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Shek Kong Stabling Sidings (SSS) – Further Archaeological Investigation Report

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1 INTRODUCTION

1.1 Background

- 1.1.1 The "Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link" Project (hereinafter known as "the Project") covers a 26km long underground rail line on a dedicated track that runs from the terminus in West Kowloon to the boundary at Huanggang, where it connects with the Mainland section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL). The Project also comprises construction and operation of ventilation buildings, emergency access points, stabling sidings and maintenance facilities and emergency rescue sidings.
- 1.1.2 An Environmental Impact Assessment (EIA) study for the Project was conducted in accordance with the EIA Study Brief No. ESB-197/2008 (ESB). The EIA study concluded that the Project would be environmentally acceptable with the implementation of mitigation measures.
- 1.1.3 The EIA Report (Register No.: AEIA-143/2009) was approved on 28 September 2009 by the Director of Environmental Protection (DEP) under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an environmental permit (EP) was granted on 16 October 2009 (EP No: EP-349/2009) for the construction and operation of the Project. A variation of environmental permit was approved with an Environmental Permit (EP No: EP-349/2009/A) issued by DEP on 27 September 2010.
- 1.1.4 Pursuant to EP Condition 2.37, an Archaeological Action Plan (AAP) was prepared following the AMO's *Guidelines for Cultural Heritage Impact Assessment* and the recommendations specified in the EIA Report. The AAP includes the details of the archaeological actions required to mitigate potential impact on archaeological deposits in the works area of Shek Kong Stabling Sidings (SSS), Tai Kong Po Emergency Access Point (TPP) or Tse Uk Tsuen (TUW).) The AAP includes the following items:
 - a detailed plan for further archaeological investigation at inaccessible areas at SSS and TPP;
 - a detailed plan for rescue excavation at the southern portion of SSS;
 - a contingency plan to address possible arrangement when significant archaeological findings are unearthed during the further archaeological investigation and rescue excavation; and
 - a detailed plan for Archaeological Watching Brief for the identification of any historical finds during the construction works at TUW.
- 1.1.5 This AAP was submitted to Antiquities and Monuments Office (AMO) together with the application of a Licence to excavate and search for antiquities under *Antiquities and Monuments Ordinance* (Cap 53). A License (No. 306) was granted by Antiquities Authority on 1 September 2010.
- 1.1.6 AECOM Asia Co. Ltd has been commissioned by the MTR to conduct further archaeological investigation (hereinafter "the investigation") at SSS. A total of 20 test pits and 42 auger holes were carried out in the further archaeological investigation (see **Figure No. C8016/C/XRL/ENS/M55/009**).
- 1.1.7 AECOM in-house archaeological team led by licensed archaeologist Steven Ng conducted the fieldworks and prepared further archaeological investigation report at the respective area for approval of AMO, following the detailed plan presented in the approved AAP.

1.2 Purpose of this Report

1.2.1 This Further Archaeological Investigation Report (FAIR) is prepared following the AMO's *Guidelines for Archaeological Report* and the recommendations specified in the AAP. This report includes the details of the archaeological findings acquired from desktop research and

fieldworks conducted between 26 November 2010 and 17 May 2011 at the resumed lands in SSS. The FAIR includes the following items:

- Description of the results of the desktop research, auger testing and test pitting;
- Description of any significant archaeological finds during the course of the fieldwork;
- All the necessary photos, maps, drawings, survey information recorded during the fieldwork;
- · Discussion of the archaeological findings; and
- · Conclusion.

1.3 Report Structure

- 1.3.1 This FAIR comprises the following sections:
 - Section 1 presents the background information and purpose of the report;
 - Section 2 describes the objectives and scope of the archaeological survey;
 - Section 3 presents the methodology of the archaeological investigation;
 - Section 4 presents the background of the further archaeological investigation area;
 - Section 5 describes the details of field findings;
 - · Section 6 reviews the potential archaeological remains in investigation area; and
 - Section 7 concludes the findings of the archaeological investigation.

2 OBJECTIVE AND SCOPE OF ARCHAEOLOGICAL SURVEY

2.1 Objective

2.1.1 The objective of the further archaeological investigation is to examine the archaeological resource as necessary within the SSS area through a programme of controlled, intrusive fieldwork with relevant research studies which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains, and to seek a better understanding of, to compile a lasting record of that resource, to analyse and interpret, and to disseminate the results.

2.2 Areas of Further Archaeological Investigation

2.2.1 Locations of further archaeological investigation with assigned area codes are shown in **Figure No. C8016/C/XRL/ENS/M55/009**. A total of 20 test pits and 42 auger holes were carried out in the resumed areas during the investigation. .

3 ASSESSMENT METHODOLOGY

3.1.1 The methodology discussed in this section was implemented according to the requirements of the Antiquities and Monuments Office (AMO) *Guidelines for Archaeological Impact Assessment* and Section 3 (Methodology) of AAP.

Field Scanning

- 3.1.2 Field scanning was conducted in the investigation areas to identify archaeological deposits on ground surface. Locations of archaeological investigation areas for field scanning are shown in **Figure No. C8016/C/XRL/ENS/M55/009**.
- 3.1.3 The scanning of the surface for archaeological material was conducted in a systematic manner under ideal circumstances, and covered the identified inaccessible areas at SSS as defined in the EIA and AAP. Particular attention was given to exposed areas such as riverbed cuts, erosion areas, terraces, etc.
- 3.1.4 Material and concentrations of finds were recorded, mapped on appropriate scale, and collected during the field scanning to form part of the archive. Topography and surface conditions were noted during the field scanning.

Auger Holes

- 3.1.5 Hand auger was employed to drill soil and investigate the existence of archaeology beneath the ground. A hand auger consists of a hollow auger head with shape blades on one end, a pole and a handle. The tool was used to vertically drill into the ground and extract a column of soil for examination. To identify and record strata, soil colour, composition and compaction (3C) were measured and stratum depth was jotted each time the 3C changed. The depth of any material found was also measured. Augering only stopped when regolith, water table, or rocks is encountered, or the auger head failed to hold the soil due to its low degree in plasticity.
- 3.1.6 Hand augering were conducted at locations with consideration of site condition during the investigation period. The location of each drilled auger hole has been marked on a map with appropriate scale (see **Figure No. C8016/C/XRL/ENS/M55/009**).

Test Pit Excavation

- 3.1.7 Test Pit excavations were carried out to verify the archaeological potential within the proposed development areas, as well as to establish the horizontal spread of cultural material deposits and vertical sequence of cultural materials. Test pit location was set out at the designated locations based on AAP and the findings of field scanning. Adjustments to the test pit locations were made with consideration of the site condition during investigation period.
- 3.1.8 The interpretation of archaeological resources is based on the following aspects:
 - the extent of archaeological deposit;
 - the depth of archaeological deposit;
 - the chronology and quantity of artefacts; and
 - the nature and condition of archaeological deposit (stable cultural layer / disturbed or otherwise).
- 3.1.9 All retrieved artefacts were processed following the AMO's *Guidelines for Handling of Archaeological Finds and Archives*. All retrieved artefacts were sorted, registered, cleaned, labelled and packaged. Their function and chronology were studied on a preliminarily basis.
- 3.1.10 The locations of each test pit were surveyed by a qualified land surveyor according to the Hong Kong metric grid system. The site benchmark was tied to Hong Kong Principal Datum, i.e. mPD.

4 HISTORICAL, GEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND

4.1 Historical Background

- 4.1.1 A review of historic information indicated inhabitants settled in Kam Tin Valley since at least Tang Dynasty (AD 618-907). However, archaeological findings indicated that human activities were recorded in Kam Tin Valley since the Bronze Age, which is about 3,500 years ago. Bronze Age pottery shreds were found in Cheung Po village and Tsat Sing Kong. As early as the 24th year of Kaiyuan (開元) Reign (736AD) of Tang Dynasty, a navy base, named as Tunmen Zhen (屯門鎮), was set up as a military division of Guangzhou. It was believed that the soldiers and their supporters settled in the valleys of Yuen Long, Kam Tin, San Tin in Hong Kong and Shekou in the present-day Shenzhen.
- 4.1.2 Kam Tin was original named as Sam Tin (岑田) before 1587, because it was where the Sam clan people cultivated their land. During early Qing Dynasty (late 17th century), the Qing court encouraged Hakka people to migrate from eastern Guangdong to Hong Kong, where belonged to Xinan County. These people established their villages at the eastern New Territories and Kowloon. There were battles between the Cantonese, or Puntin of Kam Tin, and the new comers, Hakka people of Pat Heung in late 18th to middle centuries¹. Pat Heung Temple was a Hakka people's commanded centre of battles².
- 4.1.3 The local villagers of New Territories were against British ruling, that battles were fought between the villagers and the British troop. Over 100 villagers of Kam Tin were killed by British troop in battle of Shek Tau Wai on 17th April 1898³.
- 4.1.4 A village called Shek-tau-wai 石頭圍 close to SSS was indicated on 1868 Father Volunteri's "Map of the Sun-on-District (新安縣全圖)" (see **Figure B-4** of **Appendix B**), 1905 Map of Hong Kong and the Territory Leased to Great Britain. Shek Kong Wai (石崗圍) was mentioned and indicated in two historic documents and a historical map (1819 editions of Xinan County Gazetteer, Report on Extension of The Colony of HK, 1898 and 1899 maps). This village was located within the present-day Shek Kong PLA Barracks.
- 4.1.5 Leung Uk Tsuen, next to SSS site, was established in the early 20th century. The villagers of Leung Uk Tsuen was migrated from the Lam Tsuen Valley.

4.2 Geological and Geographic Background

- 4.2.1 Kam Tin is a broad alluvial valley surrounded by hills. The valley is filled by Late Pleistocene fluvial terrace deposit and Holocene alluvium, which are marked as "Qha" (Q—Quaternary, ha—Holocene alluvium / Fanling Formation) and "Qlpa" (Q—Quaternary, I—late, pa—Pleistocene alluvium / Chek Lap Kok Formation) in geological publications⁴.
- 4.2.2 The SSS site is located at a river terrace in eastern Kam Tin Valley. Most area of the SSS site was formatted by Late Pleistocene fluvial terrace deposit overlain by Holocene alluvium. According to geological studies and observation of cutting faces and river cliffs on-site, the fluvial terrace deposit comprises two horizons in general; upper horizon is mainly mottled red, brown and grey sandy silt or silt clay, the lower horizon is layers of gravelly sand with cobbles (see **Figure B-5a, B5b** of **Appendix B**)⁵. The Late Pleistocene fluvial terrace deposit in SSS is

Langford, R.L and others 1989 Geology of the Western New Territories, CEDD, Hong Kong SAR Government.

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¹ 瀨川昌久 1999 《族譜:華南漢族的宗教、風水、移居》,上海,上海書店出版社。

² Hase, P.H. 2008 *The Six-Day War of 1898, Hong Kong in Age of Imperialism*, Hong Kong, University of Hong Kong Press.

³ Hase, P.H. 2008 *The Six-Day War of 1898, Hong Kong in Age of Imperialism*, Hong Kong, University of Hong Kong Press.
⁴ Fyfes, J.A. and others 2000 *Quaternary Geology of Hong Kong*, CEDD, Hong Kong SAR Government. Langford, R.L and others 1989 *Geology of the Western New Territories*, Hong Kong, CEDD, Hong Kong SAR Government.

about 8 to 14 m thick⁶, whereas the Holocene alluvium is about 0.7 to 1.5m thick in the SSS site

4.3 Archaeological Background

- 4.3.1 As early as 1960, two cremation burial urns of Tang Dynasty (A.D. 618-907) were found in Shek Kong, indicating that there was human settlement in Kam Tin before Song Dynasty (A.D. 960-1279)⁷.
- 4.3.2 There are four archaeological sites (see **Figure B-3** of **Appendix B**) close to the SSS site including:
 - (1) Shui Lau Tin Archaeological Site, situated 300m far from the SSS;
 - (2) Tsat Sing Kong Archaeological Site, situated 40m far from the SSS;
 - (3) Lin Fa Tei Archaeological Site, situated 450 m far from SSS; and
 - (4) Pat Heung Sheung Tsuen Archaeological Site, situated 480m far from the SSS.
- 4.3.3 Artefacts and features unearthed from Tsat Sing Kong Archaeological Sites were dated to the Bronze Age, while the rest of the archaeological sites were dated to Song to Ming Dynasties⁸.
- 4.3.4 Since the 1980s, some archaeological investigations were carried out in Kam Tin, pottery shreds of the Bronze Age, early Iron Age and Song to Ming Dynasty were found in the investigations. In 1998, an archaeological investigation was undertaken in Pat Heung, a cultural layer of Song Dynasty with fragment of roof tiles and celadon were dug out in a test pit west to the Pat Heung Temple, indicating that a settlement was founded nearby the Pat Heung Temple a few hundred years ago⁹.
- 4.3.5 The archaeological investigation conducted at Shui Lau Tin discovered few pieces of Song or Ming Dynasty celadon adjacent to the existing village houses of Shui Lau Tin. However, no stable cultural layer of Song or Ming Dynasty was identified.
- 4.3.6 Due to river channel improvement works, archaeological investigations had been conducted along the old river channels in Kam Tin. The river terrace at Tsat Sing Kong was identified to have archaeological potential. Over 100 pieces of the Bronze Age pot shreds and post holes of dwelling feature were discovered, cultural layer of this age was observed in trial pits¹⁰.
- 4.3.7 During the course of XRL EIA in 2009, archaeological investigation was conducted at the accessible lands within the SSS area. Investigation findings revealed that a considerable amount of Song-Yuan ceramics, which hinted a possible Song-Yuan houses at or near the location of TP4. A rescue excavation was therefore recommended to retrieve artefacts and archaeological information at this location (see **Figure No. C8016/C/XRL/ENS/M55/009**).

^b Langford , R.L and others 1989 Geology of the Western New Territories, CEDD, Hong Kong SAR Government.

Meacham, W. 2009 The Archaeology of Hong Kong, Hong Kong University Press.

⁸ 黄慧怡 2007 〈香港出土宋元瓷器的初步研究〉,《考古》,2007(6)。

⁹ 中港考古研究室 1998 《香港錦田八鄉古廟宋代遺址試掘報告》,古物古蹟辦事處。

¹⁰ 中港考古研究室 2000 《1999 年元朗錦田水渠第三期剩餘工程考古調查及評估報告》,古物古蹟辦事處。 香港考古學會 2009 《七星崗考古調查報告》,香港,香港考古學會。

5 ARCHAEOLOGICAL INVESTIGATION FINDINGS

5.1 Further Archaeological Investigation

- 5.1.1 During the further archaeological investigation in SSS, field scanning, auger test and test pit excavation were carried out to identify the archaeological potential. In order to facilitate the study and for easy reference, the SSS are mainly divided into three areas (marked as I to III on Figure No. C8016/C/XRL/ENS/M55/009).
- 5.1.2 Surface scan was performed across the study area in SSS in the investigation. In total, 42 supplementary auger holes were drilled and 20 supplementary test pits (1m X 1 m, 1m X 1.5m or 2 m X 1 m) were excavated. The supplementary auger holes and test pits were recorded and named using SH (for auger hole) and SP (for test pit) followed by a number. Following the numbering system adopted in investigation in Tai Kong Po, the numbering for SH and SP in SSS is started with SH7 and SP5 respectively. The locations of the auger holes and test pits in the area are marked on **Figure No. C8016/C/XRL/ENS/M55/009.**

5.2 Result of Field Scanning

- 5.2.1 Field scanning was conducted in the resumed areas and some roof tiles, celadon and blue-and-white porcelain shreds were observed on the surface at the area at Area II West (between SP10 and SP20) and Area III North (near SP16). According to the datable characters, these shreds are dated to Song-Yuan and Qing Dynasties.
- 5.2.2 The findings of field scanning demarcated the extent of archaeological deposits at the areas of SP16 and between SP10 and 20 (see **Figures B-6 and B-7 in Appendix B**)

5.3 Results of Auger Test and Test Pit Excavation

- 5.3.1 The detailed findings of auger holes and test pits (with written description, photographic and illustration records of section profile) are given in **Appendix A**. A summary of findings from the supplementary test pit excavation is presented in **Table 5.5**.
- 5.3.2 Some cultural remains were identified in four test pits (SP10, SP14, SP16, and SP20) at the western and southern of SSS. Details of the archaeological findings at SP10, SP16 and SP20 and SP14 are elaborated as follows.

Supplementary Test Pit SP 10

Landscape/Topographic Setting

- 5.3.3 The locality is situated at Wang Toi Shan area (横台山) near one of the branches of Kam Tin River running from south to north (see **Figure No. C8016/C/XRL/ENS/M55/009**). To its southwest across the river lies the Shek Kong PLA Barracks. Its natural landscape is a river terrace (formed during late Pleistocene). Two types of quaternary deposits formed the local landscape, i.e., Qha (Q—Quaternary, ha—Holocene alluvium, consists of mottled red, brown and grey sandy silt or silt clay) and Qlpa (Q—Quaternary, I—late, pa—Pleistocene alluvium, consists of well-sorted to semi-sorted brown coarse sand, gravelly sandy, gravel with cobbles). SP10 is situated at the east side of the river terrace formed of Qlpa (Q—Quaternary, I—late, pa—Pleistocene alluvium (a terraced alluvium)) (see **Figure B-1** of **Appendix B**).
- 5.3.4 SP10 is located at a small piece of sweet potato growing land (827021E 833079N) near village houses, with an altitude of ca. +18 mPD. A test pit of 2.0m × 1.2m was excavated up to a depth of 1.2m, when a layer of pebbles (river alluvium) was encountered.

Findings

5.3.5 Five layers were identified in SP10, numbered as L1 to L5 following excavation sequence (see record of SP10 in **Appendix A**). No feature was observed in the test pit.

Table 5.1 Findings of SP10	Table 5.1	Findings	of	SP10
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Finds Strata	Celadon Porcelain Shred	Blue & White Porcelain Shred	Undiagnosed Porcelain Shred	Pottery Shred	СВМ
L1	3	=	7	14	1
L2	-	-	-	4	8
L3	-	=	-	-	-
L4	-	=	-	-	-
L5	-	-	-	-	-

- 5.3.6 L1 is a disturbed layer with modern, and Song to Yuan porcelain shreds, a small amount of pottery shreds and ceramic building material (hereafter, CBM) (see **Figure C-1** of **Appendix C**).
 - <u>Celadon</u>, including 1 rim shred and 2 body shreds, were recovered (see Figure C-1 (A) of Appendix C). The rim shred has a thin layer of greyish blue translucent glaze with crackle. Glaze covers both interior and exterior except for the mouth rim, called as unglazed rim. Such glazing technique was adopted so that the vessel could be fired with its mouth rim faced up-side-down, and its foot rim or base could be fully glazed. The 2 body shreds have relatively thick (0.5mm) glaze in comparison to the rim shred, and both with crackle. Their glaze colours range from olive green to bluish green. These celadon shreds are too fragmentary to inform morphology, however, the glazing method and the characteristics of glaze (thickness, crackle, and colour) can be compared with Song to Yuan celadon shreds unearthed from rescue excavation undertaken at the Former Kai Tak Airport in 2009¹¹.
 - <u>Undiagnosed porcelain</u>, including 5 modern porcelain shreds (see Figure C-1 (C) of Appendix C), possibly broken fragments from the same flowerpot, and 2 other undiagnosed shreds (see Figure C-1 (B) of Appendix C), were found.
 - <u>Pottery</u> shreds from L1 are all body fragments (see Figure C-1 (D) of Appendix C). 5 shreds are glazed in black or dark brown while 2 are decorated with grey slip. The remaining 7 shreds are non-glaze shreds with grey fabric. 1 shred has no surface decoration but dense incised lines on the interior. It is probably a fragment from a grinding basin. The pottery shreds have no distinctive characteristics which yield dating information.
 - <u>CBM</u> unearthed from L1 refers to an unknown object made of gray sandy fabric (see Figure C-1 (E) of Appendix C), which is similar to that of roof tiles, and thus the object is classified as CBM. It has four flat surfaces forming a blade-like cross section and both ends are broken.
- 5.3.7 L2 is a cultural deposit with a small quantity of pot shreds and CBM (see **Figure C-2** of **Appendix C**).
 - <u>Pottery</u> shreds from L2 are mainly with black glaze (see **Figure C-2 (A)** of **Appendix C**). However, they are also too fragmentary to inform morphology and dating.
 - <u>CBM</u>) uncovered are mainly tile fragments in two individual piles lying in the middle of both the southwest and northeast sides of the test pit (see Figure C-3 of Appendix C). Each pile has only a few tile fragments. The tiles have orangish red clay fabric and black slip and textile imprint on their surface. Their body form appears to be slightly curve in the middle. Similar tiles were found in excavation at Mong Tseng Wai at Tin Shui Wai and Siu Hang Tsuen at Tuen Mun¹². Another piece of CBM fragment found in this layer is probably tile in

²香港考古學會 2003 《香港元朗輞井圍鶴洲嶺遺址發掘報告》,《香港考古學會會刊第十五卷》,香港,香港考古學會。劉茂 2002 〈屯門小坑村考古調查報告〉,香港,中港考古研究室。

AECOM, 2009, Final Archaeological Investigation and Rescue Excavation Report on Recovery of Song Dynasty Ceramic Shreds, *Kai Tak Development – Infrastructure at Former Runway and Remaining Areas of North Apron & Improvement of Adjacent Waterways – D&C.*

gray fabric (see **Figure C-2B** of **Appendix C**), however, it is too fragmentary to inform its morphology.

5.3.8 No finds and features were observed in L3, L4 and L5.

Supplementary Test Pit SP14

Landscape/Topographic Setting

- 5.3.9 The locality is situated at Wang Toi Shan (横台山) area near one of the branches of Kam Tin River running from south to north (see **Figure No. C8016/C/XRL/ENS/M55/009**). To its southwest across the river lies the Shek Kong PLA Barracks. Its natural landscape is a river terrace (formed during late Pleistocene). Two types of quaternary deposits formed the local landscape, i.e., Qha (Q—Quaternary, ha—Holocene alluvium, consists of mottled red, brown and grey sandy silt or silt clay) and Qlpa (Q—Quaternary, I—late, pa—Pleistocene alluvium, consists of well-sorted to semi-sorted brown coarse sand, gravelly sandy, gravel with cobbles). SP14 is situated at the east side of the river terrace formed of Qlpa (Q—Quaternary, I—late, pa—Pleistocene alluvium (terraced alluvium)) (see **Figure B-1** of **Appendix B**).
- 5.3.10 SP14 is located at an abandoned orchard (827279E 832843N) close to the river bank, with an altitude of ca. +17.3mPD. A test pit of 2.1m x 1.1m was excavated up to a depth of 1.2m, when a layer of pebbles (river alluvium) and the water table were both encountered.

Findings

5.3.11 Three layers were identified in SP14, numbered as L1 to L3 following excavation sequence (see record of SP14 in **Appendix A**). No feature was observed in the test pit.

Table 5.2	Findings	of SP14
I abic J.L	I IIIUIIIUS	UI UI 17

Finds Strata	Celadon Porcelain Shred	Blue & White Porcelain Shred	Undiagnosed Porcelain Shred	Pottery Shred	СВМ
L1	-	-	-	-	-
L2	-	-	-	=	-
L3	-	-	-	=	2

- 5.3.12 L1 is a modern layer with modern porcelain bowl bases and red fabric bricks. Since these objects do not bear archaeological value, they were not collected.
- 5.3.13 L2 is a natural layer formed by silty sand and its clean composition and texture indicate that the layer was probably formed by flooding or flow. No finds and archaeological features were observed in this layer.
- 5.3.14 L3 is a layer consisting river pebbles and boulders with small amount of CBM.
 - <u>CBM</u> (see **Figure C-4** of **Appendix C**) uncovered are 2 thick tile fragments. They are of red fabric and both bear textile imprint on their surface. Their body form appears to be slightly curve in the middle. Their edges are shattered, indicating long time exposure to natural agencies such as water or heat. Considering their thickness, colour of fabric and characteristic on surface, they are very similar to tiles found in SP 10 and SP 20. Thus they possibly can be dated to Song-Yuan to Qing periods. However, since they were unearthed in a consistent pebble layer, which indicates the location was once a river rift. It is therefore considered that the tiles fragments may be moved away by either natural or artificial agency from their original position and deposited along with the pebbles at river side.
- 5.3.15 No in-situ finds and archaeological features were identified in L3.

Supplementary Test Pit SP 16

Landscape/Topographic Setting

- 5.3.16 The locality is situated at a land west of Kei Ling (企績) along a branch of Kam Tin River (see Figure No. C8016/C/XRL/ENS/M55/009). Its natural landscape is a river terraces (formed during late Pleistocene). Two types of quaternary deposits formed the local landscape, i.e., Qha (Q—Quaternary, ha—Holocene alluvium, consists of mottled red, brown and grey sandy silt or silt clay) and Qlpa (Q—Quaternary, l—late, pa—Pleistocene alluvium, consists of well-sorted to semi-sorted brown coarse sand, gravelly sandy, gravel with cobbles). SP16 is situated at the east side of the river terrace formed of Qlpa (Q—Quaternary, l—late, pa—Pleistocene alluvium (terraced alluvium)) (see Figure B-1 of Appendix B).
- 5.3.17 SP16 is situated on an agricultural land (827394E 832686N) south of a cluster of village houses, with an altitude of c.a. +23 mPD. A test pit of 2m x 1.0m was excavated up to a depth of 0.70m, when a layer of pebbles (river alluvium) was encountered.

Findings

5.3.18 Six layers were identified in SP16, numbered as L1 to L6 following excavation sequence (see record of SP16 in **Appendix A**). No feature was observed during the course of excavation.

Table 5.3	Findings of SP16

Finds Strata	Celadon Porcelain Shred	Blue & White Porcelain Shred	Undiagnosed Porcelain Shred	Pottery Shred	СВМ
L1	-	-	1	2	8
L2	-	3	-	3	10
L3	-	2	2	-	25
L4	5	-	-	-	30
L5	-	-	-	-	-
L6	-	-	-	-	-

- 5.3.19 L1 is a modern layer used for agricultural field which produced a small quantity of porcelain, pottery and CBM (see **Figure C-5** of **Appendix C**) and modern roof tiles.
 - The <u>undiagnosed porcelain</u> recovered is a body shred with a grayish green even glaze on both interior and exterior (see **Figure C-5 (A)** of **Appendix C**). It could be a fragment of late Qing blue and white. However, the piece is too fragmentary and bears no blue glaze on it.
 - <u>Pottery</u> found in this layer includes 2 body shreds with one of them applied with dark brown glaze (see Figure C-5 (B) of Appendix C). There are no sufficient characteristics to inform dating.
 - <u>CBM</u> found in this layer are tiles fragments made of orangish red fabric, and with shattered edges (see **Figure C-5 (C)** of **Appendix C**). Textile imprint could be observed on some tile fragments.
- 5.3.20 L2 produced a small quantity of porcelain, pottery and CBM (see Figure C-6 of Appendix C).
 - Blue and white porcelain recovered from L2 includes 2 rim shreds and 1 body shred (see Figure C-6 (A) of Appendix C). The background glaze of them appears to be in grey tone, and the blue paint appears to be in dull tone. These shreds share similar characteristics with those in a Late Qing dating excavated from Wun Yiu Archaeological Site.
 - Pottery found in L2 consists of body shreds with brown and black glaze (see **Figure C-6 (B)** of **Appendix C**) and they lack characteristics for dating.
 - <u>CBM</u> found in this layer are tiles fragments (see Figure C-6 (C) of Appendix C). Fabric of
 most tile fragments is in orangish red colour while one fragment is in light grey. Black slip and

textile imprint appear on some red fabric tiles. Similar tiles can be seen in L2 of SP10 and in excavation at Siu Hang Tsuen, Tuen Mun in 2000¹³.

- 5.3.21 L3 produced a small quantity of porcelain shreds and CBM (see **Figure C-7 and C-8** of **Appendix C**).
 - Blue and white porcelain recovered from L3 includes 2 blue and white body shreds (see Figure C-7 (A) of Appendix C). The lager piece has a glaze comprised of bluish white background and dark to bright blue print appearing on both interior and exterior. Painting design on the exterior composed of overlapping circle patterns and dark blue dots. This shred shares no similarity to local wares dated to Qing period recovered at Wun Yiu. It could be made during Yuan to Ming periods. The smaller piece is too fragmentary and bears no sufficient characteristics to inform dating.
 - <u>Undiagnosed porcelain</u> recovered from L3 includes 2 body shreds (see Figure C-7 (B) of Appendix C).
 - <u>CBM</u> unearthed from L3 are tile fragments(see **Figure C-8** of **Appendix C**). Most of them are with shattered edges and textile imprint. In general, these tiles have red fabric, while occasional grey fabric ones were also found. Considering their form and fabric, they can be compared with tiles found in SP10 and SP20 and those unearthed in Siu Hang Tsuen excavation.
- 5.3.22 L4 produced a certain quantity of porcelain and CBM.
 - <u>Celadon</u> shreds found in L4 are too fragmentary to inform morphology and manufactory technique (see **Figure C-9** of **Appendix C**). However, they are considered prevalent porcelain type during Song to Yuan period.
 - <u>CBM</u> unearthed from L4 are tile fragments (see **Figure C-10** of **Appendix C**). Most of them are with shattered edges and textile imprint. In general, these tiles have red fabric, while occasional grey fabric ones were also found. Considering their form and fabric, they can be compared with tiles found in SP10 and SP20 and those unearthed in Siu Hang Tsuen excavation.
- 5.3.23 L5 is a natural layer formed by river alluvial deposit and L6 is a layer of pebbles. No finds and features were observed in L5 and L6.

Supplementary Test Pit SP 20

Landscape/Topographic Setting

- 5.3.24 The locality is situated at Wang Toi Shan area (横台山) near a branch of Kam Tin River running from south to north (see **Figure No. C8016/C/XRL/ENS/M55/009**). To its southwest across the river lies the Shek Kong PLA Barracks. Its natural landscape is a river terrace (formed during late Pleistocene). Two types of quaternary deposits formed the local landscape, i.e., Qha (Q—Quaternary, ha—Holocene alluvium, consists of mottled red, brown and grey sandy silt or silt clay) and Qlpa (Q—Quaternary, l—late, pa—Pleistocene alluvium, consists of well-sorted to semi-sorted brown coarse sand, gravelly sandy, gravel with cobbles). SP20 is situated on the east side of the river terrace formed of Qlpa (Q—Quaternary, l—late, pa—Pleistocene alluvium (terraced alluvium)) (see **Figure B-1** of **Appendix B**).
- 5.3.25 SP20 is situated on a vacant land (827067E 833026N), with an altitude of c.a. +18 mPD, by a village foot path. A test pit of $2.06m \times 1.0m$ was excavated up to a depth of 1.44m, when fluvial alluvium was encountered.

¹³ 香港考古學會 2003 《香港元朗輞井圍鶴洲嶺遺址發掘報告》,《香港考古學會會刊第十五卷》,香港,香港考古學會。劉茂 2002 〈屯門小坑村考古調查報告〉,香港,中港考古研究室。

Findings

5.3.26 Four layers were identified in SP20, numbered as L1 to L4 following excavation sequence (see record of **SP20** in **Appendix A**). No feature was observed in this test pit.

Table 5.4 Findings of SP20

Finds Strata	Celadon Porcelain Shred	Blue & White Porcelain Shred	Undiagnosed Porcelain Shred	Pottery Shred	СВМ
L1	1	-	=	2	60
L2	1	-	4	17	70
L3	6	1	7	75	85
L4	-	-	-	-	-

- 5.3.27 Scatters of tile fragments and occasional pottery shreds were observed on the ground surface.
- 5.3.28 L1 is a disturbed modern layer which contains a small quantity of celadon, pottery and CBM (see **Figure C-11** and **C-12** of **Appendix C**) associating with modern iron rods and concrete rubbles.
 - <u>Celadon</u> recovered from L1 is a broken bowl base (see Figure C-11 (A) of Appendix C). It has a translucent thick glaze (0.7 to 1.5mm) in green colour and a light grey clay fabric. Apparent crackle can be observed all over the glaze layer. Glaze is applied to inner bowl base and the foot ring, and that the bottom of the base is left unglazed. At the inner base is a circle pattern with a smaller wave-shape circle incised in the centre. Such celadon shred can be compared with those recovered at Kai Tak Rescue Excavation of 2009¹⁴. It is believed that celadon wares were prevalent during Song to Yuan period.
 - <u>Pottery</u> found at L1 includes 2 body shreds with brown glaze (see **Figure C-11 (B)** of **Appendix C**). However, they do not bear distinctive characteristics which can inform dating.
 - CBM found in this layer are tiles fragments made of orangish red fabric, and with shattered edges (see Figure C-12 of Appendix C). Textile imprint could be observed on some tile fragments.
- 5.3.29 L2 is a disturbed layer which contains a small quantity of porcelain and pottery, as well as a large quantity of CBM (see **Figures C-13** and **C-14** of **Appendix C**).
 - <u>Celadon</u> unearthed from L2 is a celadon rim shred (see **Figure C-13 (A)** of **Appendix C**). It has a thin and fragile transparent pale green glaze with fine crackle. The remaining rim shred has a diameter of 12cm, and its mouth form is open.
 - <u>Undiagnosed Porcelain</u> unearthed from L2 includes 2 rim shreds and 2 body shreds (see Figure C-13 (B) of Appendix C).
 - <u>Pottery</u> shreds unearthed from L2 are all with glaze ranging from black to brown colours (see Figure C-14 (D) of Appendix C). Most of them are body shreds while a few appear to be parts near the base. Again, these shreds are too fragmentary to inform morphology, manufacturing technique and their surface decoration bear no sufficient characteristics which can be dated.
 - <u>CBM</u> unearthed are tile fragments (see **Figure 13 (C)** of **Appendix C**). They appeared to have no difference from those observed on surface level and those unearthed in L3. Considering that no particular pattern associating with the find spots of tiles and no feature was identified, the presence of tiles in this layer could be secondary deposition. The tiles are

¹⁴ AECOM, 2009, Final Archaeological Investigation and Rescue Excavation Report on Recovery of Song Dynasty Ceramic Shreds, *Kai Tak Development – Infrastructure at Former Runway and Remaining Areas of North Apron & Improvement of Adjacent Waterways – D&C.*

probably brought up from their original deposition by past human activities, such as levelling the ground surface for building structures.

- 5.3.30 L3 is also a disturbed layer which contains rich material remains, including a small quantity of porcelain and large quantity of pottery and CBM (see **Figure C-15 to C19** of **Appendix C**).
 - <u>Celadon</u> unearthed from L3 includes 2 rim shreds, 3 body shreds and 1 base shred (see Figure C-15 (A) of Appendix C). One of the rim shreds has a light green glaze, grey fabric and incised circles on the exterior near the mouth. It can be dated to Southern Song period in comparison with the finds unearthed in Kai Tak Rescue Excavation¹⁵. One of the body shreds has a glass-like dark green glaze with crackle. It has a measured thickness ranging 4 8 mm, relatively thicker than those dated to Song to period. It was probably made during Ming to Qing periods. The other 3 shreds have thin and fragile light green glaze. They can be compared with celadon wares produced in Guangdong region during Yuan to Ming periods.
 - <u>Blue-and-white porcelain</u> shred unearthed from L3 is a body shred (see **Figure C-15 (B)** of **Appendix C**). It has dull blue patterns on both exterior and interior. The background colour appears to be bluish white in grey tone. Blue and white porcelain is a generally agreed type that was prevalent during Yuan to Qing periods. However, this shred is too fragmentary and bears no sufficient decoration or manufacturing characteristics to inform dating.
 - <u>Undiagnosed Porcelain</u> includes 1 rim shred, 2 body shred, and 4 base shreds (see Figure C-15 (C) of Appendix C). A reused bowl base with a conical bottom can be compared with similar ones found in Kai Tak Rescue Excavation in 2009, which were dated to Song to Yuan periods.
 - <u>Pottery</u> shreds found in L3 are composed of rim shreds and body shreds (see Figures C-16 to C18 of Appendix C). In general, surface decoration can be divided into two main categories, namely with glaze and with slip. Glaze colour ranges from mid brown to black. Slip colour includes black and pinkish red. Nonetheless, these shreds are too fragmentary to inform dating.
 - <u>CBM</u> unearthed from L3 are tile fragments (see **Figures C-19** of **Appendix C**). Most of them are with shattered edges and textile imprint. In general, these tiles have red fabric, while occasional grey fabric ones were also found. Considering their form and fabric, they can be compared with tiles found in SP10 and those unearthed in Siu Hang Tsuen excavation¹⁶.
- 5.3.31 Find spots of tiles, porcelain and pottery from L3 were found interwoven on the profile (see Profile drawing in **Appendix A**) and appeared to have no clear boundary of different contexts. The deposit is thus believed a secondary deposit instead of an in-situ feature. There lack stratified relations among the archaeological materials in L3, which do not suggest an *in situ* collapse of any structure may have stood on this location. Moreover, no compact layer beneath L3 was revealed in this test pit that could be inferred as ground surface for a structure. In addition, datable specimens reveal no consistent dating, and the matrix of artefact deposited in L3 does not reveal a collapse sequence but rather an unsorted dumping of some sort. Yet the vast quantity of tiles suggested that the archaeological deposits from L3 were moved from a nearby location due to past agricultural activities ¹⁷. Therefore, L3 is considered a dumping deposit.
- 5.3.32 No finds and features were observed in L4.

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AECOM, 2009, Final Archaeological Investigation and Rescue Excavation Report on Recovery of Song Dynasty Ceramic Shreds, *Kai Tak Development – Infrastructure at Former Runway and Remaining Areas of North Apron & Improvement of Adjacent Waterways – D&C.*

¹⁶香港考古學會 2003 《香港元朗輞井圍鶴洲嶺遺址發掘報告》,《香港考古學會會刊第十五卷》,香港,香港考古學會。劉茂 2002 〈屯門小坑村考古調查報告〉,香港,中港考古研究室。

As observed from Aerial Photos in 1963, the area is extensively agricultural lands.

5.4 Summary of Findings

- 5.4.1 During field scanning, roof tiles, celadon shreds, and blue and white shreds were observed at Area II West, which are datable to Song to Qing Dynasties. Test pit excavation at SP10 and SP20 in Area II West revealed similar archaeological materials in a stratum of Song-Yuan period. Results of field scanning, auger hole testing and test pit excavation suggest that possible archaeological remains of Song-Yuan and possibly to Qing periods are anticipated in the two areas: one at SP16 and the other in between SP10 and SP20.
- 5.4.2 In Area II East, SP14 revealed a layer of redeposited cultural material dated to Song-Yuan to Qing. However, due to the nature of redeposition, artefacts discovered in SP14 do not indicate the original deposition. In addition, results of field scanning and auger hole revealed no archaeological findings in the surrounding. Thus, it is considered that there is no archaeological significance in this area.
- 5.4.3 SP16 in Area III North revealed three layers of cultural materials of Song-Yuan, Ming and Qing. Fragments of roof tile and celadon-like bowl were also discovered during field scanning in this area where archaeological remains may exist in this area.
- 5.4.4 Other surveyed areas (Area I, Area II East and Area II South) in this investigation has not revealed any archaeological materials during field scanning, auger hole tests, or test pit excavations, indicating similar cultural layer in these areas not exist.

Table 5.5 Summary of Supplementary Test Pits in SSS Area

		Maximum			Strata ⁽²⁾				
Test	Surface	Depth		Current Land		Subsoil (sandy s	soil, silty soil, clay)	Fluvial &	
Pit ⁽¹⁾	Altitude	Excavated / Drilled (cm)	Landscape	Use	Topsoil	With Cultural Remain	Without Cultural Remain	Alluvial Coarse Sandy Soil	Cobbles
SP5	ca.18 mPD	90	River Terrace	Orchard	L1		L2, L3, L4		
SP6	ca.17.8 mPD	130	River Terrace	Abandoned footpath	L1		L2, L3,	L4	
SP7	c.a. +16 mPD	150/70	River Terrace	Abandoned village house	L1		L2, L3, L4, L5, L6, L7, L8	L9	
SP8	c. a. +15.7mPD	120/120	River Terrace	Abandoned orchard	L1		L2, L3, L4, L5, L6, L7	L8	
SP9	c.a. +18 mPD	150	River Terrace	Vacant Open Storage	L1		L2, L3, L4, L5		L6
SP10	c. a. +18 mPD	120	River Terrace	Abandoned village house	L1	L1, L2	L3, L4		L5
SP11	c.a. +18 mPD	100	River Terrace	Demolished house ground	L1		L2, L3		L4
SP12	c.a. +18 mPD	110	River Terrace	Demolished house ground	L1	L2 (disturbed)			L3
SP13	c.a. +20 mPD	114/90	River Terrace	Demolished house ground	L1	L3 (disturbed)	L2, L4, L5	L6	
SP14	c.a. +17.3mPD	120	River Terrace	Abandoned orchard	L1	L3 (with redeposited tile fragments)	L2		L3
SP15	c.a. +23.1mPD	110	River Terrace	Vacant land near a garden	L1		L2		L3
SP16	c.a. +23 mPD	70	River Terrace	Abandoned cultivation field	L1	L1-L4	L5		L6
SP17	c.a. +22 mPD	140	River Terrace	Abandoned Field	L1		L2, L3		L4
SP18	c.a. +23 mPD	130	River Terrace	Vacant	L1		L2, L3, L4	L5	
SP19	c.a. +25mPD	100	River Terrace	Vacant agricultural land	L1		L2, L3	L4	

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SP20	c.a. +18 mPD	144	River Terrace	Demolished house ground	L1	L1-L3		L4	
SP21	c.a. +18 mPD	90	River Terrace	Vacant Open Storage	L1		L2, L3		L4
SP22	c.a. +16mPD	100	River Terrace	Abandoned village house	L1		L2, L3	L4	
SP23	c.a. +20 mPD	200	River Terrace	Abandoned cultivation field	L1		L2, L3, L4	L5	
SP24	c.a. +18 mPD	120	River Terrace	Open yard	L1		L2, L3, L4		

Note:

⁽¹⁾ Test pits SP1 to 4 are located in Tai Kong Po. Details of findings in Tai Kong Po are presented in Tai Kong Po Emergency Assess Point – Further Archaeological Investigation Report (January 2011), by AECOM Asia Co. Ltd.

⁽²⁾ L - Layer

6 REVIEW ON POTENTIAL ARCHAEOLOGICAL REMAINS IN INVESTIGATION AREA

- 6.1.1 This FAIR divides the investigation area into three main areas for discussion of archaeological significance. The interpretation of archaeological resource was made reference to **Section 3.1.8**. Numbers have been assigned from I to III to denote each sub area, which is presented in **Figure No. C8016/C/XRL/ENS/M55/009**.
- 6.1.2 The identified areas with archaeological deposits and the relevant recommendations are presented in **Table 6.1**. Details of review are also given in later part of this section.

Table 6.1 Impact Assessment on SSS area

Sub Area for Archaeological Assessment	Dating of finds	Location	Significance	Recommended Mitigation Measure
Area I	Nil	-	No	Nil
Area II West	Song-Yuan to Qing	Area between SP 10 and SP20	High	Rescue excavation
Area II East	Nil	-	No	Nil
Area III North	Song-Yuan to Qing	Area around SP16	High	Rescue Excavation
Area III South	Nil		No	Nil

6.2 Review of Each Area

Area I

6.2.1 The archaeological works conducted in Area I are summarised in **Table 6.2**.

Table 6.2 Archaeological Works in Area I

Archaeological Works Conducted	Test Pit (TP/SP) / Hand Auger Hole (AH/SH) Codes
Archaeological Investigation in the course of EIA	TP6, TP7, TP8, AH17, AH18, AH19, AH20, AH21
Further Archaeological Investigation	SP5,SP6, SP7, SP8, SP22, SP23, SP24, SH10, SH11, SH12, SH16, SH17, SH18, SH19, SH20, SH21, SH22, SH23, SH24, SH25, SH26, SH27, SH28, SH29.

6.2.2 Area I contains a general stratigraphy which consists of four strata as presented in **Table 6.3**.

Table 6.3 General Stratigraphy of Area I

Strata	Description	Finds	Chronology
I-1	Sandy soil in light grey	Nil	Modern Top Soil
I-2	Loamy to clayey soil in dull yellow	Nil	Early Modern Agricultural Soil
I-3	Clayey to Sandy soil in bright yellow	Nil	Holocene fluvial deposits
I-4	Loamy Soil with pebbles in bright yellow	Nil	Late Pleistocene fluvial deposits

- 6.2.3 No cultural horizon is identified in any of the archaeological works conducted in and near this region. The taphonomy displayed in the stratigraphy around this area suggested that river action was dominant during the Late Pleistocene period and into the Holocene.
- 6.2.4 In SP7, SP8, SH28, and SH29 (see records in **Appendix A**), certain layers of these pits and holes contain organic–rich clay. It displayed perhaps the natural phenomena of fluvial actions,

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temporary seasonal lakes, or a result of an abandonment of river channel. L9 of SP7 is an alluvial deposits that was later overlaid by some organically rich soils (L6 to L8), suggesting that this area was a swamp / meander after changes of river course. It is then overlaid by series of silty soils (L2 to L5). L2 and L4 of SP7 contain dark spots in the yellowish soil that indicating previous existence of vegetation growth on these strata, while L3 and L5 of SP7 are purer yellow silt that was brought in by alluvial action. No artefacts were revealed from field scanning in this area.

6.2.5 This area is continually affected and reshaped by running water since Late Pleistocene into Holocene and such condition render it unsuitable for human settlements. It is therefore suggested that Area I has no archaeological potential.

Area II

6.2.6 The archaeological works conducted in Area II are summarised in **Table 6.4.**

Table 6.4 Archaeological Works Conducted in Area II

Archaeological Works Conducted	Test Pit (TP/SP) / Hand Auger Hole (AH/SH) Codes
Archaeological Investigation in the course of EIA	TP5, AH14, AH13, AH16
Further Archaeological Investigation	SP9, SP10, SP11, SP12, SP13, SP14, SP20, SP21, SH7, SH8, SH9, SH13, SH14, SH15, SH30, SH31, SH32, SH33, SH37.

Area II West - with Archaeological Deposit

- 6.2.7 Field scanning revealed a concentrated area of tiles scattered between and around the area of SP 10 and SP20 (see Figure No. C8016/C/XRL/ENS/M55/009 and Figure B-2 of Appendix B) with celadon shreds. There are a few tiles found in L2 of SP10, L2 and L3 of SP20 (see IIW-2 in Table 6.5).
- 6.2.8 Area II West with archaeological deposits contains a general stratigraphy which consist of five strata as presented in **Table 6.5**.

Table 6.5 General stratigraphy of Area II West in test pits and auger holes - with archaeological deposits

Strata	Description	Finds	Chronology
IIW-1	Silty Sand in dull yellow	Song to Yuen Celadon with modern porcelain shreds	Disturbed Modern soil
IIW-2	Silty Sand in bright yellow	A few tiles with pot shards	Song to Qing periods
IIW-3	Sandy soil in brown	Nil	Holocene deposit
IIW-4	Clayey and Sandy soil in brown	Nil	Late Pleistocene fluvial deposits
IIW-5	Clayey soil with pebbles/ cobbles	Nil	Late Pleistocene river bed

6.2.9 The existence of Song-Yuan (AD960-1368) cultural horizon and the abundant tiles observed in the surrounding area during field scanning suggested that the extent of cultural layer likely covers an area between SP10 and SP20 (**Figures B-2** and **B6**). Archaeological evidence suggests that the existence of a stable cultural horizon dated to Song-Yuan periods in this area is likely, as indicated by a cluster of roof tile dumping found in SP20 where few houses might existed in this area.

Area II East - without Archaeological Deposit

6.2.10 Area II East, with no archaeological deposits, contains a general stratigraphy which consists of four strata as presented in **Table 6.6**.

Table 6.6 General Stratigraphy of Area II East in test pits and auger holes - without archaeological deposit

Strata	Description	Finds	Chronology
IIE-1	Sandy soil in light grey	Nil	Modern Top Soil
IIE-2	Clayey soil in dull yellow	Nil	Early Modern Agricultural Soil
IIE-3	Clayey soil in bright yellow	Nil	Holocene fluvial deposits
IIE-4	Clayey Soil with pebbles in bright yellow	Nil	Late Pleistocene fluvial deposits

- 6.2.11 No cultural horizon is identified in any of the archaeological works conducted in Area II outside area between SP10 and SP20. The taphonomy displayed in the stratigraphy suggests that river action was dominant during the Late Pleistocene and into the Holocene. Note that the general stratigraphy is similar to that of Area I (see **Table 6.3**). Field scanning revealed no artefacts either.
- 6.2.12 Similar to Area I, in SP9 and SH30 (see records in **Appendix A**), certain lower layers of these pits and holes contain organic—rich clay. It displayed perhaps the natural phenomena of fluvial actions, temporary seasonal lakes, or a result of an abandonment of river channel. This area is continually affected and reshaped by running water since Late Pleistocene into early Holocene and such condition would render it unsuitable for human settlements. It is therefore suggested that Area II East has no archaeological potential.

<u> Area III</u>

6.2.13 The archaeological works conducted in Area III are summarised in Table 6.7.

Table 6.7 Archaeological Works Conducted in Area III

Archaeological Works Conducted	Test Pit (TP/SP) / Hand Auger Hole (AH/SH) Codes
Archaeological Investigation in the course of EIA	TP4, AH10, AH12, AH15, AH22, AH23, AH24
Further Archaeological Investigation	SP15, SP16, SP17, SP18, SP19, SH34, SH35, SH36, SH38, SH39, SH40, Sh41, SH42, Sh43, SH44, SH45, Sh46, SH47, SH48

Area III North - with Archaeological Deposit

- 6.2.14 Field scanning revealed a concentrated area of tiles, fragments of bowl likely dated early than Qing dynasty are scattered around and to the east of SP 16, indicating the possible extent of proposed rescue excavation area of SP16 (**Figure B-7** of **Appendix B**). Archaeological materials identified in SP16 contained Song-Yuan and Qing deposits.
- 6.2.15 Archaeological investigation at TP4 during the EIA also revealed the existence of a cultural layer and fragment of celadon and roof tiles exposing in ground surface around TP4 which are dated to possibly Song to Ming Dynasties (L2 and L3 in TP4).
- 6.2.16 Area III North, with archaeological deposits, contains a general stratigraphy which consists of six strata as presented in **Table 6.8**.

Table 6.8	General Stratigraphy of Area III North in test pits and auger holes - with
	archaeological deposits

Strata	Description	Finds	Chronology
IIIN-1	Silt in light grey	Bricks	Modern Top Soil
IIIN-2	Silt	Blue and white porcelain shreds and roof tiles	Late Qing Dynasty(late 19 th to early 20 th centuries)
IIIN-3	Silty soil	Blue and white porcelain shreds and roof tiles	Late Qing Dynasty
IIIN-4	Silty Soil	Celadon shreds with roof tiles	Song-Yuan and Qing dynasties (AD960-1911)
IIIN-5	Clayey soil	Nil	Holocene fluvial deposit
IIIN-6	Clayey soil with pebbles	Nil	Late Pleistocene fluvial deposit and river bed

6.2.17 In SP16 L4 (IIIN-4 in **Table 6.8**) contained celadon shreds of Song to Yuen Dynasties (AD960-1368) with clusters of roof tiles of Qing Dynasty (AD1644-1911), so L4 is possibly an disturbed stratum by L3 above. L3 (IIIN-3 in **Table 6.8**) is an *in situ* deposit of Ming to Qing period, signified by the blue and white porcelain shreds with characters from the period, with cluster of tiles in the stratum. L2 (IIIN-2 in **Table 6.8**) contained Late Qing (late 19th to 20th centuries) styled blue and white porcelain shreds with fewer tiles in it. In addition to field scanning results, which revealed a concentrated area of tiles, fragment of bowl around and to the east of SP16 (**Figure B-7**), the archaeological potential of Area III North is therefore high.

On Area III South without Archaeological Deposit

6.2.18 Area III South, without archaeological deposits, contains a general stratigraphy which consists of four strata as presented in **Table 6.9**.

Table 6.9 General Stratigraphy of Area III South in test pits and auger holes - without archaeological deposit

Strata	Description	Finds	Chronology
IIIS-1	Sandy soil in light grey	Nil	Modern Top Soil
IIIS-2	Clayey soil in dull yellow	Nil	Early Modern Agricultural Soil
IIIS-3	Clayey soil in bright yellow	Nil	Holocene fluvial deposits
IIIS-4	Clayey Soil with pebbles in bright	Nil	Late Pleistocene fluvial
1113-4	yellow	INII	deposits and river bed

- 6.2.19 No cultural horizon is identified in any of the archaeological works conducted. The taphonomy displayed in the stratigraphy around this area suggested that river action was dominant during the Late Pleistocene period and into the Holocene. Note that the general stratigraphy in this area is similar to that of Area I (see **Table 6.3**). Field scanning in this area revealed no artefacts either.
- 6.2.20 Similar to Area I, this area is continually affected and reshaped by running water since Late Pleistocene into early Holocene and such condition would render it unsuitable for human settlements. The lacking of archaeological evidence and the reference from geological perspective suggested that Area III South has no archaeological remains.

6.3 Recommendations

6.3.1 Findings of further archaeological investigations indicate that there are archaeological remains in the areas of SP10, SP20 and SP16. In order to preserve the archaeological remains by detailed records, rescue excavation is recommended to be conducted at the area between SP10 and 20 in Area II West, and at the area around SP16 (see **Figure No. C8016/C/XRL/ENS/M55/009**).

AECOM Asia Co. Ltd. 22 May 2011

7 CONCLUSION

- 7.1.1 In order to obtain field data in evaluating archaeological potential of the inaccessible areas of the SSS site, a further archaeological investigation was carried out in phases according to land resumption status between 26 November 2010 and 17 May 2011.
- 7.1.2 Based on the field works conducted in the resumed lands in SSS, layers of Song to Qing Dynasties (AD960-1911) was also discovered in three test pits SP10, SP16 and SP20, indicating that there were human activities in these areas at ancient periods. Some archaeological deposits such as roof tiles, celadon and blue-and-white porcelain shreds were observed on the surface at areas east to SP16, and around SP10 and SP20, in which the collected shreds are dated to Song and Qing Dynasties.
- 7.1.3 Based on the findings, areas around SP16, and between SP10 and SP20 have high archaeological potential. The rest of the investigated area has no archaeological potential.
- 7.1.4 Rescue excavation is recommended at the identified two areas with archaeological remains including the area around and east of SP16 and the area between SP10 and 20 in Area II West (See Figure No. C8016/C/XRL/ENS/M55/009, Figures B-6 and B7) as a proposed mitigation measure such that the archaeological remains in these areas would be preserved by detailed records. The methodology of rescue excavation at these areas would follow the AAP. Additional trial pits should be carried out as necessary prior to the rescue excavation in order to refine the extent of the rescue areas.

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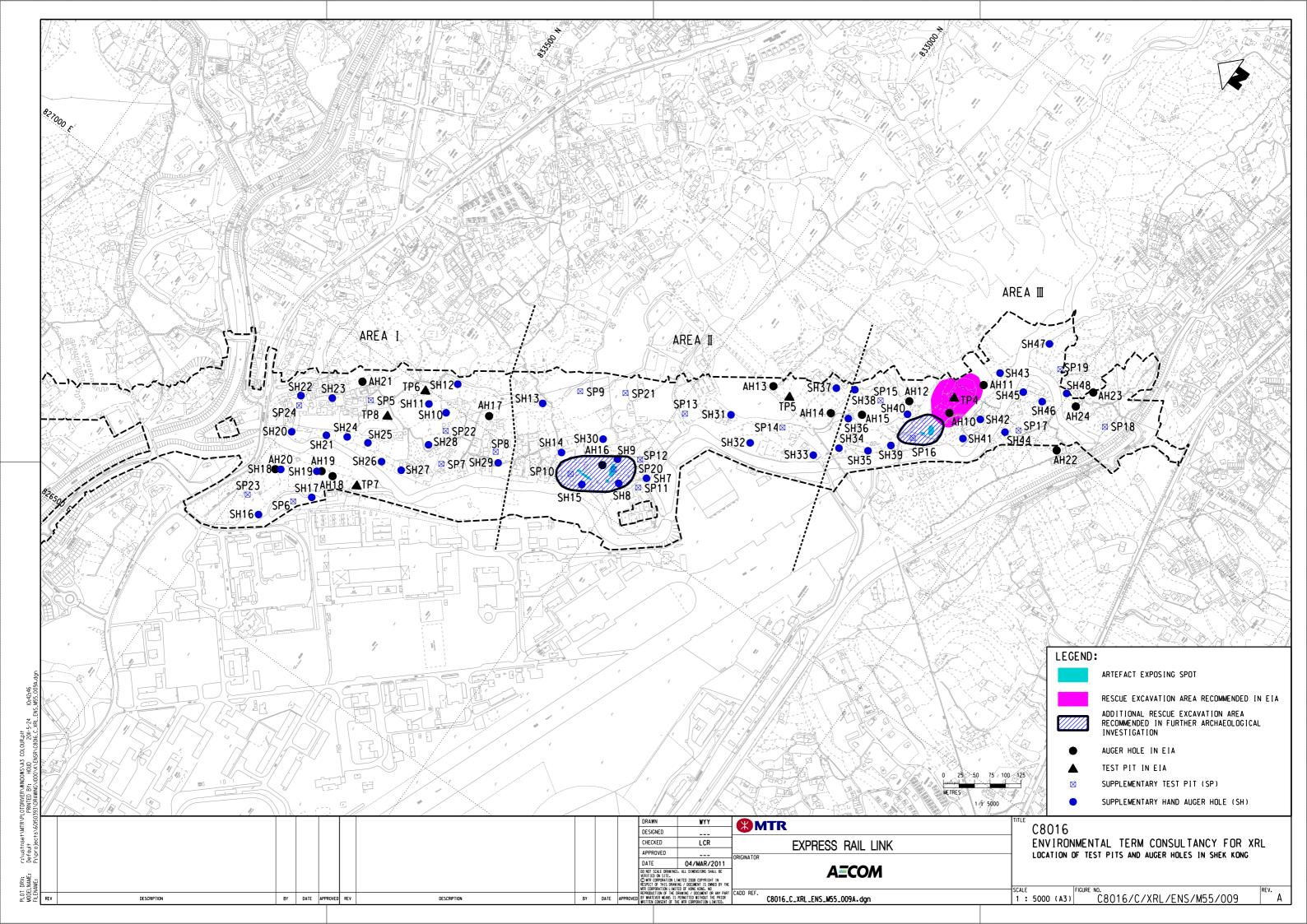
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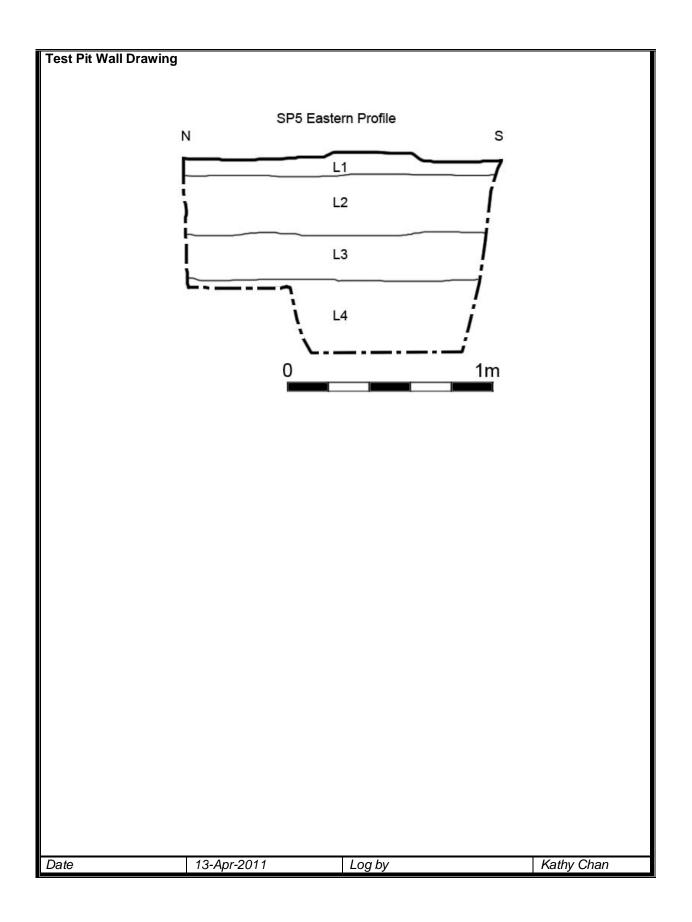
Appendix A *Test Pit and Auger Hole Records*

Location	Shek Kong	Area Code	SSS	Test Pit No.	SP5
Test Pit Coordinate (SW corner)	826937E	833410N	Test Pit Measurement	1.5m x	1.1m x 0.9m
Digging Method	Hand and machi	ne excavated	Ground Level	,	at the center of the est pit)

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sandy Silt	Light Gray	Nil	Modern
L2	Silt	Yellowish Brown	Nil	N/A
L3	Cobbles with Coarse Sand	Light Gray	Nil	N/A
L4	Weathered Cobbles with Silt	Reddish Brown	Nil	N/A



SP 5 Eastern Profile

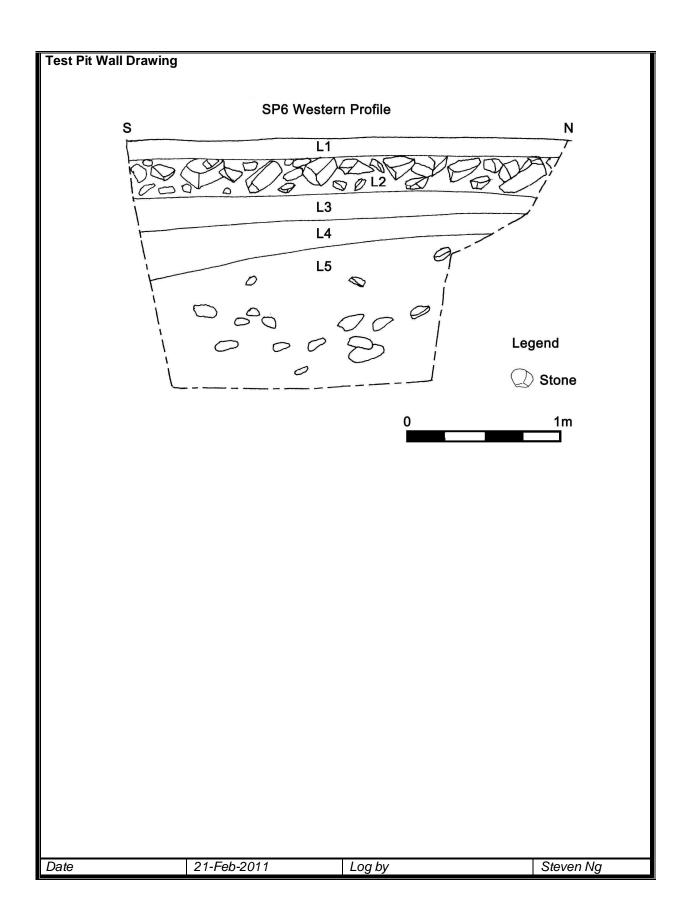


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP6
Test Pit Coordinate (SW corner)	826726E	833417N	Test Pit Measurement	1.6m x	1.2m x 1.3m
Digging Method	Hand and machi	ne excavated	Ground Level	,	(at the center of the est pit)

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Bitumen	Black	Nil	Modern Ground Paving (1950s)
L2	Rock	White	Nil	Modern Ground Paving (1950s)
L3	Loam	Very pale brown	Nil	N/A
L4	Loam	Yellow	Nil	N/A
L5	Weathered rock and sandy loam	Reddish Yellow	Nil	N/A



SP 6 Western Profile

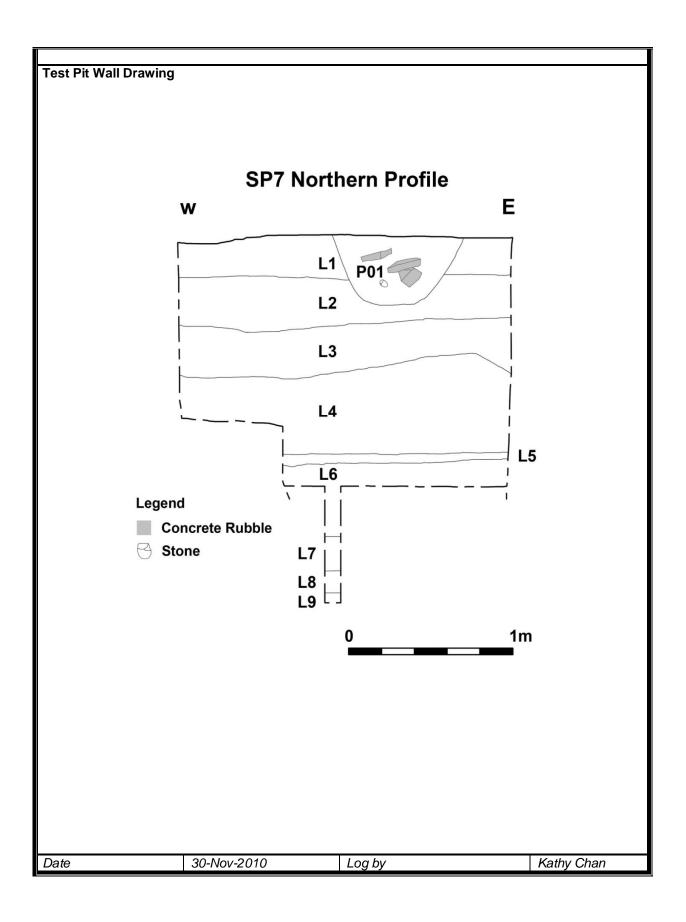


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP7
Test Pit Coordinate (SW corner)	826913E	833258N	Test Pit Measurement	2.01	m × 1.2m
Digging Method	Hand Digging		Ground Level	ca. 18mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
P01	Silt	Yellowish Brown	Plastic Objects, Pot shreds, Nylon String	Modern
L1	Sandy Silt	Olive Brown	Bricks, Concrete Rubbles, Tin Cans	Modern
L2	Silt	Yellowish Brown+ Dark Grayish Brown + Very Dark Grayish Brown	Nil	N/A
L3	Silt	Light Gray	Nil	N/A
L4	Silt	Dark yellowish Brown	Nil	N/A
L5	Clayey Silt	Light Yellowish Brown	Nil	N/A
L6	Clayey Silt	Brown+ Very Dark Grayish Brown	Nil	N/A
L7	Clayey Silt	Dark Yellowish Brown+ Strong Brown+ Gray	Nil	N/A
L8	Clay	Dark Grayish Brown	Nil	N/A
L9	Clayey Sand	Light Gray	Nil	N/A



SP 7 Northern Profile

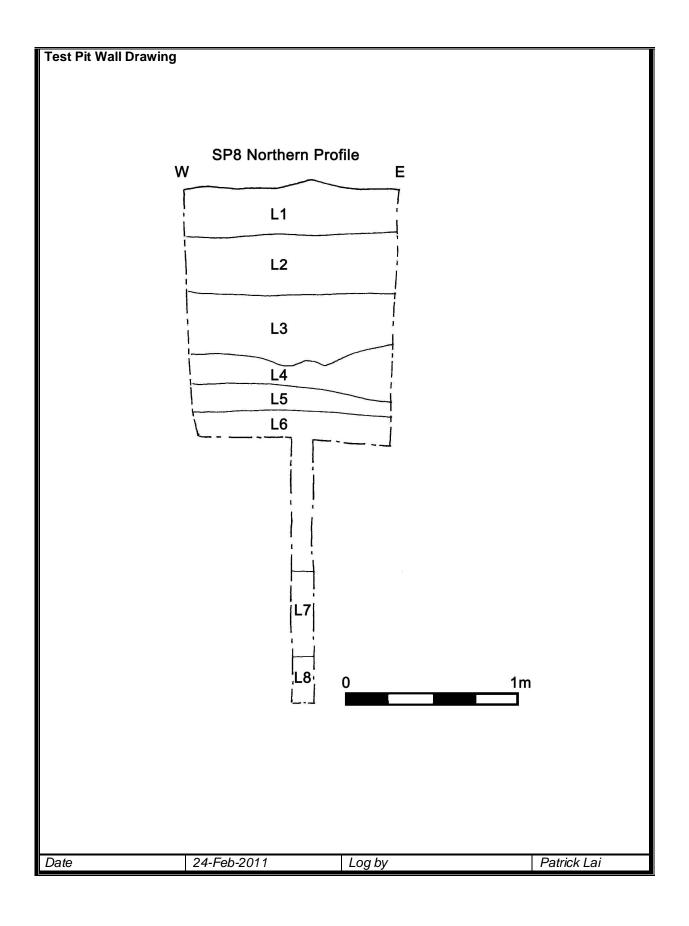


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP8
Test Pit Coordinate (SW corner)	826980E	833198N	Test Pit Measurement	1.0m x 1.0m x (1.2m+1.2m augering)	
Digging Method	Hand excavated		Ground Level	ca.15.7mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sandy silt	Greyish brown	Nil	N/A
L2	Sandy silt	Brownish yellow	Nil	N/A
L3	Silty clay	Light reddish brown	Nil	N/A
L4	Sand	Yellow	Nil	N/A
L5	Silt	Yellow	Nil	N/A
L6	Clay	Black	Nil	N/A
L7	Clay	Strong brown	Nil	N/A
L8	Sand	Brownish yellow	Nil	N/A



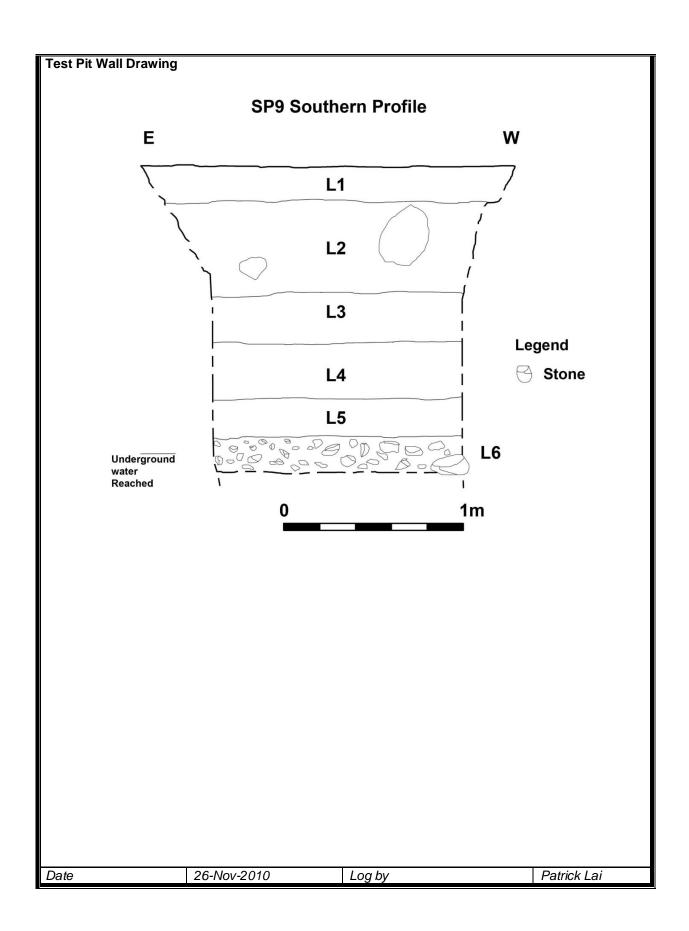
SP8 Northern Profile



Location	Shek Kong	Area Code	SSS	Test Pit No.	SP9
Test Pit Coordinate (SW corner)	827138E	833143N	Test Pit Measurement	3.21	m × 2.1m
Digging Method	Hand Digging		Ground Level	Ca. 18mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Bitumen Paving	Black	Nil	Modern Ground Paving
L2	Clay with Boulders	Yellowish Brown	Nil	Modern Fill Soil
L3	Sandy Clay	Gray	Nil	N/A
L4	Clay	Light Olive Brown	Nil	N/A
L5	Clayey Sand	Olive Brown	Nil	N/A
L6	Clay with Boulders	Dark Gray	Nil	N/A



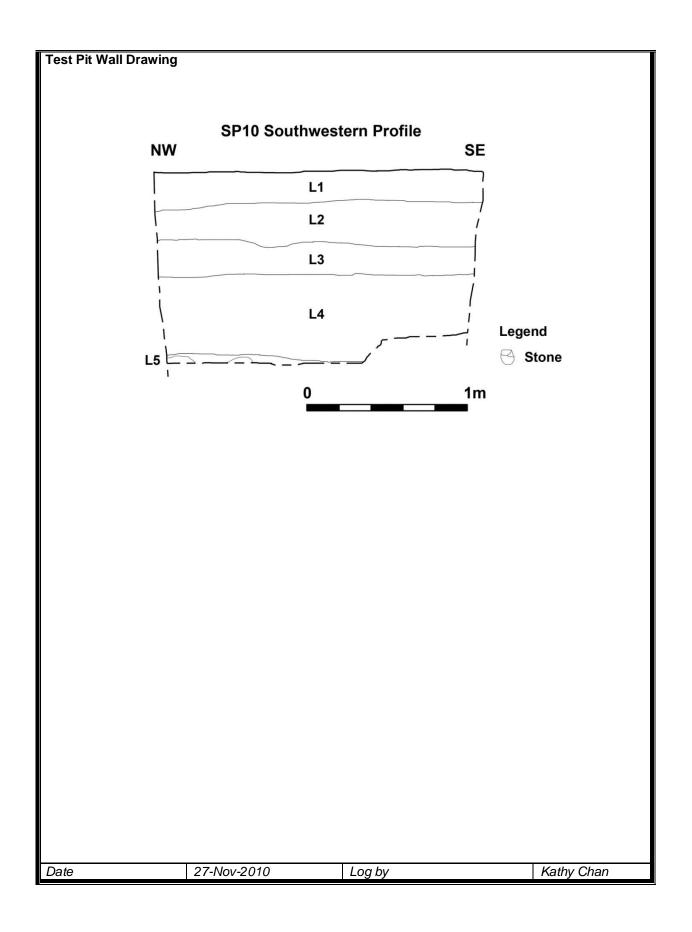


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP10
Test Pit Coordinate (S corner)	827021E	833079N	Test Pit Measurement	2.01	m × 1.2m
Digging Method	Hand Digging		Ground Level	ca.17.9mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silty Sand	Dark Gray	Celadon and Porcelain shards	Modern (disturbed)
L2	Silty Sand	Brownish Yellow	A few tiles with pot shards	Song-Yuen dynasties
L3	Sandy Clay	Yellowish Brown	Nil	N/A
L4	Silty Clay with Course Sand	Olive Yellow + Red	Nil	N/A
L5	Silty Clay with Pebbles	Olive Yellow + Red	Nil	N/A



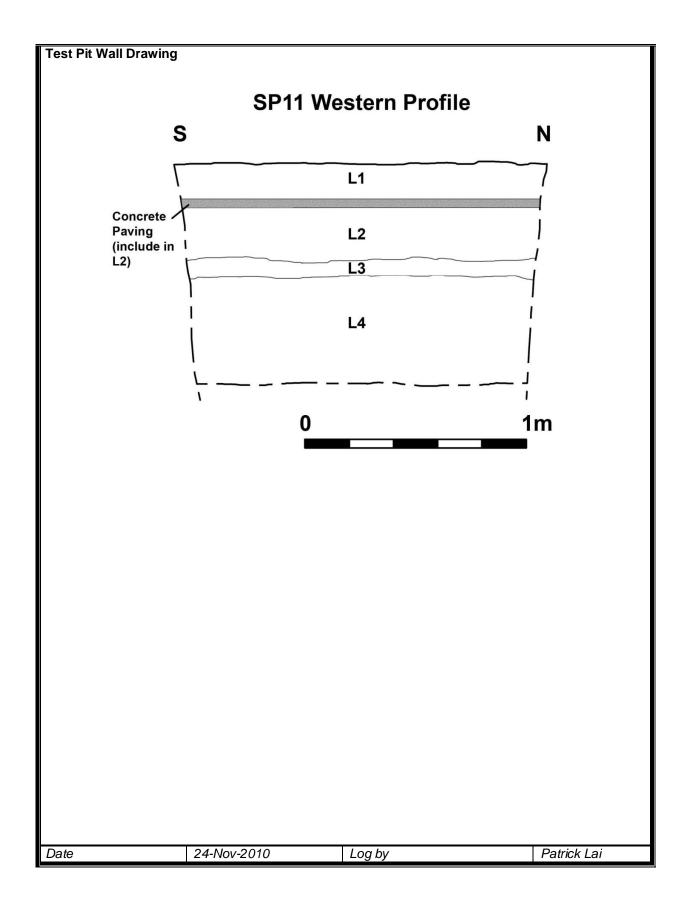
SP10 Southwestern Profile



Location	Shek Kong	Area Code	SSS	Test Pit No.	SP11
Test Pit Coordinate (SW corner)	827066E	832977N	Test Pit Measurement	1.71	m × 1.0m
Digging Method	Hand Digging		Ground Level	ca.15mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sand with Rubbles	Very Pale Brown	Nil	Modern Surface Fill
L2	Clayey Sand	Light Olive Brown	Concrete Paving with Rubbles	Modern fill
L3	Sandy Clay	Gray	Nil	N/A
L4	Sand with Boulders	Brownish Yellow	Nil	N/A

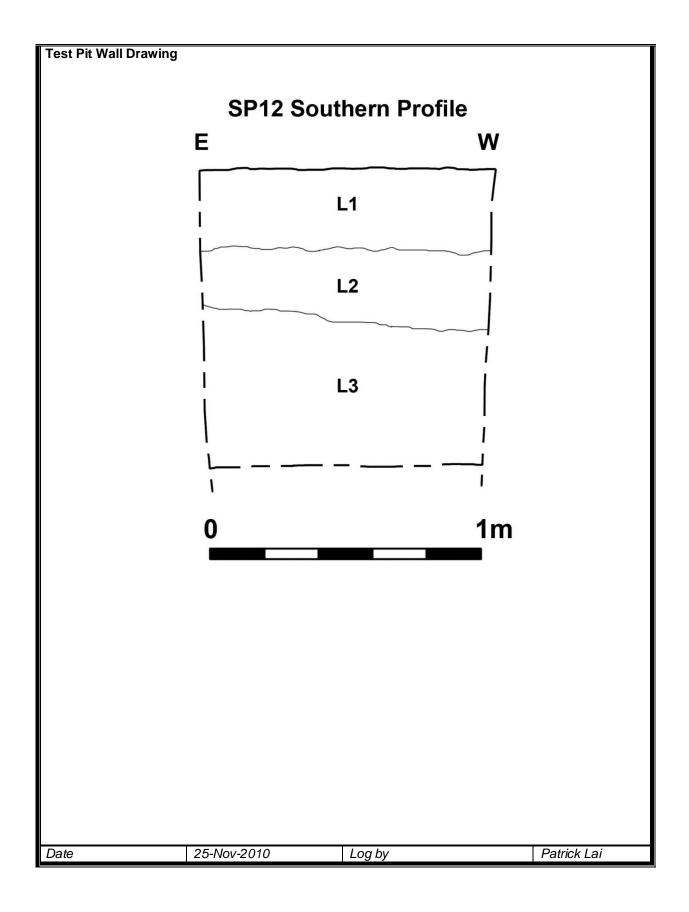




Location	Shek Kong	Area Code	SSS	Test Pit No.	SP12
Test Pit Coordinate (SW corner)	827104E	833001N	Test Pit Measurement	2.0m × 1.1m	
Digging Method	Hand Digging in General, Light Machinary used at L3 due to strongly cemented soil		Ground Level	ca.18.5mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sand with Rubbles	Very Pale Brown	Nil	Modern Surface Fill
L2	Clayey Sand with Boulders	Light Olive Brown	Blue and white porcelain shards mixed with concrete rubbles	Modern Fill
L3	Clay with Boulder	Gray	Nil	N/A



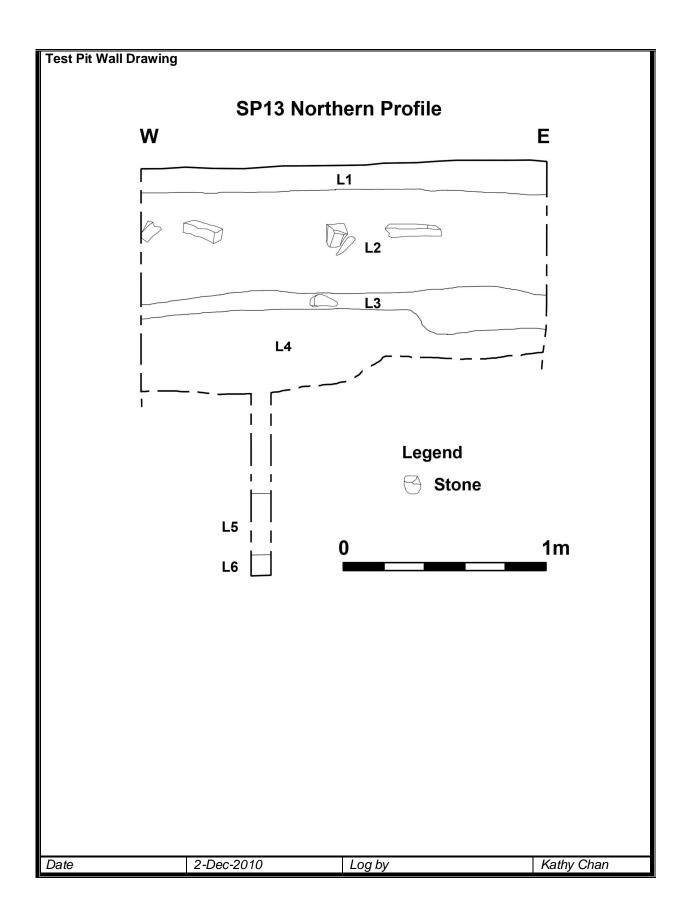


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP 13
Test Pit Coordinate (SW corner)	827206E	832985N	Test Pit Measurement	2.0m × 1.1m	
Digging Method	Hand Digging		Ground Level	ca.19.5mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Concrete Paving	White	Modern Refuse	Modern Ground Paving
L2	Coarse Sand	Yellowish Brown	Bricks, Concrete Rubbles	Modern Fill
L3	Silty Sand	Olive Brown	Tiles, Blue and white porcelain shards, with Modern building materials (mosaic)	Disturbed by modern materials
L4	Silty Sand	Light Olive Brown	Nil	N/A
L5	Clayey Sand	Red+ Gray	Nil	N/A
L6	Silty Sand	Yellowish Brown+ Red	Nil	N/A



SP13 Northern Profile

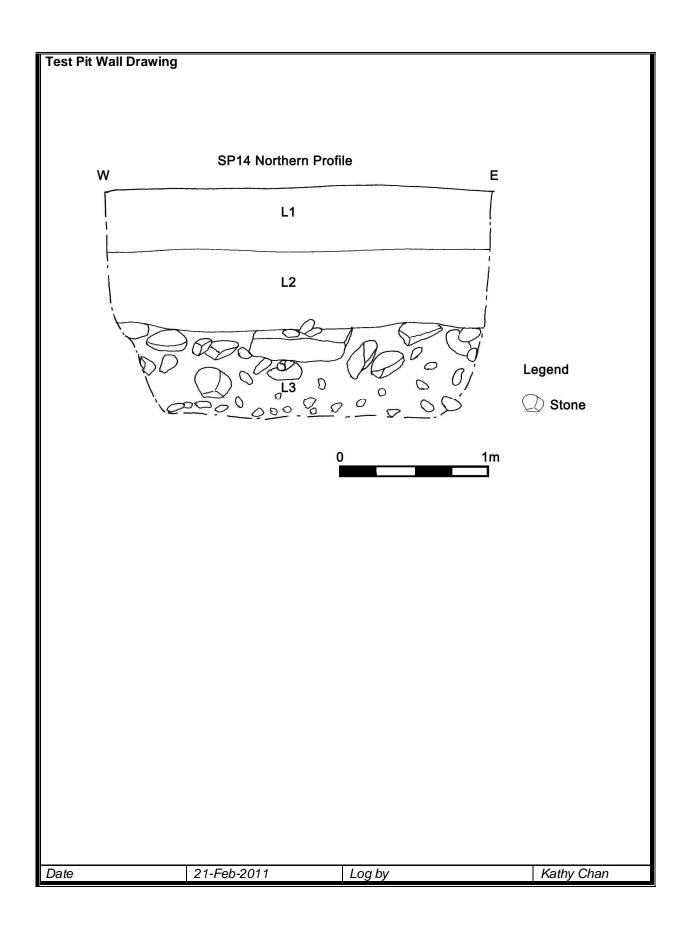


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP14
Test Pit Coordinate (SW corner)	827 279 E	832 843 N	Test Pit Measurement	2.1m x	1.1m x 1.2m
Digging Method	Hand and machine excavated		Ground Level	ca.17.3mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silt	Gray	Nil	Modern
L2	Silty sand	Very pale brown	Nil	N/A
L3	Boulders with pebbles and coarse sand	Red	Tiles with textile imprint	N/A



SP14 Northern Profile

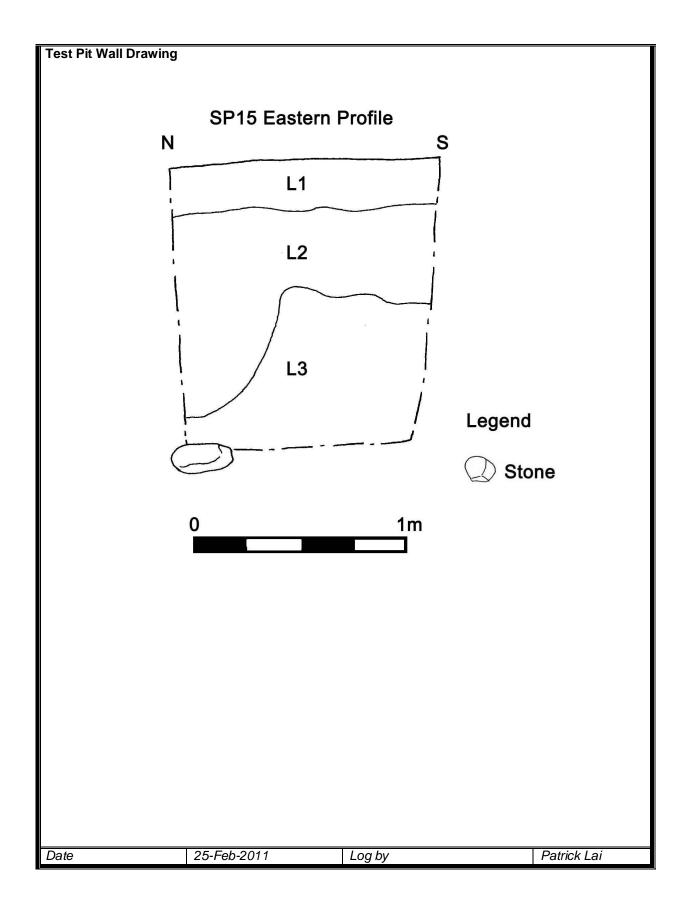


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP15
Test Pit Coordinate (SW corner)	827406E	832741N	Test Pit Measurement	1.4m x 1.0m x 1.1m	
Digging Method	Hand excavated		Ground Level	ca.21.3mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Clayey sand	Yellowish brown	Nil	Modern
L2	Silty sand	Greyish brown	Fragments of modern rubbish	Modern fill
L3	Sand with occasional cobbles	Yellowish brown	Nil	N/A



SP15 Eastern Profile

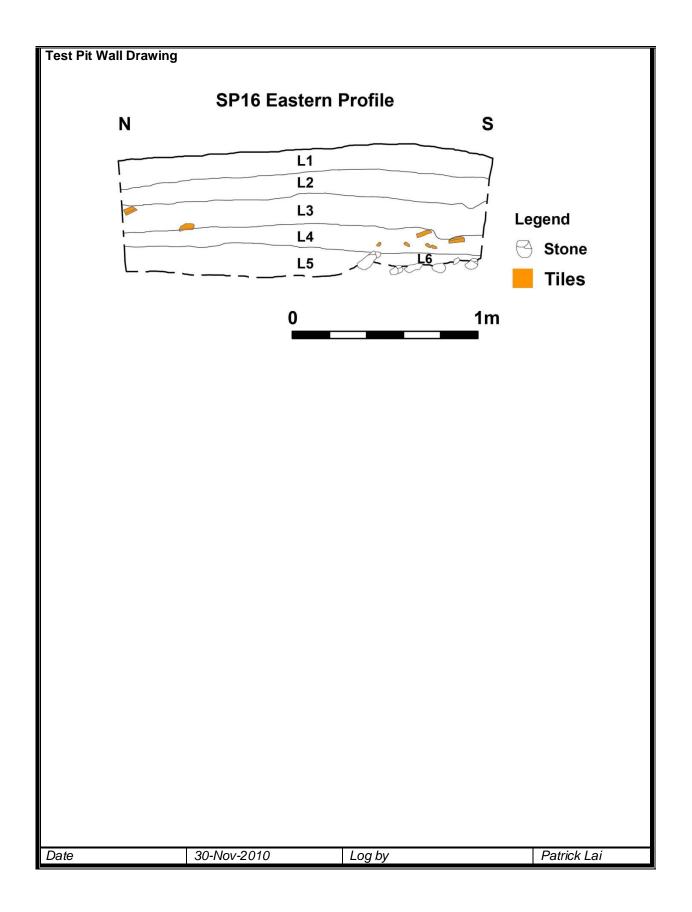


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP16
Test Pit Coordinate (SW corner)	827394E	832686 N	Test Pit Measurement	2.0m × 1.0m	
Digging Method	Hand Digging		Ground Level	ca.23.2mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silt	Olive Brown		Modern Topsoil
L2	Silt	Grayish Brown	Tiles, Porcelain, Pottery	Late Qing
L3	Silty Sand	Dark yellowish Brown	Tiles, B&W, Tiles	Ming-Qing
L4	Silty Sand	Olive Brown	Tiles, Celadon	Song-Yuan
L5	Clayey Silt	Light Olive Brown	Nil	N/A
L6	Clay with Pebbles	Light Olive Brown	Nil	N/A



SP16 Eastern Profile

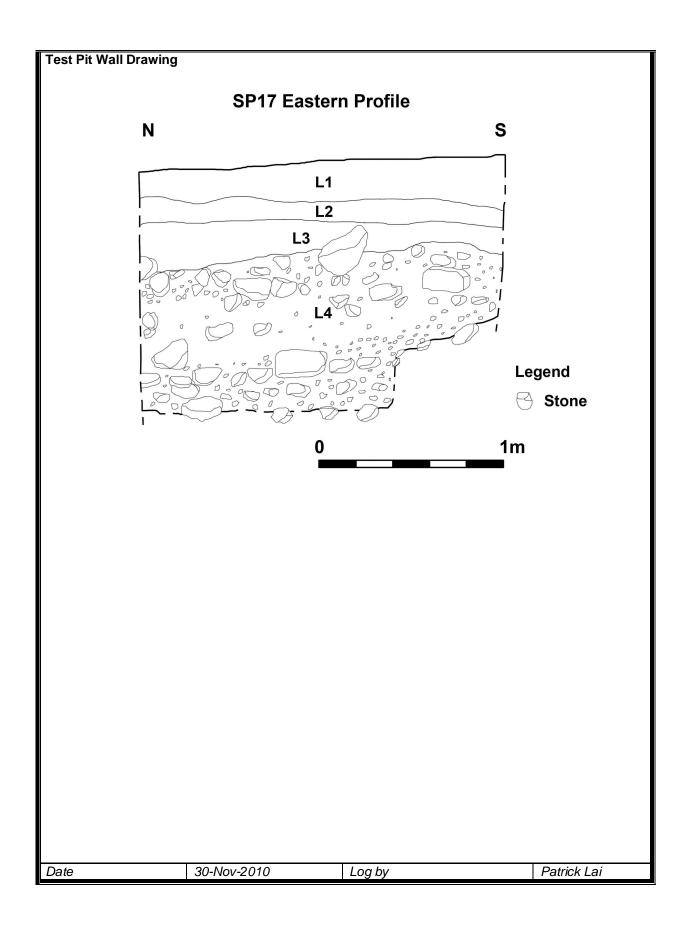


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP17
Test Pit Coordinate (SW corner)	827495E	832532N	Test Pit Measurement	2.0m × 1.0m	
Digging Method	Hand Digging		Ground Level	ca.21.9mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silty Sand	Reddish Brown	Nil	Modern Topsoil
L2	Clayey Silt	Gray	Nil	N/A
L3	Sand with Boulders	Yellow	Nil	N/A
L4	Sand with Boulders	Brown+ Brownish Yellow	Nil	N/A



SP17 Eastern Profile

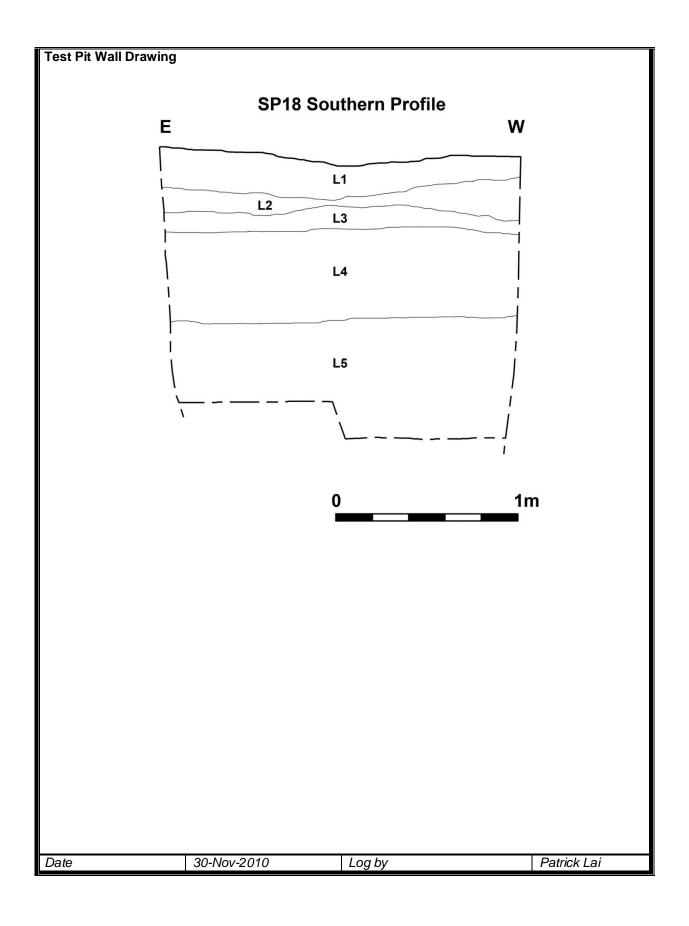


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP18
Test Pit Coordinate (SW corner)	827580E	832422N	Test Pit Measurement	2.0m × 1.0m	
Digging Method	Hand Digging		Ground Level	ca.24.7mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silty Sand	Olive Yellow	Nil	Modern Topsoil
L2	Clayey Sand	Pale Yellow	Nil	N/A
L3	Clay	Reddish Yellow	Nil	N/A
L4	Clay	Strong Brown with black spots	Nil	N/A
L5	Clay	Brownish Yellow	Nil	N/A



SP18 Southern Profile

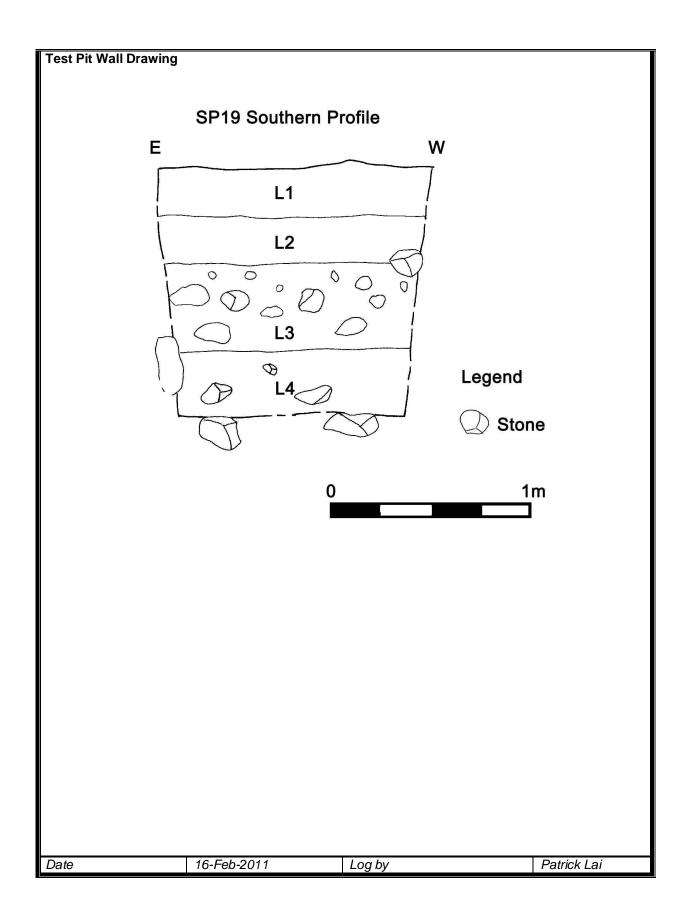


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP19
Test Pit Coordinate (SW corner)	827614E	832534N	Test Pit Measurement	1.1m × 1.2m	
Digging Method	Hand excavated		Ground Level	ca. 25mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sandy Loam	Pale Yellow	Nil	Modern Agricultural soil
L2	Silty Sand	Yellow Orange	Nil	
L3	Sand with Cobbles	Yellow	Nil	Alluvial Deposit
L4	Sandy Clay with Weathered Rocks	Orange	Nil	N/A



SP 19 Southern Profile

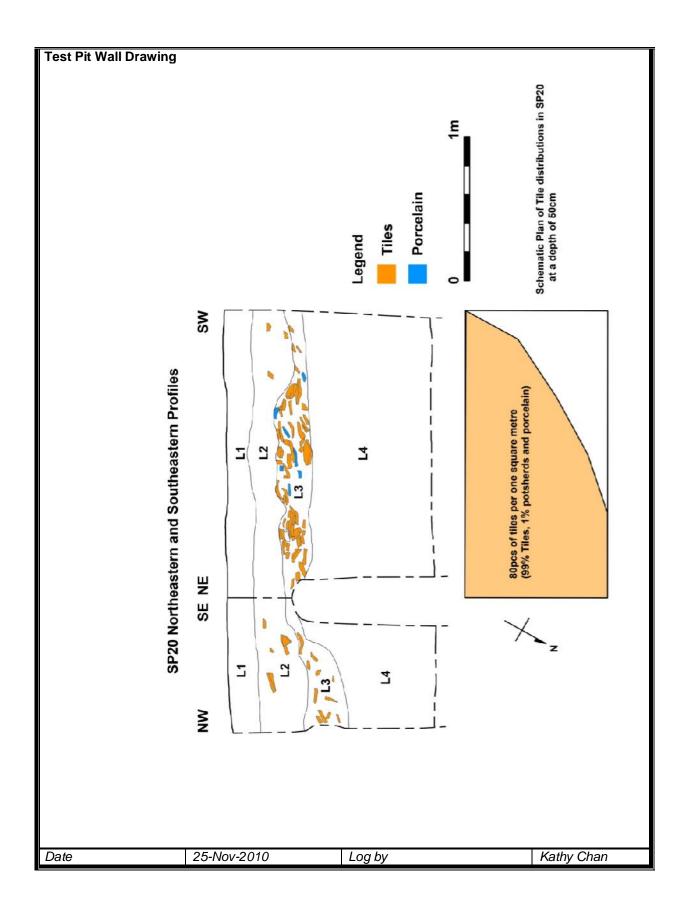


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP20
Test Pit Coordinate (S corner)	827067E	833026N	Test Pit Measurement	2.0m × 1.0m	
Digging Method	Hand Digging		Ground Level	ca.18mPD (at the center of the test pit)	

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Silty Sand	Olive Yellow	Celadon bowl base, Pottery shards, Iron rod, Tiles, Concrete	Modern Fill Surface
L2	Silty Sand	Yellowish Brown+ Grayish Brown	Tiles, Celadon, Porcelain, Pottery	Ming-Qing
L3	Sandy Clay	Light Olive Brown	Tiles, Celadon, B&W, Porcelain, Pottery	Song-Yuen
L4	Clayey Silt	Brownish Yellow + Yellowish Red	Nil	N/A



SP20 Southeastern Profile

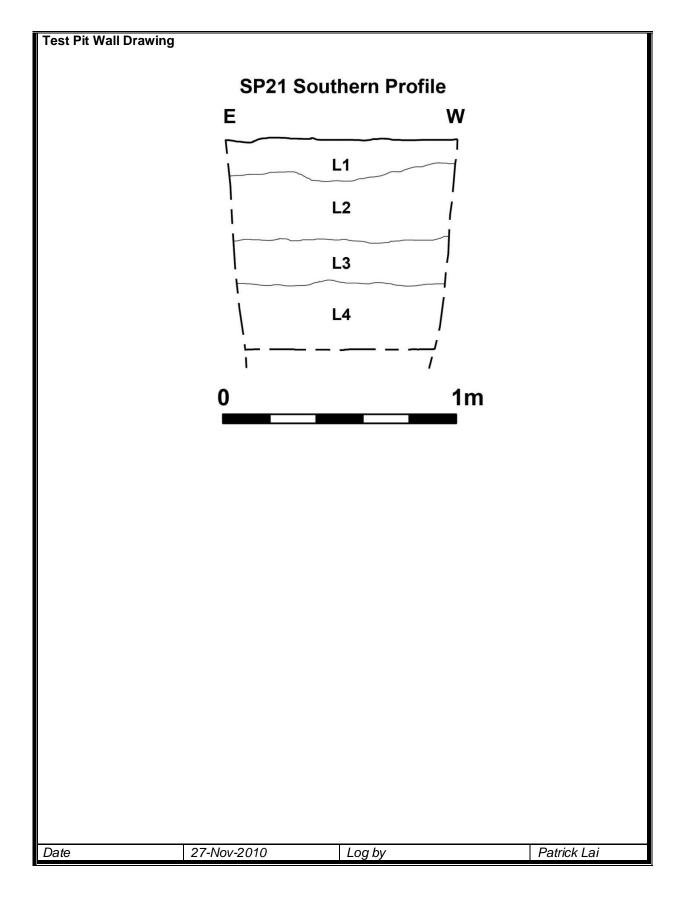


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP21	
Test Pit Coordinate (SW corner)	827178E	833082N	Test Pit Measurement	2.0m × 1.0m		
Digging Method	Hand Digging		Ground Level	ca.18.5mPD (at the center of the test pit)		

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sand with Rubbles	Light Olive Brown	Nil	Modern
L2	Sandy Clay	Light Olive Brown	Nil	N/A
L3	Clay	Light Olive Brown	Nil	N/A
L4	Clayey Sand with Boulders	Yellowish Red	Nil	N/A



SP21 Southern Profile

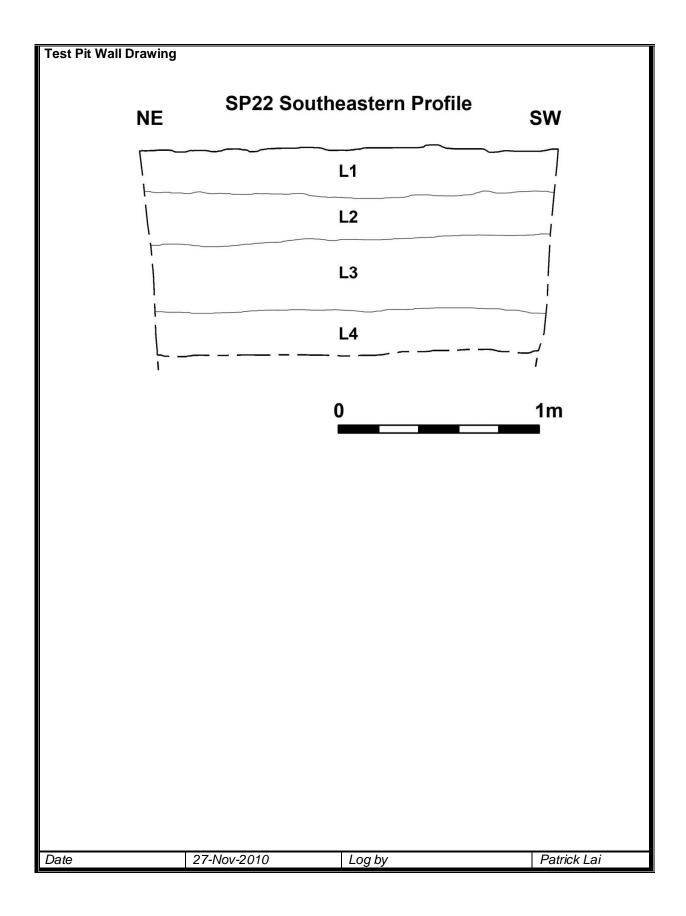


Location	Shek Kong	Area Code	SSS	Test Pit No. SP22		
Test Pit Coordinate (S corner)	826961E	833283N	Test Pit Measurement	2.1m × 1.1m		
Digging Method	Hand Digging		Ground Level	ca.15.7mPD (at the center of the test pit)		

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sand	Pale Brown	Nil	Modern
L2	Clayey Sand	Light Olive Brown	Nil	N/A
L3	Clay	Brownish Yellow	Nil	N/A
L4	Sandy Clay	Olive Brown	Nil	N/A



SP22 Southeastern Profile

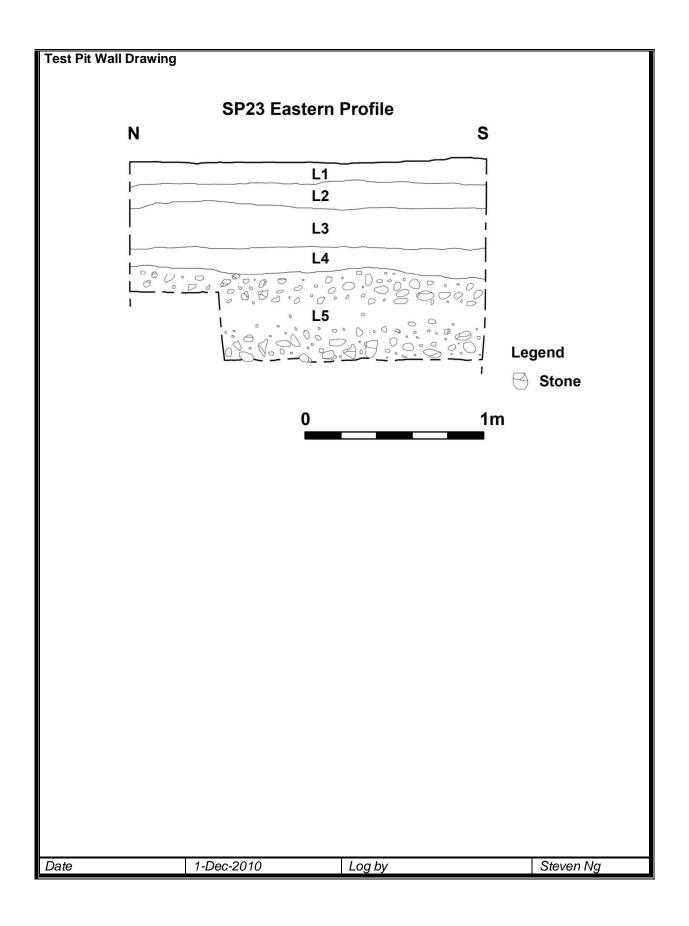


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP23	
Test Pit Coordinate (SW corner)	826693E	833483N	Test Pit Measurement	2.0m × 1.0m		
Digging Method	Hand Digging		Ground Level	ca.12mPD (at the center of the test pit)		

Layer	Soil Texture	Soil Colour	Finds	Chronology
L1	Sand	Light Yellow Orange	Nil	Modern
L2	Sand	Dull Orange	Nil	Early Modern Agricultural Soil
L3	Sandy Loam	Orange	Mineral Pan Deposits	N/A
L4	Coarse Sand Loam	Bright Brown	Nil	N/A
L5	Sand with Cobbles	Brownish Fray	Nil	N/A



SP23 Eastern Profile

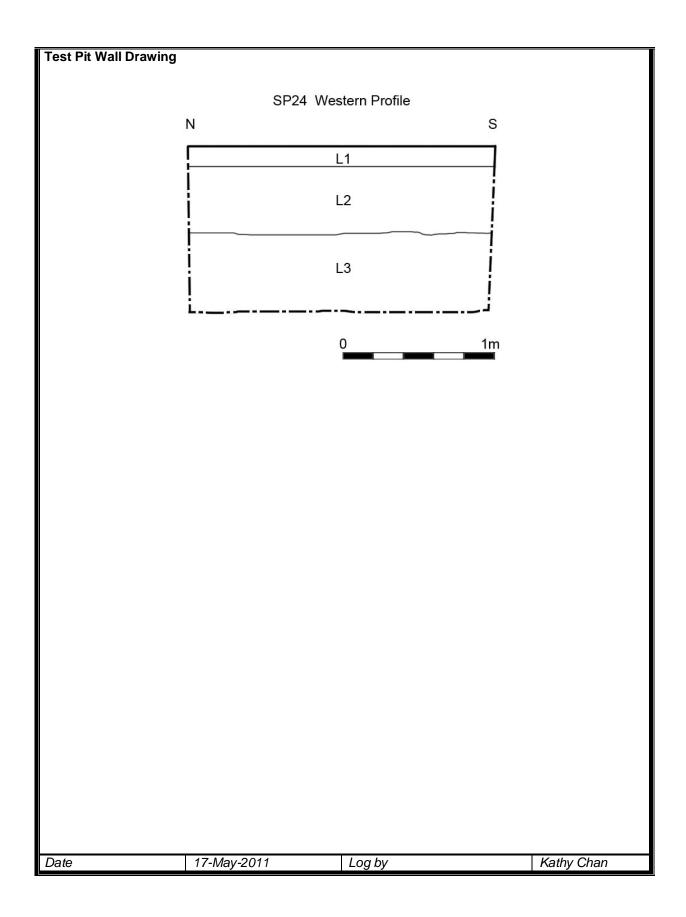


Location	Shek Kong	Area Code	SSS	Test Pit No.	SP24	
Test Pit Coordinate (SW corner)	826859E	833503N	Test Pit Measurement	2.0m x 1.6m x 1.2m		
Digging Method	Hand and machin	ne excavated	Ground Level	ca.18mPD (at the center of the test pit)		

Layer	Soil Texture Soil Colour		Finds	Chronology
L1	Concrete	Light Grey	Nil	Modern Paving
L2	Clayey Sand	Yellowish Brown	Modern steel rods, milk bottles	Modern Fill
L3	Clayey Sand	Reddish Brown	Nil	NA



SP 24 Western Profile



Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH7	
Auger Hole Coordinate	8270)86E	832975N	Auger Hole Size	Drill		10cm	diam	eter	
Augering Method		Hand Aug	ering	Ground Lev				8.4 ml	PD	
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS	
Ground Sur	rface									
	40cm	0- 2- 0-	L1	Light Olive Brown	Loam		Nil			
	55cm	4-0	L2	Yellowish Brown	Sand		Nil			
	35011	6-0-1 8-0-1 1-0-1 1-1 1-1 1 1-1 1 1-1 1 1-1 1 1-1 1 1-1 1 1-1 1 1-1 1 1-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							Hit Rock	
Legend		U -			Inter	pretation	<u> </u>			
=Loam		=Silty Sand								
=Sandy Clay	,	=Sandy Silt								
=Clay		=Clayey Sa	ind							
=Sand		=Cobbles a Pebbles								
Date	2	25-Nov-	2010	Log by	·		Patrio	ck Lai		

Location	Shek K	ong /	Area Code	SSS		Auger No.	Hole		SH8
Auger Hole Coordinate	8270)53E	833007N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Augering		Ground Level		ca.18.9 mPD			PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR	S TEX	OIL TURE	FINI	DS	REMARKS
Ground Su	rface	0-1							
	15cm	0-1	L1	Olive Brown	Sand		Nil		
	45cm	2- 0]	L2	Brownish Yellow	Sand		Nil		
		4- 6- 8- 1- 1- 20- 1- 1- 8- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-							Hit Rock
		2 - 0 - 0 -							
Legend					Inter	pretatior	า		
=Loam		=Silty Sand							
=Sandy Clay	,	=Sandy Silt							
=Clay		=Clayey Sa	nd						
=Sand		=Cobbles a Pebbles	nd						
Date		25-Nov-	2010	Log by	<u> </u>		Patrio	ck Lai	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH9
Auger Hole Coordinate	8270)84E	833031N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method				Ground Level		ca.18.9 mPD			PD
SOIL PROFILE		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	os	REMARKS
Ground Sui	rface	0	1						
	95cm	2: 0 : 3 : 4 : 0 : 3 : 3 : 3 : 3 : 3 : 3 : 3 : 3 : 3	L2	Olive Brown Brownish Yellow	Sand		Nil Nil		Hit Rock
Legend		0 1 1 8 0 7 2 0 1			Inter	pretation	1		
=Loam		=Silty Sand	d						
=Sandy Clay		=Sandy Sil	lt						
=Clay		=Clayey Sa	and						
=Sand		=Cobbles a	and						
Date		25-Nov	-2010	Log by			Patrio	ck Lai	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH10
Auger Hole Coordinate	8269	985E	833299N	Auger Hole Size	Drill		10cm	diame	eter
Augering Method		Hand Aug	gering	Ground Level		ca.15.6 mPD			PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Su	face	-	,						
	20cm	0	L1	Dark Olive Brown	Sand		Nil		
	35cm	2	L2	Light Olive Brown	Claye	y Sand	Nil		
	80cm	4 0 6	L3	Brown	Claye	y Sand	Nil		
	oudii	10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Hit Rock
Legend		,			Inter	pretation	ì		
=Loam		=Silty Sand	d						
=Sandy Clay	,	=Sandy Sil	it						
=Clay		=Clayey Sa	and						
=Sand		=Cobbles a Pebbles	and						
Date		27-Nov	-2010	Log by	<u> </u>		Patrio	k Lai	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH11
Auger Hole Coordinate	8269	981E	833330N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.1	5.6 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR	S TEX	OIL TURE	FINI	DS	REMARKS
Ground Su	rface		,						
	20cm	0	L1	Olive	Sand	t	Nil		
	55cm	2: 0: 4:	L2	Brownish Yellow	Clay Sand	ey d	Nil		
	SOCH	6 : 6 : 6 : 6 : 6 : 6 : 6 : 6 : 6 : 6 :							Hit Rock
		2: 0: 0:							
Legend					Inter	pretation)		
=Loam		=Silty Sand	d						
=Sandy Clay	,	=Sandy Sil	t						
=Clay		=Clayey Sa	and						
=Sand		=Cobbles a Pebbles	and						
Date		27-Nov	-2010	Log by	I		Patrio	ck Lai	

Location	Shek K	ong	Are	ea Code	SSS		Auger No.	Hole		SH12
Auger Hole Coordinate	82703	3.9061	83	3311.0875	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gerir	ng	Ground Lev	el		ca.1	5.2 ml	PD
SOIL PRO	FILE	DEPTH (CM)	۱ ;	STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Su	rface	-	_							
	10cm	0); - -	L1	Light Olive Brown	Sand		Nil		
	50cm	2 0 4	ا [L2	Dark grayish Brown	Sand	y Clay	Nil		
	90cm	6 0 8	<u>ا</u> [L3	Pale Yellow	Clay		Nil		
	90cm 95cm	0	. –	4	Yellowish Red	San	dv Clav	_Nil		
		1000 1120 1140 1180 2								Hit Rock
		0	=							
Legend		m				Inter	pretatior	<u>1</u>		
=Loam		=Silty San	nd							
=Sandy Clay		=Sandy Si	ilt							
=Clay		=Clayey S	Sand							
=Sand		=Cobbles Pebbles	and							
Date		27-Nov	/-20	10	Log by	-		Patrio	ck Lai	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH13
Auger Hole Coordinate	8270	087E	833181N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.1	7.3 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Su	rface	_							
	30cm	2	L1	Olive Yellow	Sand	y Silt	Nil		
		0 4 0	L2	Dark Brown	Sand	y Clay	Nil		
	60cm 80cm	6	L3	Light Olive Brown	Clay		Nil		
		1000 1100 1100 1100 1100 1100 1100 110							Hit Rock
		1 6 0 1 8 0 2							
Legend	l				Inter	pretation	<u>1</u>		
=Loam		=Silty Sand	d						
=Sandy Clay	,	=Sandy Si	lt						
=Clay		=Clayey S	and						
=Sand		=Cobbles Pebbles	and						
Date		27-Nov	<u>′-2010</u>	Log by			Patrio	ck Lai	

Location	Shek K	ong	Α	rea Code	SSS		Auger No.	Hole		SH14
Auger Hole Coordinate	8270	040E		833111N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	ge	ring	Ground Lev	el		ca.1	6.7 ml	PD
SOIL PRO	FILE	DEPTH (CM)	I	STRATUM	SOIL COLOUR	S TEX	OIL (TURE	FINI	os	REMARKS
Ground Su	rface	_	_							
	20cm	0)-	L1	Pale Olive	Silty S	Sand	Nil		
	80cm	2 0 4 0	4.	L2	Brownish Yellow	Sand	y Clay	Nil		
	180cm	8 0 0 1 1 2 0 0 1 1 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		L3	Yellowish Red	Clay Weat Rocks	hered	Nil		Hit Rock
Legend						Inter	pretation	1		
=Loam		=Silty San	nd							
=Sandy Clay		=Sandy S	ilt							
=Clay		=Clayey S	San	d						
=Sand		=Cobbles Pebbles	an	d						
Date	27-Nov-201			010	Log by	1		Patrio	ck Lai	

Location	Shek K	ong	Ar	ea Code	SSS		Auger No.	Hole		SH15
Auger Hole Coordinate	8270)17E		833054N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ger	ing	Ground Lev	el		ca.1	6.7 ml	PD
SOIL PROI	FILE	DEPTH (CM)	l	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sur	face	0	,							
	30cm	0 2 0	-	L1	Olive	San	d	Nil		
	60cm	4		L2	Strong Brown	Silty	Sand	Nil		
	100cm	8 0	1	L3	Reddish Yellow	Clay Sand		Nil		
	130cm	1 0 0		L4	Reddish Yellow	Claye with weath rocks		Nil		
		2 0 1 4 0 1 6 0 7 1 8 0 0								Hit Rock
Legend						Inter	pretation	1		
=Loam		=Silty San	nd							
=Sandy Clay		=Sandy Si	ilt							
=Clay		=Clayey S	Sand							
=Sand		=Cobbles Pebbles								
Date		27-Nov	v-20	010	Log by			Patrio	k Lai	

Location	Shek K	ong /	Area Code	SSS		Auger No.	Hole		SH16
Auger Hole Coordinate	8266	577E	833450N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev			ca.1	7.8 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL CTURE	FINI	os	REMARKS
Ground Sur	30cm 40cm 65cm	0- 2- 0- 1- 6- 0- 1-	L1 L2 L3	Olive Light greyish yellow Light brown	Sandy Sandy Silt		Nil Nil Nil		
	120cm 145cm 155cm 180cm	1 - 0 - 1 - 2 - 0 - 1	L5 L6 L7 L8	Light Brown Light yellowish brown Yellowish Brown Light greyish Yellow	Silt Clay Sand		Nil Nil Nil		Hit Rock
Legend					Inter	pretation	1		
=Loam =Sandy Loar =Silty loam =Sand	n E	=Silty Sand =Sandy Silt =Clayey Silt =Silt	= (t = (Pe	oarse Sand Gravels Cobbles and bbles					
Date		15-Feb-	2011	Log by			Kathy	/ Char	า

Location	Shek K	ong /	Area Code	SSS		Auger No.	Hole		SH17
Auger Hole Coordinate	8267	749E	833397N	Auger Hole Size	Drill		10cm		
Augering Method		Hand Aug	ering	Ground Lev	el		ca.16	6.2 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL CTURE	FIND	os	REMARKS
Ground Sur	face	_							
	20cm	0 - 2 -	L1	Light greyish yellow	Silt v cond rubb	rete	Nil		Modern building material
		4-0-1 6-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1 1-0-1							Hit Hard Surface
Legend] 1			Inter	pretation	<u> </u> 1		
=Loam		=Silty Sand	=Co	parse Sand					
=Sandy Loar	n	=Sandy Silt	= G	iravels					
=Silty loam		=Clayey Silt		obbles and obles					
=Sand		=Silt	= P	eat					
Date		15-Feb-2	2011	Log by	·		Kathy	Char)

Location	Shek K	ong	Α	rea Code	SSS		Auger No.	Hole		SH18
Auger Hole Coordinate	8267	757E		833463N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au		ring	Ground Lev			ca.1	2.1 m	PD
SOIL PROI	FILE	DEPTH (CM)	l	STRATUM	SOIL COLOUR		OIL	FINI	DS	REMARKS
Ground Sur	face	12								
	10cm	0)-	L1	Light greyish yellow	Silt		Nil		
		20	2	L2	Yellowish brown	Silt		Nil		
	40cm	2								
	80cm	6		L3	Brown	Claye	y Silt	Nil		
	100cm	0	-	L4	Light brown	Claye	y Silt	Nil		
	130cm	0] -	L5	Brown	Claye	y Silt	Nil		
	160cm	2 0 1 4 0	1-	L6	Light yellowish brown	Silt		Nil		
	170cm	6		L7	Light grey	Sand	y Silt	Nil		
		8								Hit Rock
Legend						Inter	pretatio	ì		
=Loam		=Silty Sar	nd	=C0	oarse Sand					
=Sandy Loar	n	=Sandy S	ilt	= G	Gravels					
=Silty loam		=Clayey S	Silt		obbles and obles					
=Sand		=Silt		= P	eat eat					
Date	15-Fel			b-2011 Log by				Kathy	/ Cha	n

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH19
Auger Hole Coordinate	8267	788E	833414N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev	el		ca.1	2.4 m	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	os	REMARKS
Ground Sui	face								
	35cm	0 <u>-</u> 2 <u>-</u> 0 <u>-</u>	L1	Light yellowish brown	San	dy Silt	Nil		
	70cm	4 - 0 - 6 -	L2	Brown	Silt		Nil		
	100cm	8 - 0 -	L3	Greyish brown	San	dy Silt	Nil		
	110cm	1-	L4	Light greyish yellow	San	dy Silt	Nil		
	135cm	0 - 0 - 1 - 2 - 0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	L5	Light brownish grey	San	dy Silt	Nil		
	160cm	4 -	L6	Bright yellow	San	dy Silt	Nil		
		1 - 6 - 0 -	L7	Bright yellowish brown	San	dy Silt	Nil		
	175cm	8 - 0 <u>-</u> 2 - 0 -							Hit Rock
Legend				ı	Inter	pretation	า		
=Loam		=Silty Sand	I =C	oarse Sand					
=Sandy Loar	n	=Sandy Silt	= 0	Gravels					
=Silty loam		=Clayey Sil	T 8000000000	cobbles and obles					
=Sand		=Silt	= F	Peat					
Date	15-Feb-2011			Log by			Kathy	/ Chai	n

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH20
Auger Hole Coordinate	8268	316E	833484N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug		Ground Lev			ca.1	2.8 m	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Su	face	•	,	N/					
314373,2373,1453,14573,25733	10cm	0	1 []	Very pale brown	San		Nil		
	15cm	2	L2	Yellow	Sand	y Loam	Nil		
	55cm	4	L3	Yellow	Sand	y Loam	Nil		
	55011	66 0 88 0 11 0 0 14 0 18 0 0 2							Hit Rock
Legend					Inter	pretation	1		
=Loam		=Silty Sand	d =0	Coarse Sand					
=Sandy Loar	n	=Sandy Sil	lt =	Gravels					
=Silty loam		=Clayey S	ilt kaasaa	Cobbles and abbles					
=Sand		=Silt	=	Peat					
Date		18-Feb	-2011	Log by	I		Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH21
Auger Hole Coordinate	8268	344E	833435N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	gering	Ground Lev	el		ca.1	4.5 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sui	face	0	¬	Very pale					
	10cm	0] <u>L1</u>	brown	Sand	y loam	Nil		
		2 0 4 0							
	75 ana	6	- I	Yellow	Cand		Nii		
	75cm	8	L2	I LEIIOM	Sand	y loam	Nil		Hit Rock
Logond		1000 11200 11400 11800 2200			lator				
Legend					Inter	pretation	1		
=Loam		=Silty Sand	d =C	oarse Sand					
=Sandy Loar	n	=Sandy Si	lt = C	Gravels					
=Silty loam		=Clayey S		Cobbles and bbles					
=Sand		=Silt	= F	Peat					
Date		18-Feb	-2011	Log by	<u> </u>		Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger Ho No.	le		SH22
Auger Hole Coordinate	8268	69E	833510N	Auger Hole Drill Size			10	cm diame	ter
Augering Method		Hand Aug		Ground Lev	/el			ca.18mPD)
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR	т	SOIL EXTURE		FINDS	REMARKS
Ground Su	rface								
	20cm	0 - 2 - 0 -	L1	Dull Reddish Brown	San	dy loam	Nil		
	80cm	4- 0- 6-	L2	Yellow orange	San	idy loam	Nil		
	OOCIII	8-		Orange	Oai	idy loain	INII		
	114cm	0 1	L3	Orange	Silt		Nil		
	114011	1 -							Hit Rock
Lagend		1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -			Intel	arnretation			
Legend					Inte	erpretation			
=Loam		=Silty S	and	=Coarse Sand					
=Sandy Loa	am	=Sandy	Silt	= Gravels					
=Silty loam		=Clayey	Silt	= Cobbles and Pebbles					
=Sand		=Silt		= Peat					
Date		17-Ma	y-2011	Log by			Steve	en Ng	

Location	Shek K	ong /	Area Code	SSS		Auger No.	Hole		SH23
Auger Hole Coordinate	8269	900E	833466N	Auger Hole Size	Drill		10cm	dian	neter
Augering Method		Hand Aug	ering	Ground Lev			ca.	18mF	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL	FIND	S	REMARKS
Ground Su	20cm 40cm	0 <u>-</u>	L1	Grayish Brown Yellow Orange	Sand	y loam y Silt	Nil Nil		
	65cm	6- 0- 1- 0- 1- 0- 1- 1- 1- 0- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	L3	Dull Orange	Claye	y Silt	Nil		Hit Rock
Legend					Inter	pretation	1		
=Loam		=Silty Sand	=C	oarse Sand					
=Sandy Loar	n	=Sandy Silt	t = 0	Gravels					
=Silty loam		=Clayey Sil		Cobbles and bbles					
=Sand		=Silt	= F	Peat					
Date		17-May-	-2011	Log by	<u> </u>		Steve	n Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH24
Auger Hole Coordinate	8268	361E	833406N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev			ca.14	4.5 m	PD
SOIL PROI		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINE	os	REMARKS
Ground Sur	face 10cm	0-	L1	Very pale brown	Sand	y loam	Nil		
	40cm	2- 0 <u>-</u>	L2	Yellow	Sand	y loam	Nil		
Social commencial control	62cm	4 - 0 - 6 -	L3	Yellow	Sand	y loam	Nil		
		8 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -							Hit Rock
		1 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -							
Legend		J			Inter	pretation	1		
=Loam		=Silty Sand	=C0	oarse Sand					
=Sandy Loar	n	=Sandy Silt	t = G	Gravels					
=Silty loam		=Clayey Sil		cobbles and obles					
=Sand		=Silt	= P	'eat					
Date		18-Feb-	2011	Log by	I		Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH25
Auger Hole Coordinate	8268	373E	833374N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug		Ground Lev			ca.1	2.9 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL CTURE	FINI	DS	REMARKS
Ground Sui	15cm	0	L1	Brown	Sand	y loam	Nil		
	20cm		L2	Yellow	Sand	y loam	Nil		
	34cm	2	L3	Yellow	Sand	y loam	Nil		
		4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							Hit Rock
Legend					Inter	pretation	<u>1</u>		
=Loam		=Silty Sand	d =C	oarse Sand					
=Sandy Loar	n	=Sandy Sil	lt = G	Gravels					
=Silty loam		=Clayey Si		Cobbles and obles					
=Sand		=Silt	= P	Peat Peat					
Date		18-Feb	-2011	Log by	l		Steve	en Ng	

Location	Shek K	ong A	Area Code	SSS		Auger No.	Hole		SH26
Auger Hole Coordinate	8268	861E	833338N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Auge	ering	Ground Lev			ca.12	2.9 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sui	face 10cm	0-	L1	Brown	Sand	y loam	Nil		
	24cm	2-	L2	Yellow	Sand	y loam	Nil		
	35cm	0]	L3	Yellow	Sand	y loam	Nil		
		4 - 0							Hit Rock
		6 - 0							
		8- 0							
) : 1-							
		0 =							
		1- 2 0							
		1-							
		0 <u>]</u> 1-							
		6] 0] 1 -							
		8 0							
		2- 0 0							
Legend					Inter	pretation	<u> </u> 1		
=Loam		=Silty Sand	=C0	parse Sand					
=Sandy Loar	n	=Sandy Silt	= G	Gravels					
=Silty loam		=Clayey Silt		obbles and					
=Sand		=Silt	= P	eat					
Date		18-Feb-2	2011	Log by			Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH27
Auger Hole Coordinate	8268	368E	833305N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au		Ground Lev			ca.1	2.9 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sui	face 24cm 35cm	0 2 0 4 0 8 0 1 1 2 0 1 1 2 0 1 2 0 0 0 0 0 0 0 0 0	L1 L2	Very pale brown Yellow		y loam y loam	Nil Nil		Hit Rock
Legend					Inter	pretatio	ำ		
=Loam		=Silty San	d =C	oarse Sand					
=Sandy Loar	n	=Sandy Si	lt = G	Gravels					
=Silty loam		=Clayey S		Cobbles and obles					
=Sand		=Silt	= P	eat eat					
18-Feb-2011		Log by		Steven No	3		18-F	eb-201	11

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH28
Auger Hole Coordinate	8269	927E	833292N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev			ca.1	6.0 m	PD
SOIL PROI		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sur	face	_							
	45cm	2- 0- 1- 1- 0- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-	L1	Reddish yellow	San		Nil		
	92cm	6-1 8-	L2	Brown	Loai	m	Nil		
	145cm	1 - 0 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	L3	Dark grey	San		Nil		
	4.00	1-	L4	Pink	Silt		Nil		
	160cm	1 - 6 - 1 - 6	L5	White	Silt		Nil		Hit Rock
Legend					Inter	pretation	<u> </u>		
=Loam		=Silty Sand	I =0	Coarse Sand			<u>-</u>		
=Sandy Loar	n 📗	=Sandy Silt	=	Gravels					
=Silty loam		=Clayey Sil	elt = Pe	Cobbles and ebbles					
=Sand		=Silt	=	Peat					
Date		17-Feb-	-2011	Log by	<u> </u>		Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH29
Auger Hole Coordinate	8269	968E	833184N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	jering	Ground Lev	el		ca.1	6.0 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Su	rface	-	,						
	20cm	0	L1	Light brown		y loam	Nil		
	71 cm	2 0 4 0 5	L2	Pink		y loam	Nil		
	120cm	8 8 0 1		Pink	Sand	y loam	Nil		
	150cm	0 ; 1 ; 2 ; 0 ;	L4	Dark brown	loam	1	Nil		
	220cm	1 1 6 7 1 8 8 9	L5	Black	Peat	t	Nil		
	260cm	2 0 0	L6	Dark grey	Silt		Nil		
	275cm		L7	Light bluish grey	Silt		Nil		
Legend					Inter	pretation	<u> </u> า		Hit Rock
=Loam		=Silty Sand	=C	oarse Sand		•			
=Sandy Loar	m	=Sandy Sili	t = G	Gravels					
=Silty loam		=Clayey Si		cobbles and obles					
=Sand		=Silt	= P	'eat					
Date		17-Feb-	-2011	Log by			Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH30
Auger Hole Coordinate	8270)97E	833069N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev			ca.1	8.6 m	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL CTURE	FINI	DS	REMARKS
Ground Sur	face	0-	1						
	30cm	2· 0 :	L1	Reddish yellow	San loam		Nil		
	95cm	4. 0 : 6. 0 : 8.	L2	Reddish yellow	Loar	m	Nil		
	134cm	1. 0 : 0 :	L3	Yellow	Silty	loam	Nil		
	150cm	2 : 0 :	L4	Yellow	Sand	y loam	Nil		
	220cm	1. 0. 1. 6. 0.		Very pale yellow	Silt v		Nil		
		2 · 0 : 0 :							Hit Rock
Legend		<u> </u>			Inter	pretation	<u> </u>		
=Loam		=Silty Sand	=Ca	parse Sand					
=Sandy Loar	n	=Sandy Sil	= G	Gravels					
=Silty loam		=Clayey Si		obbles and obles					
=Sand		=Silt	= P	eat					
Date		17-Feb-	2011	Log by			Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH31
Auger Hole Coordinate	82724	8.1880	832924.099	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.1	6.9 ml	PD
SOIL PRO		DEPTH (CM)	STRATU	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sur	rface	0-							
	25cm	2-	L1	Reddish yellow	Sand		Nil		
	200111	0							Hit Rock
		4-0							
		6-							
		0 :							
		8 - 0 :							
		1:							
		0:							
		2 0							
		1-							
		0 . 1 ·							
		6]							
		1 - 8 -							
		2							
Logond		0 :			le 4 a ··	nrotatic :			
Legend		_			inter	pretation	1		
=Loam		=Silty Sand	:	=Coarse Sand					
=Sandy Loar	n	=Sandy Sil	t :	= Gravels					
=Silty loam		=Clayey Si	lt :	= Cobbles and Pebbles					
=Sand		=Silt		= Peat					
Date		17-Feb	-2011	Log by			Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH32
Auger Hole Coordinate	8272	229E	832872N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev	el		ca.1	7.8 ml	PD
SOIL PRO		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Sur	rface	0-							
	25cm	2-	L1	Brownish yellow	Sand				
		[- -							Hit Rock
		4-0							
		6-							
		8 -							
		0 -							
		1-0							
		0 <u>-</u> 1-							
		2]							
		1 -							
		1-							
		0 1							
		8 - 0							
		2- 0							
Legend		0]			Inter	pretation	<u> </u>		
=Loam		=Silty Sand	=C	oarse Sand					
=Sandy Loar	n 📗	=Sandy Silt	= G	Gravels					
=Silty loam		=Clayey Sil		cobbles and obles					
=Sand		=Silt	= F	'eat					
Date		17-Feb-	2011	Log by			Steve	en Ng	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH33
Auger Hole Coordinate	8272	271E	832778N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.1	8.9 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATU	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sur	rface	_	_						
	23cm	0	L1	Brown	San	dy Silt	Nil		
	35cm	2 0 4 0]	Dull reddish brown	Sand	dy Silt	Nil		
		8 0 1]						Hit Rock
		1 1 2 0 1 4 0 1 6 0							
		1 8 0 2 0 0	T						
Legend					Inter	pretation	1		
=Loam		=Silty San	d :	-Coarse Sand					
=Sandy Loar	n	=Sandy Si	ilt :	= Gravels					
=Silty loam		=Clayey S		= Cobbles and Pebbles					
=Sand		=Silt		= Peat					
Date		17-Feb	-2011	Log by			Kathy	/ Char	1

Location	Shek K	ong	Α	rea Code	SSS		Auger No.	Hole		SH34
Auger Hole Coordinate	8273	305E		832751N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	ıge	ring	Ground Lev	el		ca.1	9.5 ml	PD
SOIL PRO	FILE	DEPTH (CM)	I	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sui	face									
	10cm		0-	L1	Dark yellowish brown	Sand	y Silt	Nil		
		2	2 2) :	L2	Reddish brown	Sand	y Silt	Nil		
	40cm	2	4-							
	80cm	0	6- 5-	L3	Light olive brown	Sand	y Silt	Nil		
	<u>ooun</u>	0	3 -							Hit Rock
		0 0 1 2 0	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -							
Logond		8) <u>-</u> 2 -			lator	nyatatio			
Legend						inter	pretatio	1		
=Loam		=Silty Sar	nd	=C	oarse Sand					
=Sandy Loar	n	=Sandy S	Silt		Gravels					
=Silty loam		=Clayey S	Silt		Cobbles and obles					
=Sand		=Silt		= F	Peat					
Date		17-Fel	b-2	011	Log by	<u> </u>		Kathy	/ Char	1

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH35
Auger Hole Coordinate	8273	328E	832710N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	jering	Ground Lev	el		ca.2	2.0 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINI	os	REMARKS
Ground Sui	face								
	30cm	0- - 2- 0-	L1	Black	Sand	y Silt	Nil		
		6							Hit Rock
Legend					Inter	pretation	1		
=Loam		=Silty Sand	=C0	oarse Sand					
=Sandy Loar	n	=Sandy Silt	= G	Gravels					
=Silty loam		=Clayey Sil		cobbles and obles					
=Sand		=Silt	= P	eat eat					
Date		17-Feb-	-2011	Log by			Kathy	/ Char	1

Location	Shek K	ong	Area Code)	SSS		Auger No.	Hole		SH36
Auger Hole Coordinate	8273	352E	832766N	١	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	gering		Ground Lev	el		ca.1	9.7 m	PD
SOIL PROI	FILE	DEPTH (CM)	STRATI	UM	SOIL COLOUR	S TEX	OIL (TURE	FINI	DS	REMARKS
Ground Sur	face	<u> </u>	,							
	30cm	0] L1		Black	Claye	y Silt	Nil		
		20	1							
		4	L2		Olive grey	Sand	y Silt	Nil		
		0								
	70cm	6 °	7							
	90cm	8	L3		Olive grey		y Sand	Nil		
	100cm	1	L4		Light olive brown		y Clay ebbles	Nil		
		0	11							Hit Rock
		1 2 0	1							
		1								
		0 1	-							
		6	1							
		1 8 0	1							
		2000	1							
Legend		0				Inter	pretatio	<u> </u> า		
=Loam		=Silty San	d	=Co	oarse Sand					
= Clayey Sar	nd	=Sandy Si	lt	= G	Gravels					
=Silty loam		=Clayey S	ilt		obbles and obles					
=Sand		=Silt		= P	eat					
Date		17-Feb	-2011		Log by] 		Kathy	/ Chai	า

Location	Shek K	ong	Ar	rea Code	SSS		Auger No.	Hole		SH37
Auger Hole Coordinate	8273	381E		832810N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	ger	ring	Ground Lev	el		ca.2	1.8 ml	PD
SOIL PRO	FILE	DEPTH (CM)		STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Su	rface		_							
	20cm	2	-	L1	Olive brown	Sand	dy Silt	Nil		
	80cm	4 0 6	-	L2	Brownish yellow	Sand	dy Silt	Nil		
		1 0 0 0 1 1 4 0 0 0 0 0 0 0 0 0 0 0 0 0								Hit Rock
Legend						Inter	pretation	1		
=Loam		=Silty San	nd	=C	oarse Sand					
=Sandy Loar	n	=Sandy S	ilt	= 0	Gravels					
=Silty loam		=Clayey S	Silt		Cobbles and obles					
=Sand		=Silt		= F	Peat					
Date 17-Feb-20			011	Log by	l		Kathy	/ Char	1	

Location	Shek K	ong	Area Co	ode	SSS		Auger No.	Hole		SH38
Auger Hole Coordinate	8273	396E	83278	84N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering		Ground Lev	el		ca.2	2.6 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STR	ATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sui	face	-	_							
	20cm	0	: L1		Olive grey	Silty	sand	Nil		
	43cm	2	L2		Light olive brown	Clay	ey Silt	Nil		
		40 60 80 11 10 11 40 11 80 20 00 12								Hit Rock
Legend		ш				Inter	pretation	1		
=Loam		=Silty San	d	=Co	oarse Sand					
=Sandy Loar	n	=Sandy Si	ilt	= G	Gravels					
=Silty loam		=Clayey S	ilt		obbles and obles					
=Sand		=Silt		= P	'eat					
Date		17-Feb	-2011		Log by			Kathy	/ Char	1

Location	Shek K	ong	Ar	ea Code	SSS		Auger No.	Hole		SH39
Auger Hole Coordinate	8273	356E		832685N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Au	ger	ring	Ground Lev	el		ca.2	0.8 ml	PD
SOIL PRO	FILE	DEPTH (CM)		STRATUM	SOIL COLOUR		OIL TURE	FINI	DS	REMARKS
Ground Su	rface	_								
	20cm	0)-	L1	Dark greyish brown	Sand	dy Silt	Nil		
	50cm	2 ∘ 4	- - -	L2	Dark yellowish brown	Sand	dy Silt	Nil		
		60 80 11 00 11 40 18 00 0								Hit Rock
Legend						Inter	pretation	า		
=Loam		=Silty San	nd	=C	coarse Sand					
=Sandy Loar	n 📗	=Sandy S	ilt	= (Gravels					
=Silty loam		=Clayey S	Silt		Cobbles and bbles					
=Sand		=Silt		=	Peat					
Date	ate 17-Feb-2011				Log by	<u> </u>		Kathy	/ Char	1

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH40
Auger Hole Coordinate	8274	13E	832693N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.2	3.2 m	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sur	face		,	Dark greyish					
	10cm	0-	L1	brown	San	dy Silt	Nil		
	30cm	2	L2	Olive	Silt		Nil		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	40cm	4.	L3	Light olive brown	San	dy Silt	Nil		Hit Rock
		8. 8. 0 1 1 2 2 0 1 1 8 8 0 1 2 0 1 1 8 8 0 1 1 1 8 8 0 1 1 1 1 1 1 1 1							
Legend =Loam		=Silty Sand	4	Coarse Sand	inter	pretation	1		
=Sandy Loar	n	=Sandy Sand	it = (Gravels					
=Silty loam		=Clayey Si	ilt = 0	Cobbles and bbles					
=Sand		=Silt		Peat			1	<u> </u>	
Date		17-Feb	-2011	Log by			Kathy	/ Chai	1

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH41
Auger Hole Coordinate	8274	133E	832597N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	jering	Ground Lev	el		ca.2	0.7 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FIN	DS	REMARKS
Ground Sui	rface								
	5cm	0-	L1	Dark olive brown	Fine	Sand	Nil		
		2-							Hit Rock
		0]							
		4-0							
		6-							
		0]							
		8-0-							
		1-							
		0 -							
		1-2							
		0 I 1-							
		4 - 0 -							
		1-							
		0 ∃ 1 -							
		8 - 0 -							
		2-0							
Legend		o I			Inter	pretation	<u> </u> 1		
						1			
=Loam		=Silty Sand	d =C	Coarse Sand					
=Sandy Loar	n	=Sandy Silt	t =	Gravels					
=Silty loam		=Clayey Sil	I+ (20000000)	Cobbles and bbles					
=Sand		=Silt	=	Peat					
Date		17-Feb-	-2011	Log by			Kathy	/ Char	1

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH42
Auger Hole Coordinate	8274	174E	832592N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	ering	Ground Lev	el		ca.2	1.4 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sui	face								
	5cm	0-	L1	Dark greyish brown	Silt		Nil		
		2:0 4:0 5:0							Hit Rock
Legend					Inter	pretation	<u>1</u>		
=Loam		=Silty Sand	=Co	oarse Sand					
=Sandy Loar	n	=Sandy Silt	= G	Gravels					
=Silty loam		=Clayey Sil		obbles and obles					
=Sand		=Silt	= P	eat					
Date		17-Feb-	2011	Log by			Kathy	/ Char	1

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH43
Auger Hole Coordinate	8275	553E	832610N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev			ca.2	4.8 m	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL CTURE	FINI	DS	REMARKS
Ground Sui	face	•	1						
	10cm	0	L1	Light olive brown	Sand	dy Silt	Nil		
	35cm	2	L2	Strong brown	Silt		Nil		
		4			} = - =				Hit Rock
		0]							
		6 ·							
		8-0							
		1-							
		0 :							
		1 - 2 - 0							
		1 ·							
		0 1							
		1 - 6 : 0							
		1-							
		° :							
		2 0 0							
Legend					Inter	pretation	<u>1</u>		
=Loam		=Silty Sand	d =C	oarse Sand					
=Sandy Loar	n	=Sandy Sil	t = G	Gravels					
=Silty loam		=Clayey Si		cobbles and obles					
=Sand		=Silt	= P	'eat					
Date		17-Feb	-2011	Log by			Kathy	/ Chai	n

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH44
Auger Hole Coordinate	8274	180E	832548N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.2	4.8mF	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	DS	REMARKS
Ground Sui	face								
	10cm	0-	L1	Dark olive grey	San	dy Silt	Nil		
		2-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-							Hit Rock
Legend		_			Inter	pretation	1		
=Loam		=Silty Sand	d =Co	parse Sand					
=Sandy Loar	n	=Sandy Sil	t = G	iravels					
=Silty loam		=Clayey Si		obbles and obles					
=Sand		=Silt	= P	eat					
Date		16-Feb-	-2011	Log by			Kathy	/ Char	1

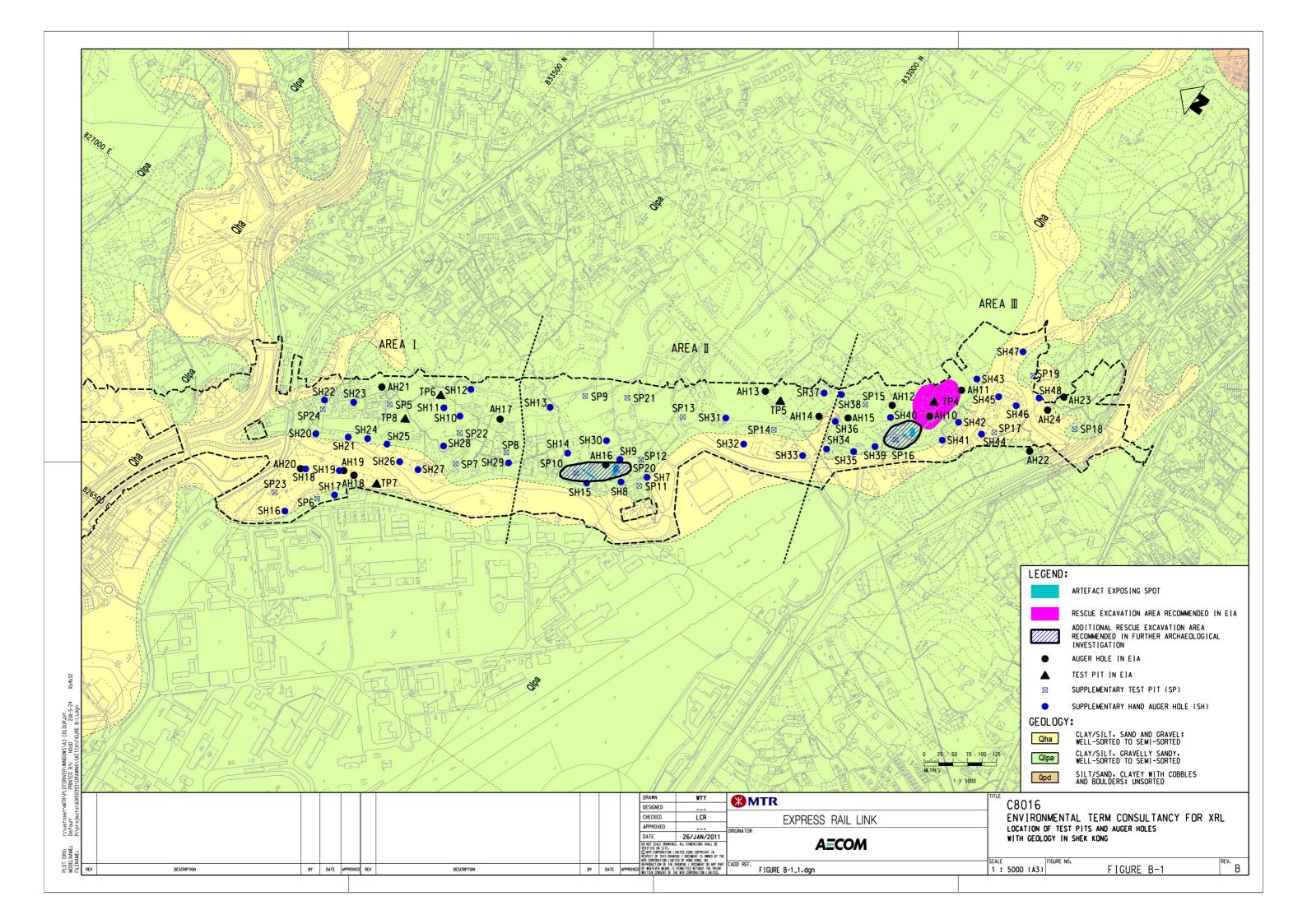
Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH45
Auger Hole Coordinate	8275	550E	832561N	Auger Hole Size	Drill		10cm	diam	eter
Augering Method		Hand Aug	gering	Ground Lev	el		ca.2	2.5mF	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sui	face								
	40cm	0 - 2 - 0 -		Yellowish brown	Sand	d	Nil		
	40cm	4-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-							Hit Rock
Legend			1 1		Inter	pretation	า		
=Loam		=Silty Sand	=C0	oarse Sand					
=Sandy Loar	n 📗	=Sandy Sil	t = G	Gravels					
=Silty loam		=Clayey Si		obbles and obles					
=Sand		=Silt	= P	eat					
Date		25-Feb-	-2011	Log by			Patrio	ck Lai	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole		SH46
Auger Hole Coordinate	8275	555E	832528N	Auger Hole Size	Drill			diam	
Augering Method		Hand Aug	gering	Ground Lev	el		ca.2	3.0 ml	PD
SOIL PRO	FILE	DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINI	os	REMARKS
Ground Sui	face		,						
	40cm	0: : 2:	L1	Yellowish brown	Sand	dy silt	Nil		
		4. 6							Hit Rock
Legend					Inter	pretation))		
=Loam		=Silty Sand	=C	oarse Sand					
=Sandy Loar	n	=Sandy Sil	t = G	Gravels					
=Silty loam		=Clayey Si		cobbles and obles					
=Sand		=Silt	= P	'eat					
Date		25-Feb	-2011	Log by			Patrio	k Lai	

Location	Shek K	ong	Area Code	SSS		Auger Hole No.			SH47	
Auger Hole Coordinate	8276	637E	832572N	Auger Hole Size	Drill	10cm diameter		eter		
Augering Method	Hand A		jering	Ground Lev	Ground Level		ca.23.5 mPD			
SOIL PROFILE		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL TURE	FINDS		REMARKS	
Ground Surface										
	12cm	0-	L1	Reddish brown	Sand	dy silt	Nil			
	25cm	2-	L2	Strong brown	Clay	ey silt	Nil			
	34cm	0]	L3	Yellow	Silt		Nil			
		60 80 1 1 20 1 1 80 2 0 0 1 80 2 0 0 1 80 1 8							Hit Rock	
Legend					Inter	pretatior	1			
=Loam		=Silty Sand	=Co	oarse Sand						
=Sandy Loai	m 📗	=Sandy Silt	= G	iravels						
=Silty loam		=Clayey Sil		obbles and obles						
=Sand		=Silt	= P	eat						
Date		16-Feb-	-2011	Log by			Kathy	/ Char	1	

Location	Shek K	ong	Area Code	SSS		Auger No.	Hole	SH48	
Auger Hole Coordinate	8275	588E	832503N	Auger Hole Size	Drill	10cm diameter			eter
Augering Method		Hand Aug	ering	Ground Level		ca.22.6mPD			
SOIL PROFILE		DEPTH (CM)	STRATUM	SOIL COLOUR		OIL (TURE	FINDS		REMARKS
Ground Surface									
	15cm	0-	L1	Red	Sand	dy silt	Nil		
	25cm	2 - 0 -	L2	Reddish brown	Sand	dy silt	Nil		ļ
		0]							Hit Rock
		4 - 0]							
		- 6-							
		0 =							
		8-							
		1							
		1 - 0 - 0 -							
		1-							
		2]							
		1-							
		º - 1-							
		6 0							
		1-							
		0]							
		2- 0 - 0 -							
Legend				<u> </u>	Inter	pretation	l า		1
=Loam		=Silty Sand =Co		parse Sand					
=Sandy Loam		=Sandy Silt	= G	Gravels					
=Silty loam		=Clayey Sil		= Cobbles and Pebbles					
=Sand		=Silt	= P	eat					
Date		16-Feb-	2011	Log by	1		Kathy	/ Char	า

Appendix B Maps and Figures



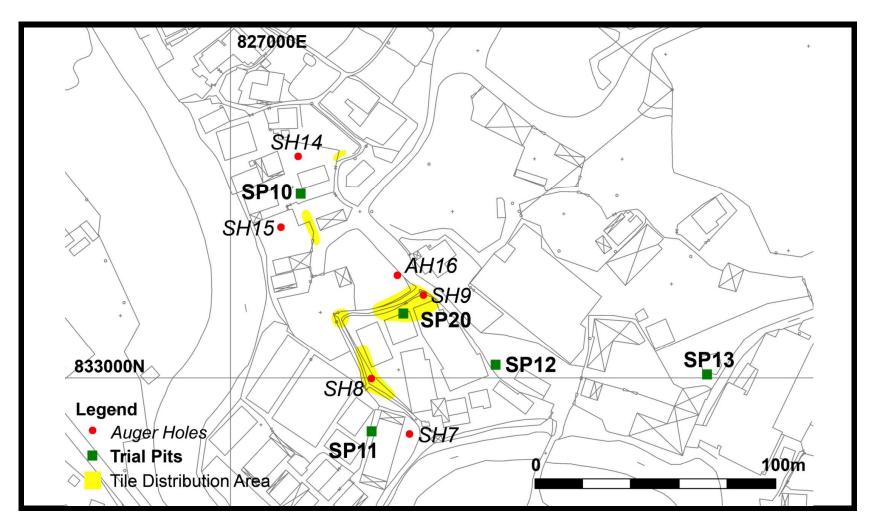


Figure B-2 Distribution of Roof Tiles Between SH14 and SH8 Observed during Field Scanning

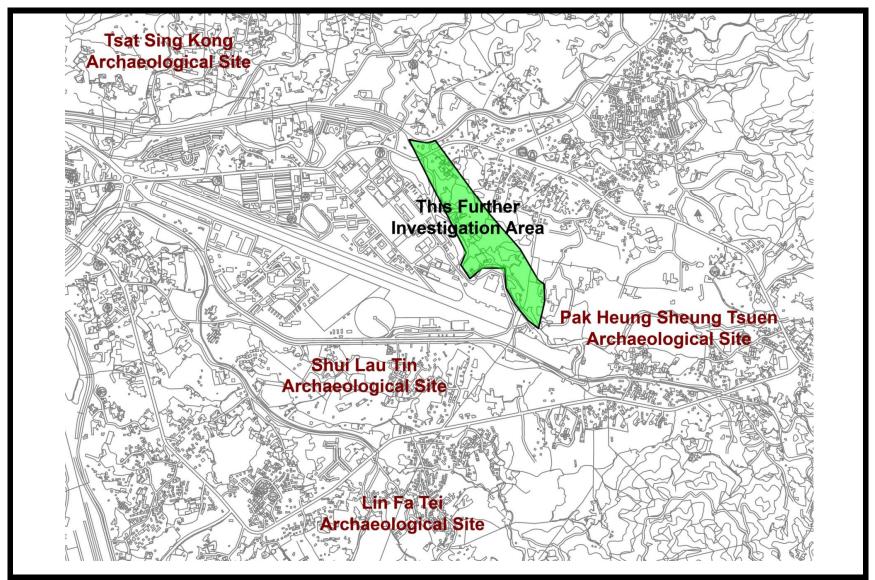


Figure B-3 Surrounding Archaeological Sites

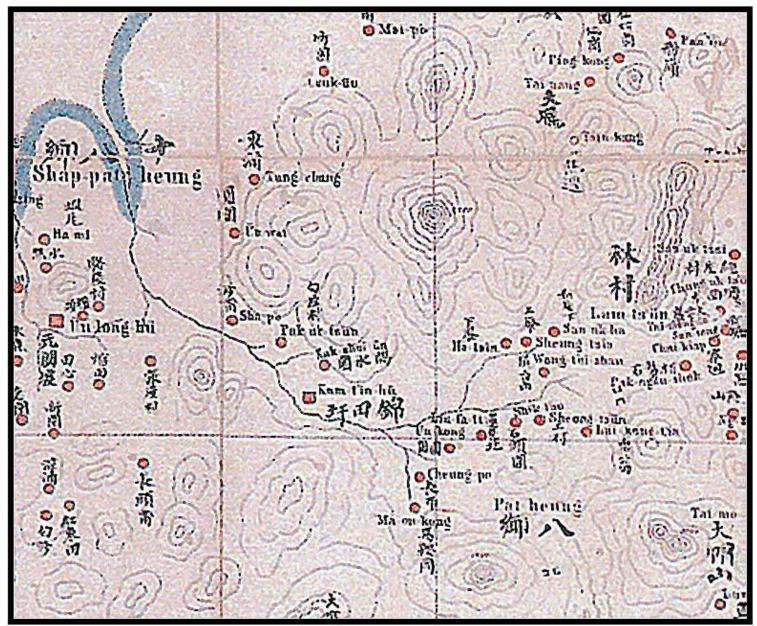


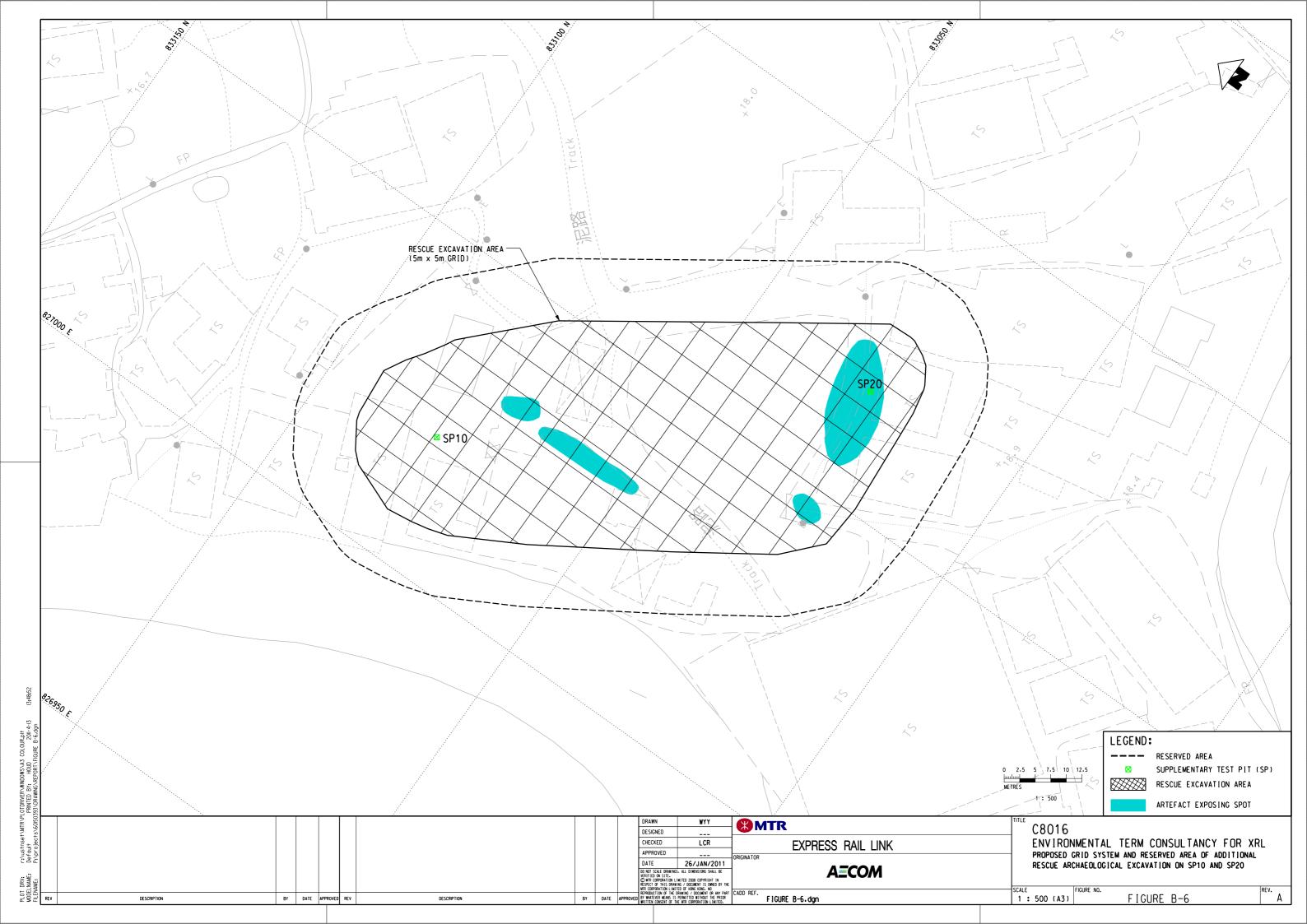
Figure B-4 1868 Father Volunteri's Map of the Sun-on-District

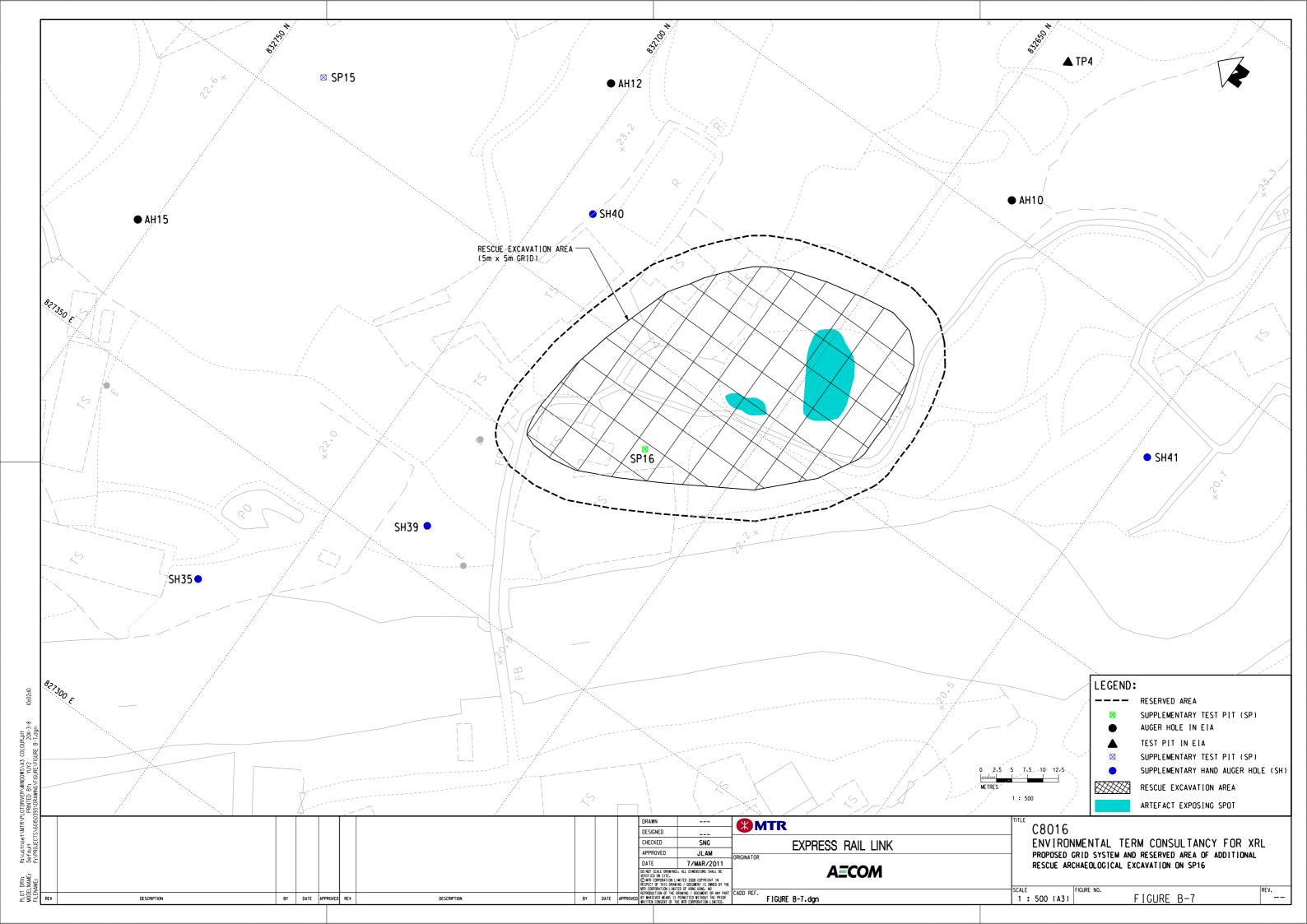


Figure B-5a Geological Profile of SSS Area II



Figure B-5b Geological Profile of Pleistocene Alluvium (Chek Lap Kok Formation) Overlain by Holocene Alluvium in SSS Area III





Appendix C Representative Finds Photographs



Figure C-1 Celadon (A), Undiagnosed Porcelain (B), Mordern Pocelain Shreds (C), Pot shreds(D), Roof tiles (E) from SP10 L1



FigureC-2 Potshreds (A) and sample of Roof tiles (B) from SP10 L2



FigureC-3 Roof tiles from SP10 L2



Figure C-4 Tiles from SP14 L3



Figure C-5 Glazed Porcelain shred (A), Pot shreds (B) and Roof Tiles (C) from SP16 L1



Figure C-6 Blue-and- Whilte Porcelian Shreds (A), Glazed Pot shreds (B), and Roof Tiles (C) from SP16 L2

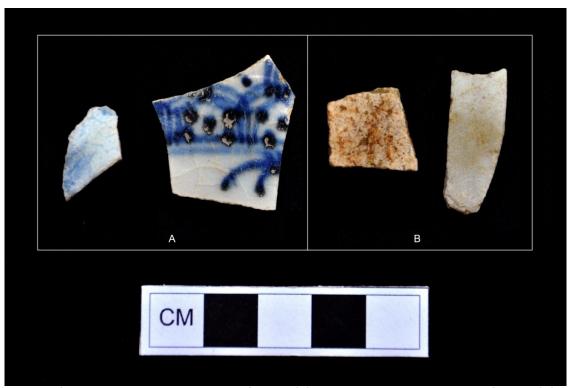


Figure C-7 Blue-and-Whilte Porcelain Sherds (A) and Undiagnosed Porcelain Shreds (B) from SP16 L3



Figure C-8 Samples of Tiles from SP16 L3



Figure C-9 Celadon rim sherds from SP16 L4



Figure C-10 Samples of Tiles from SP16 L4



Figure C-11 Celadon Bowl Base (A) and Pot Shreds (B) from SP20 L1

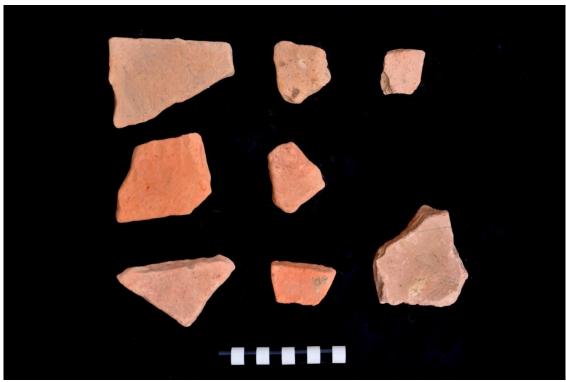


Figure C-12 Samples of Tiles from SP20 L1



Figure C-13 Celedon Shreds (A), Undiagnosed Porcelain Sherds (B), and Roof Tiles (C) from SP20 L2



Figure C-14 Glazed Pot Shreds (D) from SP20 L2



Figure C-15 Celadon Shreds (A) and Blue-and-Whilte Porcelain Shreds (B) and Undiagnosed Porcelain (C) from SP20 L3



Figure C-16 Potshreds from SP20 L3



Figure C-17 Pot Shreds from SP20 L3



Figure C-18 Pot Shreds from SP20 L3



Figure C-19 Samples of Tiles from SP20 L3