2									7 2.60 8 3.60 9 3.70 10 4.10	-1.23 -2.33	2.60 3.70			Medium dense, grey (10YR 6/1) streaked yellowish brown, slightly clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz and rock fragments. (ALLUVIUM)
3				100				1.2, 2.2, 4.4 N=12	11 4.60 12 5.60 13 5.70 14 6.10	-4.33	5.70			Stiff, light grey (10YR 7/2) streaked light yellowish brown, silty sandy CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
4									15 6.60 16 7.60 17 7.70 18 8.10	-5.23 -6.33	6.60 7.70			Medium dense, light grey (10YR 7/2), slightly clayey silty fine SAND. (ALLUVIUM) Stiff, very dark grey (10YR 3/1), slightly sandy silty CLAY with occasional wood fragments. (ALLUVIUM)
5				100					19 8.60 20 9.60 21 9.70	-7.23 -8.63	8.60 10.00			Dense, greyish brown (10YR 5/2), slightly clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM) Dense, light grey (2.5Y 7/1), slightly clayey silty fine to coarse SAND with some angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
6								2.2, 4.5, 3.2 N=14						
7														
8								3.3, 7.10, 10.14 N=41						
9				0										
10				100				B=54						

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED **S.L. Chiu**
DATE **11.03.2016**
CHECKED **R. Chu**
DATE **15.03.2016**

REMARKS

- An inspection pit was excavated to 0.60m deep by hand tools.
- Constant head permeability test was carried out at section from 12.70m to 14.20m.

**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**SHEET **2** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.		GE/2014/07.34A						
MACHINE		SD41		E 820702.30 N 833708.56		DATE		01.03.2016 to 09.03.2016						
FLUSHING MEDIUM		AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL		+1.37 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								3,4 6,7,10,16 N=39	21 10.15 22 10.20 23 10.30 24 10.60 25 10.95	-8.83	10.20			As sheet 1 of 8. Pinkish grey (7.5YR 7/2), angular to subangular, slightly clayey silty very sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
12				100				B=65 4,5 4,8,9,10 N=29	26 11.70 27 12.15 28 12.30 29 12.60	-10.33 -10.83	11.70 12.20			Light grey (10YR 7/2), angular to subangular, slightly clayey silty very sandy fine GRAVEL of quartz fragments. (ALLUVIUM)
13									30 12.60 31 12.95	-11.28	12.65			Medium dense, light grey (2.5Y 7/1), slightly silty very clayey fine SAND (ALLUVIUM)
14	SW 14.20m PW			100				B=39 2,4 4,4,3,5 N=16	32 13.70 33 14.15 34 14.30 35 14.60	-12.83	14.20			Firm, dark grey (10YR 4/1) mottled grey, slightly sandy silty CLAY with occasional angular to subangular fine gravel of quartz fragments. (ALLUVIUM)
15									36 14.95 37 15.70 38 16.70 39 16.80 40 16.90	-13.58	14.95			Light grey (2.5Y 7/1), angular to subangular, very sandy fine to medium GRAVEL of quartz and rock fragments. (ALLUVIUM)
16				100					41 17.20 42 17.70 43 18.70 44 18.80 45 18.90					Very stiff, brown (7.5YR 5/4) spotted grey, yellowish brown and white, slightly sandy silty CLAY with occasional to some angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)
17								5,7 7,10,16,18 N=51	46 17.20 47 17.70 48 18.70 49 18.80 50 18.90					
18				100					51 19.70 52 18.70 53 18.80 54 18.90	-17.43	18.80			Very stiff, light olive brown (2.5Y 5/6), slightly sandy silty CLAY with occasional to some angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)
19								2,4 3,3,5,6 N=17	55 19.20 56 19.70	-18.33	19.70			Very stiff, brown (7.5YR 4/4) spotted pink, slightly
20														REMARKS
<div><div><div>↓</div><div>SMALL DISTURBED SAMPLE</div></div><div><div>↓</div><div>LARGE DISTURBED SAMPLE</div></div><div><div>▨</div><div>U76 SAMPLE</div></div><div><div>▨</div><div>PISTON SAMPLE (76mm)</div></div><div><div>▨</div><div>MAZIER SAMPLE</div></div><div><div>□</div><div>SPT LINER SAMPLE</div></div><div><div>▲</div><div>WATER SAMPLE</div></div><div><div>■</div><div>U100 SAMPLE</div></div></div> <div><div>↓</div><div>STANDARD PENETRATION TEST</div></div> <div><div>↓</div><div>IN-SITU VANE SHEAR TEST</div></div> <div><div>↓</div><div>PACKER TEST</div></div> <div><div>↓</div><div>PERMEABILITY TEST</div></div> <div><div>↓</div><div>PRESSUREMETER TEST</div></div> <div><div>↓</div><div>BOREHOLE TELEVIEWER</div></div> <div><div>↓</div><div>PIEZOMETER TIP</div></div> <div><div>□</div><div>STANDPIPE TIP</div></div> <div>LOGGED DATE CHECKED DATE</div> <div>S.L. Chiu 11.03.2016 R. Chu 15.03.2016</div>														

		DRILLHOLE RECORD CONTRACT NO. GE/2014/07		HOLE NO. S2-DH18										
				SHEET 3 of 8										
PROJECT Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)														
METHOD ROTARY			CO-ORDINATES E 820702.30 N 833708.56		WORKS ORDER NO. GE/2014/07.34A									
MACHINE SD41					DATE 01.03.2016 to 09.03.2016									
FLUSHING MEDIUM AIRFOAM			ORIENTATION VERTICAL		GROUND LEVEL +1.37 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	PW 20.96m HW			95				28,22/20mm 100/60mm 100bls/60mm	44 20.70 45 20.80 20.84	-19.59	20.96			sandy silty CLAY with some angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)
22				100					T2-120 21.69 T2-101 22.00 T2-101 22.60 T2-101 23.20					Very pale brown (10YR 8/2) streaked brown and very dark brown, angular to subangular, coarse GRAVEL and COBBLE of rock fragments. (KARST DEPOSITS)
23				50										
24				0					46 24.20 24.30					Very pale brown (10YR 8/2) spotted brown and grey, angular to subangular, slightly clayey silty sandy fine to coarse GRAVEL and occasional cobble of rock fragments. (KARST DEPOSITS)
25				0				50/30mm 100/70mm 100bls/70mm	47 25.30 48 25.48					
26				0										
27				50	3	0			T2-101 27.00					Very pale brown (10YR 8/2) spotted dark grey, angular to subangular, fine to coarse GRAVEL and some cobble of rock fragments. (KARST DEPOSITS)
28				0					49 28.00 28.10					Firm, brown (7.5YR 5/3) mottled very pale brown, slightly sandy silty CLAY with much angular to subangular coarse gravel of rock fragments. (KARST DEPOSITS)
29				0					50 28.10 51 29.10 29.24					Brown (7.5YR 5/3) mottled pale brown, angular to subangular, slightly silty very sandy fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
30								50/30mm 100/60mm 100bls/60mm						Brown (7.5YR 5/3) mottled pale brown and grey, angular to subangular, slightly clayey silty sandy fine to coarse GRAVEL and occasional cobble of rock fragments. (KARST DEPOSITS)
<div style="display: flex; justify-content: space-between;"> <div> <p>⬆ SMALL DISTURBED SAMPLE</p> <p>⬇ LARGE DISTURBED SAMPLE</p> <p>▨ U76 SAMPLE</p> <p>▩ PISTON SAMPLE (76mm)</p> <p>▨ MAZIER SAMPLE</p> <p>□ SPT LINER SAMPLE</p> <p>▲ WATER SAMPLE</p> <p>■ U100 SAMPLE</p> </div> <div> <p>⬇ STANDARD PENETRATION TEST</p> <p>✓ IN-SITU VANE SHEAR TEST</p> <p>○ PACKER TEST</p> <p>○ PERMEABILITY TEST</p> <p>○ PRESSUREMETER TEST</p> <p>○ BOREHOLE TELEVIEWER</p> <p>○ PIEZOMETER TIP</p> <p>○ STANDPIPE TIP</p> </div> </div>									LOGGED S.L. Chiu DATE 11.03.2016 CHECKED R. Chu DATE 15.03.2016		REMARKS			

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**SHEET **4** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.								
MACHINE		SD41		E 820702.30 N 833708.56		DATE 01.03.2016 to 09.03.2016								
FLUSHING MEDIUM		AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +1.37 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
31				0				B=57	52	30.10				As sheet 3 of 8.
				0				B=88	53	30.55				
								↓ 50/40mm 100/70mm 100bls/70mm	54	30.60				
32									55	31.05				
									56	31.16				
								B=51	57	31.75				
33				100				2.1 2.3,2.2 N=8	58	32.60	-31.23	32.60		Firm, light grey (10YR 7/2), silty CLAY with some angular to subangular fine to medium gravel of rock fragments. (KARST DEPOSITS)
63.03.2016 64.03.2016									59	33.05	-31.73	33.10		Stiff, light grey (10YR 7/2), silty CLAY. (KARST DEPOSITS)
34									60	33.10				
									61	33.20				
35				100					62	33.50				
									63	34.60				
									64	35.30	-34.03	35.40		
36				35	25	25			T2-101	35.40	-34.43	35.80		Dark grey (10YR 4/1) mottled pale brown, angular to subangular, COBBLE of rock fragments. (KARST DEPOSITS)
									65	35.80				
37				0				B=111	66	36.60	-35.53	36.90		Grey (2.5Y 5/1), angular to subangular, fine to coarse GRAVEL and COBBLE or rock fragments. (KARST DEPOSITS)
									67	36.90				
38				0				↓ 50/30mm 100/70mm 100bls/70mm	68	37.35				
									69	37.45				
65.03.2016 67.03.2016									70	38.90	-37.53	38.90		Brown (7.5YR 5/3) mottled pale brown, angular to subangular, slightly sandy silty very clayey fine to coarse GRAVEL of rock fragments. (KARST DEPOSITS)
40				100	97	73	9.1		T2-101	39.34				Strong, white spotted grey, slightly decomposed MARBLE. Joints are medium to widely spaced, occasionally very closely and closely spaced, rough planar and rough undulating, calcite coated, occasionally iron oxide stained, dipping at 0° to 10°, 20° to 30°, 30°
									71	38.63				
									72	40.00				

↓ SMALL DISTURBED SAMPLE

↑ LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

↓ STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 15.03.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07.

HOLE NO. **S2-DH18**SHEET **5** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820702.30

N 833708.56

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD41**DATE **01.03.2016** to **09.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.37 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
41				100	100	95	1.5		T2-101 40.23		40.68		II	to 40° and 50° to 60°.
42				100	100	100	5.3		T2-101 41.70		42.00			
44				100	90	90	1.0		T2-101 42.96		43.02			
45				100	95	89	4.8		T2-101 44.47		44.47			
46				100	87	78	1.5		T2-101 45.90		45.12			
47				100	91	91	6.0		T2-101 46.14		45.96			
48				100	100	100	>20		T2-101 47.10		46.14			
49				100	91	91	5.7		T2-101 48.35		48.43			
50				100	100	100	1.0		T2-101 48.91		48.91			
				100	100	100	1.0		T2-101 48.63		48.63			

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**SHEET **6** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD41****E 820702.30****N 833708.56**DATE **01.03.2016** to **09.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.37 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
51				72	45	45	NA		T2-101	50.17			II	As sheet 5 of 8.
							5.3		T2-101	49.15	50.52			
							NR		T2-101	49.41	50.78			Firm, dark olive grey (5Y 3/2), silty sandy CLAY with some angular to subangular fine to coarse gravel and cobble of rock fragments. (CAVITY-FILL DEPOSITS)
									T2-101	49.60	50.97		II	
52	HW 51.88m			83					65	51.28				Strong, very pale brown, slightly decomposed MARBLE.
									66	51.76				Joints are closely spaced, rough undulating, iron oxide stained, dipping at 0° to 10° and 65° to 75°.
							5.8		T2-101	50.49	51.86		II	Firm, dark brown (7.5YR 3/2) spotted brown and grey, silty sandy CLAY with much angular to subangular fine to coarse gravel of rock fragments. (CAVITY-FILL DEPOSITS)
				100	56	54			T2-101	52.55				
							>20			53.00	53.00			From 50.97m to 51.28m: No recovery, assumed to be CAVITY-FILL DEPOSITS)
							5.0			53.20	53.20			Strong, white dappled dark grey, slightly decomposed MARBLE.
				100	100	100			T2-101					Joints are widely spaced, occasionally closely and very widely spaced, rough planar and rough undulating, calcite coated, occasionally clean, dipping at 30° to 40°, 45° to 55° and 60° to 70°.
54										54.36				From 52.35m to 52.45m and 52.55m to 53.20m: With dykes of strong, dark grey, slightly decomposed ANDESITE LAVA.
									T2-101	55.75				
55				100	100	100	0.3			57.26				
									T2-101	58.81				
56				100	100	100				58.07				
									T2-101	58.15				
57							1.6			58.62				
				100	100	94			T2-101	59.37				
58							12.5			59.77				
							0.8		T2-101	59.83	60.00			
59				100	100	100								
60							5.0							

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS

DRILTECH**DRILLHOLE RECORD**

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**SHEET **7** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**METHOD **ROTARY**

CO-ORDINATES

E 820702.30

N 833708.56

WORKS ORDER NO. **GE/2014/07.34A**MACHINE **SD41**DATE **01.03.2016** to **09.03.2016**FLUSHING MEDIUM **AIRFOAM**ORIENTATION **VERTICAL**GROUND LEVEL **+1.37 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
61				100	100	100	1.2		T2-101	60.17			II	As sheet 6 of 8.
				100	100	100	3.2		T2-101	60.24	60.61		II	Strong, grey dappled white, slightly decomposed MARBLE. Joints are medium to widely spaced, occasionally very closely and closely spaced, rough planar and rough undulating, calcite coated, occasionally clean, dipping at 0° to 10°, 20° to 30°, 35° to 45° and 55° to 65°.
62				100	100	94	0.6		T2-101	61.63				
63				100	100	94	7.7		T2-101	62.50				
64				100	97	83	4.7		T2-101	63.15				
65				100	100	100	13.9		T2-101	63.51				
66				100	100	100	0.7		T2-101	64.37				
67				100	100	100	3.7		T2-101	64.54				
68				100	100	100	1.0		T2-101	65.85				
69				100	100	100	6.4		T2-101	66.04				
70				100	100	91			T2-101	67.21				
				100	100	100			T2-101	67.53				
				100	100	100			T2-101	68.18				
				100	100	100			T2-101	69.06				
				100	100	100			T2-101	69.74				
				100	100	100			T2-101	70.00				

- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE
- U76 SAMPLE
- PISTON SAMPLE (76mm)
- MAZIER SAMPLE
- SPT LINER SAMPLE
- WATER SAMPLE
- U100 SAMPLE

- STANDARD PENETRATION TEST
- IN-SITU VANE SHEAR TEST
- PACKER TEST
- PERMEABILITY TEST
- PRESSUREMETER TEST
- BOREHOLE TELEVIEWER
- PIEZOMETER TIP
- STANDPIPE TIP

LOGGED

S.L. Chiu

DATE

11.03.2016

CHECKED

R. Chu

DATE

15.03.2016

REMARKS



DRILLHOLE RECORD

CONTRACT NO. GE/2014/07

HOLE NO. **S2-DH18**SHEET **8** of **8**PROJECT **Ground Investigation - New Territories West (Term Contract), Agreement No. CE 32/2014 (HY), Elevated Pedestrian Corridor in Yuen Long Town connecting with Long Ping Station - Investigation, Design and Construction, Ground Investigation (Stage 2)**

METHOD		ROTARY		CO-ORDINATES		WORKS ORDER NO.								
MACHINE		SD41		E 820702.30 N 833708.56		DATE 01.03.2016 to 09.03.2016								
FLUSHING MEDIUM		AIRFOAM		ORIENTATION VERTICAL		GROUND LEVEL +1.37 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
71				100	100	94	1.2		T2-101 70.58	70.58			II	As sheet 7 of 8.
72				100	100	100	1.4		T2-101 71.83	71.83				
73				100	100	100			T2-101 72.11	72.11	73.48			End of hole at 73.48 m.
74														
75														
76														
77														
78														
79														
80														

SMALL DISTURBED SAMPLE

LARGE DISTURBED SAMPLE

U76 SAMPLE

PISTON SAMPLE (76mm)

MAZIER SAMPLE

SPT LINER SAMPLE

WATER SAMPLE

U100 SAMPLE

STANDARD PENETRATION TEST

IN-SITU VANE SHEAR TEST

PACKER TEST

PERMEABILITY TEST

PRESSUREMETER TEST

BOREHOLE TELEVIEWER

PIEZOMETER TIP

STANDPIPE TIP

LOGGED S.L. Chiu
DATE 11.03.2016
CHECKED R. Chu
DATE 15.03.2016

REMARKS



Contract No. GE/2014/07

Ground Investigation - New Territories West (Term Contract)

Appendix D

Core Box Photographs of Drillhole



DRiL TECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 1 OF 14

DEPTH : 0.00 m TO 10.70 m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m





DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH01**

BOX NO. : **2 OF 14**

DEPTH : **10.70 m TO 24.65 m**

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

10.70

24.65



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 3 OF 14

DEPTH : 24.65 m TO (27.57) m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

24.65

26.15

26.85

(27.57)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 4 OF 14

DEPTH : (27.57) m TO (30.85) m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

Cont'd

(27.57)

28.19

28.86~29.00

NR
29.00

30.50
NR
30.50~30.70

(30.85)

CONT Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH01**

BOX NO. : **5 OF 14**

DEPTH : **(30.85) m TO 41.00 m**

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

Cont'd

(30.85)

31.70

NR

32.55~32.80

32.80

41.00



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 6 OF 14

DEPTH : 41.00 m TO 54.30 m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

41.00

42.80

43.12~43.50
NR

43.50

44.30

44.50~45.00
NR

45.00

54.30



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH01**

BOX NO. : **7 OF 14**

DEPTH : **54.30** m TO **(58.64)** m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

54.30



55.90



56.30~56.50
NR
56.50



58.00

(58.64)

Cont'd



DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 8 OF 14

DEPTH : (58.64) m TO (61.32) m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

Cont'd

(58.64)

59.50

61.00

(61.32)

CON Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

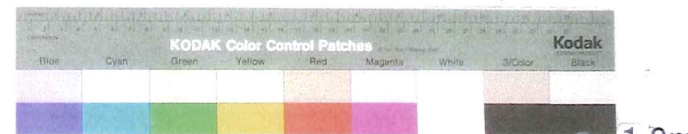
CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH01**

BOX NO. : **9** OF **14**

DEPTH : **(61.32)** m TO **(64.10)** m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

Cont'd
(61.32)

12.29

63.70

(64.10)

Cont'd



DRiL TECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

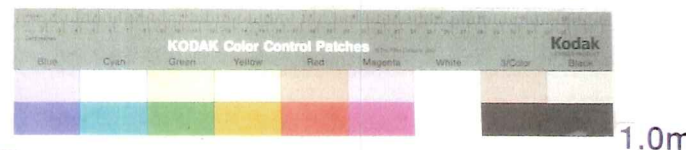
CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH01**

BOX NO. : **10 OF 14**

DEPTH : **(64.10) m TO 66.77 m**

DATE OF PHOTOGRAPH : 21/ 1/2016



Cont'd
(64.10)

65.21

66.77



DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 11 OF 14

DEPTH : 66.77 m TO 69.71 m

DATE OF PHOTOGRAPH : 21/ 1/2016



1.0m

0m

66.77

68.21

69.71



DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 12 OF 14

DEPTH : 69.71 m TO (72.52) m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

69.71

71.19

(72.52)

CON Cont'd



DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

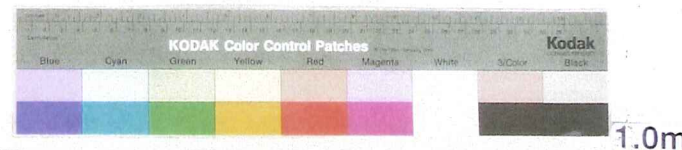
CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 13 OF 14

DEPTH : (72.52) m TO (75.26) m

DATE OF PHOTOGRAPH : 21/ 1/2016



Cont'd

(72.52)

72.74

74.16

(75.26)

CONT'D

Cont'd



DRiLTECH GROUND ENG. LTD.



CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : S2-DH01

BOX NO. : 14 OF 14

DEPTH : (75.26) m TO 77.19 m

DATE OF PHOTOGRAPH : 21/ 1/2016



0m

1.0m

Cont'd

(75.26)

75.71

77.19
END

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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
Investigation, Design and
Construction

HOLE NO. : **S2-DH02**

BOX NO. : **1 OF 19**

DEPTH : **0.00 m TO 10.70 m**

DATE OF PHOTOGRAPH : **9 / 1 / 2016**



0m

1.0m

0.00

1

0.50

10.70



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
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Investigation, Design and
Construction

HOLE NO. : S2-DH02

BOX NO. : 2 OF 19

DEPTH : 10.70 m TO (21.10) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

10.70

17.60

NR

18.75~19.00

19.00

20.65

(21.10)

CON Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
with Long Ping Station -
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Construction

HOLE NO. : S2-DH02

BOX NO. : 3 OF 19

DEPTH : (21.10) m TO (25.05) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(21.10)

22.15

23.25~23.50

NR
23.50

24.30

NR
24.63~24.88

(25.05)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
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Investigation, Design and
Construction

HOLE NO. : S2-DH02

BOX NO. : 4 OF 19

DEPTH : (25.05) m TO 31.30 m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(25.05)

25.30

NR
25.60~25.80

25.80

26.00

NR
26.60~26.80

26.80

28.40

NR
29.25~29.50

29.50

31.30



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
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Investigation, Design and
Construction

HOLE NO. : S2-DH02

BOX NO. : 5 OF 19

DEPTH : 31.30 m TO 42.10 m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



1.0m

0m

31.30



32.70

NR

33.20

NR

33.20-33.53

33.90



42.10



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DEPARTMENT

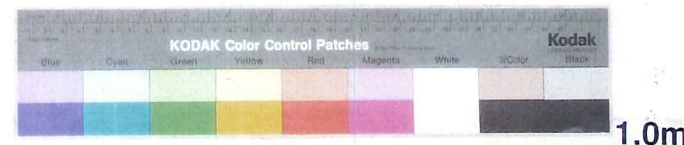
CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
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HOLE NO. : S2-DH02

BOX NO. : 6 OF 19

DEPTH : 42.10 m TO (45.91) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

42.10

43.35

NR
43.44~43.64

44.68

(45.91)

CONT Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
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HOLE NO. : S2-DH02

BOX NO. : 7 OF 19

DEPTH : (45.91) m TO (48.61) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(45.91)

46.16

47.67

(48.61)

CONT Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
in Yuen Long Town connecting
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Construction

HOLE NO. : S2-DH02

BOX NO. : 8 OF 19

DEPTH : (48.61) m TO (51.40) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



1.0m

0m

Cont'd

(48.61)

49.22

50.76

(51.40)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
Elevated Pedestrian Corridor
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HOLE NO. : S2-DH02

BOX NO. : 9 OF 19

DEPTH : (51.40) m TO (54.10) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(51.40)

52.23

53.73

(54.10)

(54.10)

Cont'd



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DEPARTMENT

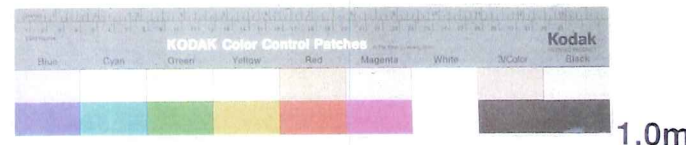
CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
JOB TITLE : Agreement No. CE 32/2014 (HY)
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HOLE NO. : S2-DH02

BOX NO. : 10 OF 19

DEPTH : (54.10) m TO (56.88) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(54.10)

55.25

56.75

(56.88)

Cont'd

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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
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HOLE NO. : S2-DH02

BOX NO. : 11 OF 19

DEPTH : (56.88) m TO 59.75 m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(56.88)

58.30

59.75



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
GROUND INVESTIGATION - NEW
TERRITORIES WEST (TERM CONTRACT)
WORKS ORDER NO. : GE/2014/07.34A
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Elevated Pedestrian Corridor
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Construction

HOLE NO. : S2-DH02

BOX NO. : 12 OF 19

DEPTH : 59.75 m TO 69.18 m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

59.75

60.87

62.20

NR

69.18



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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WORKS ORDER NO. : GE/2014/07.34A
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HOLE NO. : S2-DH02

BOX NO. : 13 OF 19

DEPTH : 69.18 m TO (81.64) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

69.18

70.30

NR

79.40

80.77
(81.64)

CONT Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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HOLE NO. : S2-DH02

BOX NO. : 14 OF 19

DEPTH : (81.64) m TO (85.32) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

Cont'd

(81.64)

81.97

NR

82.37~82.50

83.25

(85.32)

84.45
84.75

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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HOLE NO. : S2-DH02

BOX NO. : 15 OF 19

DEPTH : (85.32) m TO (89.07) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(85.32)

85.55

87.08

88.57

(89.07)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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WORKS ORDER NO. : GE/2014/07.34A
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HOLE NO. : S2-DH02

BOX NO. : 16 OF 19

DEPTH : (89.07) m TO (92.90) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

(89.07) Cont'd

90.04

91.58

(92.90)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

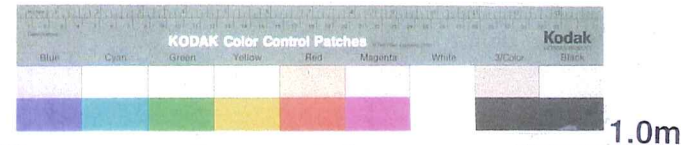
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Construction

HOLE NO. : S2-DH02

BOX NO. : 17 OF 19

DEPTH : (92.90) m TO (96.64) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

Cont'd

(92.90)

93.08

94.58

96.03

(96.64)

Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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Construction

HOLE NO. : S2-DH02

BOX NO. : 18 OF 19

DEPTH : (96.64) m TO (100.25) m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(96.64)

97.54

99.06

(100.25)

CONT'D Cont'd



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CIVIL ENGINEERING AND DEVELOPMENT
DEPARTMENT

CEDD CONTRACT NO. : GE/2014/07
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HOLE NO. : S2-DH02

BOX NO. : 19 OF 19

DEPTH : (100.25)m TO 103.53 m

DATE OF PHOTOGRAPH : 9 / 1 / 2016



0m

1.0m

Cont'd

(100.25)

100.54

102.06

103.53
END