# PLANNING AND ENGINEERING STUDY ON DEVELOPMENT
# FOR HOUSING SITES IN YUEN LONG SOUTH –

## Archaeological Investigation Report

**Archaeological Assessments Ltd.**

**January 2016**



LICENCE TO EXCAVATE AND SEARCH FOR ANTIQUITIES

Licence No. 387

TITLE OF THE REPORT

Planning and Engineering Study on Development
For Housing Sites in Yuen Long South –
Archaeological Investigation Report

PREPARED BY

Archaeological Assessments Ltd.

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DATE

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Executive Summary

The conducted Field Investigation is a first stage Archaeological Field Survey on Government Land which was tendered as part of the project *Agreement No. CE35/2012 (CE) Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation*. The Archaeological Field Investigation is undertaken to support an Archaeological Impact Assessment (AIA).

Archaeological Assessments Ltd. (AAL) was appointed on 12 March 2015 by Ove Arup Partners HK Limited and undertook the field evaluation in July 2015. A total of four test pit excavations, fieldscan and eleven auger tests were undertaken in two Study Areas, Northern and Southern:

In the Northern Study Area the field investigations did not reveal any archaeological materials or evidence of archaeological deposits despite. Previous investigations and the recent result support the lack of archaeology within the Northern Study Area hillock.

The top of the hill and auger tests around the hillock of the Southern Study Area indicate natural stratigraphy, while the lower parts i.e. at the base remain untested due to the fact that the base of the hill area is covered by artificial fill and/or is on private lands. The only archaeological result was obtained from Test Pit C where Song/Qing dynasty cloth impressed tiles were recovered from a disturbed stratigraphy.

Considering the limited access during this investigation and the potential for discovering pre-Qing dynasty finds on the lower areas within the Southern Study Area, it is recommended that upon the availability of more detailed information about the proposed development in the aforesaid area, the project proponent should conduct a further archaeological review to assess the archaeological impact on the lower areas and propose appropriate mitigation measures in prior agreement with the AMO during next stage of this EIA study.

行政摘要

是項田野考古調查工作是為配合《元朗南房屋用地規劃及工程研究 - 勘查研究》之考古影響評估而進行，是次調查屬於該項目的第一階段考古調查工作，調查地點僅限於政府土地。

奧雅納工程顧問在2015年3月12日委託考古通有限公司 (AAL) 負責有關之田野考古調查工作。是次調查在2015年7月進行，在北部和南部兩個研究地點進行地面勘查，共鑽11個探孔及發掘4個探方。

在北部研究地點並未發現任何考古遺物或考古堆積的證據，是次調查結果跟之前的結果均顯示北部研究地點之小山丘並沒有考古遺存。

至於南部研究範圍方面，調查結果顯示在該區小山丘一帶及其山頂均屬自然堆積，僅在探方C的擾亂層內發現一些宋代至清代帶有布紋的瓦片。 至於山腳一帶現為人工填土所覆蓋或屬於私家地，故此並未包括在是次調查範圍內。

目前有部分地方未能進行考古調查，當中包括南部研究範圍內山腳一帶的地方。由於該處含有埋藏清代以前考古遺存的潛質，故此建議在有關地區的詳細發展設計方案擬定後，在相關發展項目的環評研究中重新檢視及進行考古影響評估，並提出相應的緩解措施。而該緩解措施的內容須得古物古蹟辦事處的同意。



## Contents

# 1. INTRODUCTION

## 1.1 Background

1.1.1 The Field Investigation reported on here is a first stage Archaeological Field Survey on Government Land which was tendered as part of the project *Agreement No. CE35/2012 (CE) Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation*. The Archaeological Field Investigation is first stage to be implemented to support an Archaeological Impact Assessment (AIA) which will be undertaken by a different consultant under the same project.

1.1.2 Archaeological Assessments Ltd. (AAL) was appointed on 12 March 2015 by Ove Arup Partners HK Limited to draft the Archaeological Action Plan (AAP), conduct the Archaeological Field Survey on Government Land and report on the findings. Ms. Julie Van Den Bergh was granted a Licence to Excavate and Search for Antiquities (Licence no.387) by the Antiquities Authority on 15 June 2015 to conduct the archaeological field investigation for "Planning and Engineering Study on Development for Housing Sites in Yuen Long South" (the Project).

## 1.2 Aims and objectives of the Archaeological Field Investigation

1.2.1 The aim of the Archaeological Field Investigation is to assess the archaeological potential of the Study Area on Government Land (the Study Area was divided into two; a Northern and Southern Study Area as marked on Figure 1) and to make predictions and recommendations for further testing on private land if appropriate, by undertaking the following four steps:

1) Gain basic understanding of Study Areas through desk-based review of background information, including geological, topographical, archaeological and historical background of the Study Areas;

2) Conduct a field visit to assess in field conditions;

3) Assess the stratigraphical extent, vertically and lateral and significance of the potential archaeological deposit and/or features in the Study Areas, through a field programme of field scan, auger testing and test pit excavations taking in considerations the constraints of the Study Areas.

4) Undertake a scientific study of the field data and material findings and report on findings.

# 2. BRIEF BACKGROUND REVIEW OF STUDY AREAS

## 2.1 Topographic and Geological Background

2.1.1.1 Both study areas, the Northern and Southern Study Areas are located in Tong Yan San Tsuen, which is situated immediately to the south of Ping Shan along the



southern edge of the Yuen Long Plain. In general, the area is situated in a relatively higher ground and comprises of several small-sized hillocks.

2.1.1.2 The topography of the Northern Study Area consists of a slow rising slope to a hillock in the north eastern part (occupied by Chuk Lam Ming Tong Pagoda). Geology of the Northern Study Area is dominated by fine-grained granite. Small areas of metasiltstone and phyllite of Lok Ma Chau Formation are found in the eastern end where the hillock is located (**Figure 2**).

2.1.1.3 The Southern Study Area is largely situated along the slopes, rising to a flat hill top to a maximum elevation of 42.6mPD. Geology of this area is dominated by an extensive outcrop of metastones of metasiltstone and phyllite of the Lok Ma Chau Formation. The area along the hillock consists of fine-grained granite (**Figure 2**).

## 2.2 Historical Background

2.2.1 The old name of Yuen Long suggests that the area was once swamp land surrounded by hills and it was known as an agricultural centre in the old times (Fung 1996:10). The Tang clan was the first of the Five Great Clans to settle in the New Territories (Baker 1966:26). They first settled in Kam Tin from Guangdong during the mid-Northern Song and further expanded to Ping Shan in the 12$^{th}$ century (AMO 2012).

2.2.2 Tong Yan San Tsuen was established in 1932 by Tong Hung-ki and the first residence included the Lams and Tongs from Zhonghsan, Guangdong (AAB 2013).

2.2.3 Since the construction of Castle Peak Road in the 1920s, Tong Yan San Tsuen and nearby areas in the southern part of the Yuen Long plain were developed as a market-gardening centre. After the Second World War, the area was occupied largely by immigrants from the Mainland. Market-gardening remained the major industry in the village, along with a few squatter factories. In addition, the village was also known as a popular settlement area for former Kuomintang authorities after 1949 (Scott Wilson 2001).

2.2.4 Although Tong Yan San Tsuen is not a historic village and has a relatively short development history comparing to other nearby Tang clan historic villages in Ping Shan, the 1711 built Yeung Hau Temple located in the eastern part of Tong Yan San Tsuen reflected the evidence of settlement in this area since at least early 18$^{th}$ centuries. The Yeung Hau Temple, a Grade 3 Historic Building, was originally known as Yi Ling Temple and Za Ling Temple (AMO web site). Based on the inscriptions of the surviving bell displayed in the temple, the temple was constructed in the 50$^{th}$ year of Kangxi reign, Qing dynasty (1711) (AAB 2013).

## 2.3 Archaeological Background

2.3.1 The two study areas are not situated within any known Site of Archaeological Interest (SAI). The nearest known SAI is Sheung Cheung Wai SAI and it is located over 1km from the current study areas.

2.3.2 Some previous archaeological investigations were carried out within the current Study Area and in the vicinity (see **Figure 3** for locations):

2.3.3 *Archaeo-Environments Ltd 2002. Contract No. DC/2000/5 Construction of Sewers*

*at Tong Yan San Tsuen. Watching Brief Report.*

In 2001, an archaeological watching brief programme was carried out in Tong Yan San Tsuen during the construction of sewers. One of the seven monitored excavation trenches was situated on the edge of the current Northern Study Area (**Figure 3**). With the exception of one small unstratified Song dynasty sherd recorded 5m east of 'Test Pit 1' in a sewer trench (TP1 lies on the edge of the current Study Area), no archaeological remains were identified (Archaeo-Environments Ltd 2002).

2.3.4 *Second Territory-wide Archaeological Survey (Yuen Long District).*

Field scan was carried out in Ping Shan Tsuen, Hung Uk Tsuen, Tan Kwai Tsuen, Tong Yan San Tsuen and San Sang Tsuen. The fieldscan covered a broad variety of topographical areas, no archaeological materials were identified (Au 1998).

2.3.5 *Agreement No. CE 66/2001(EP), EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal, Final Environmental Impact Assessment Report.*

An archaeological field investigation including field scan, 10 auger hole tests and one test pit excavation was conducted in a flat low-lying area of Shan Ha Tsuen in 2003. No archaeological material or deposits were identified (Ove Arup 2004).

2.3.6 Two latter investigations mentioned above are generally located to the north, east and west of the current Study Areas and while they do not provide information for the current Study Areas their obtained results may be indicative.

**2.4 Existing Impacts**

2.4.1 Review of topographical maps and aerial photographs shows minimal development and impacts within the Study Areas until the 1960s:

2.4.2 As seen in the 1945 aerial photograph (**Figure 4**), the Northern Study Area was largely occupied by agricultural fields with limited structures and the hillock located in the Southern Study Area was in general wooded with small areas of agricultural fields located at the south-eastern foothill area. The 1957 map shows that the general area of Tong Yan San Tsuen was still dominated by cultivated land with a few orchards (**Figure 5**).

2.4.3 By 1960s (see **Figure 6** for 1961 aerial photograph and **Figure 7** for 1966 map) however, a noticeably portions of the former agricultural fields were replaced by structures. Buildings were constructed on the hillock. In the late 1970s, several ponds were also added to the southern end and along the eastern part of Tong Yan San Tsuen (**Figure 8**).

2.4.4 Recent satellite image taken in 2015 (DigitalGlobe 2015) showed that the current Study Areas are mainly occupied by temporary structures, open storage area and



workshops but a reasonable portion of land remains undeveloped or wooded (**Figure 9**).

## 3. METHODOLOGY

3.1.1 The following four-step methodology is to be implemented according to the requirements of the AMO's *Guidelines for Archaeological Impact Assessment*:

***Field Scan***

3.1.2 Field walking shall be conducted in the archaeological survey areas to identify archaeological deposits on the surface. The scanning of the surface for archaeological material shall be conducted, under ideal circumstances, in a systematic manner and shall cover the entire archaeological survey areas. Particular attention should be given to exposed areas such as riverbed cuts, erosion areas, terraces, etc.

3.1.3 Material and concentrations of finds shall be recorded, mapped on 1:1000 scale and collected during the field scanning and form part of the archive. Topography, surface conditions and existing impacts shall be noted during the field walking.

3.1.4 In case archaeological potential areas have been identified from field scanning where additional auger holes and test pits are required, the AMO and the Engineer shall be notified for on-site meetings to discuss on the way forward.

***Auger Survey***

3.1.5 Auger survey of the identified areas which are considered to be impacted by proposed works will be carried out in order to establish soil sequence, the presence/absence of cultural soils or deposits and their horizontal extent.

3.1.6 The auger tool consists of a bucket, pole and handle and is vertically drilled by hand into the surface. When the bucket is filled with soil the auger is extracted and the soil emptied from the bucket. Soils are described and depth changes are measured inside the hole. The depth of any material found is also measured. The auger hole is abandoned when water table, the end of the auger or rock is reached or the auger bucket fails to hold the soil.

3.1.7 The location of each auger hole test is marked on a 1:1000 scale map. The results of the auger tests provide one of the criteria used to position the test pit excavations.

***Test Pit Excavation***

3.1.8 The locations of test pits proposed for the Archaeological Field Investigation are shown on **Figures 10 and 11**. The locations have been verified in the field but if for unexpected reasons the locations are not suitable or possible the qualified Archaeologist based on actual site conditions and subsequent findings, and to be agreed with the AMO and the Engineer shall determine new locations, if possible. The qualified Archaeologist shall focus on areas where representative field data

could be collected in adjusting the locations of the test pits.

3.1.9 Test pit excavations shall be carried out to verify the archaeological potential within a certain area and to establish the horizontal spread of cultural material deposits and vertical sequence of cultural materials. The choice for the location of the test pit excavation shall depend on various factors such as desk-based information, landforms, size of proposed site, field scan and auger test results as well as access issues and other external factors.

3.1.10 Hand digging of test pits measuring between 1 x 1 and 1.5 x 1.5 meters shall be carried out in order to determine the presence/absence of archaeological deposits and their stratigraphy. The size may depend on close proximity to large trees, narrow terraces or other external factors. The test pit shall be hand excavated, contexts, finds and features are recorded, soils shall be described and relevant depths shall be measured. Artefacts shall be recorded and collected. Photographs of sections and other relevant information shall be taken and section and ground plans, if required, shall be drawn.

3.1.11 Hand excavation shall continue until decomposing rock or sterile soils are reached and no potential for further archaeological soils or deposits exist. Additionally the test pit will be abandoned when the water table is reached or when the depth of excavation poses safety problems (i.e. deeper than 1.2m vertical section). In cases where sterile deposits or the maximum safe excavation limit cannot be reached, the AMO should be consulted prior to backfilling.

3.1.12 The hand excavated test pit shall be backfilled after full recording. Field records containing information regarding the physical location of the test pit, weather conditions, size and bench mark, description of the soils and their measured depths, artefact and feature finds shall be kept for each pit. Photographs shall be taken and drawings and plans shall be produced, finds shall be bagged, labelled and stored for transport. The location of the test pit shall be mapped on a 1:1000 scale map.

***Reporting***

3.1.13 A report of the findings of the Archaeological Field Investigation will be compiled following the requirements as outlined in the AMO's *Guidelines for the Preparation of Archaeological Reports.* The report will include the background information, scope and methodology, excavation results, all relevant plans and illustrations, statistical information if appropriate and evaluation of the archaeological potential of both Study Areas. It will follow the AMO suggested report format.

3.1.14 Periodical reporting may be required if archaeological finds of significance are found. AMO will be immediately notified upon discovery and may request a written brief(s) on the archaeological findings. Due to the limited nature of the works it is not envisioned bi-monthly progress reports will be required.

3.1.15 A draft and final report of the findings will be prepared after comments by relevant authorities. The final archaeological field survey report will be kept in the



Reference Library of the Hong Kong Heritage Discovery Centre and uploaded onto the AMO's website for public viewing. Upon acceptance of the Final Archaeological Field Investigation Report, the paper and material archive will be handed to AMO repository.

3.1.16 In case of discovery of significant archaeological findings AMO will be informed immediately and appropriate mitigation measures will be recommended for the AMO's agreement.

## 4. RESULTS OF THE ARCHAEOLOGICAL FIELD INVESTIGATION

### 4.1 Fieldscan

4.1.1 A fieldscan was undertaken for the Northern and Southern Study Areas:

Northern Study Area: The Northern Study Area consist of a lower hill slope area and a flat area at the base. The slope area was terraced and ruinous buildings could be seen. A new road was in process of construction during the works (**Plate B.1**). The surface in many areas was covered in building materials, rubbish (**Plate B.2**) and foliage. The lower flat area was more densely wooded and had lots of modern surface material, including glass, broken pots (including some broken urns), plastic and other general rubbish. A grave and kam tap was noted (**Plates B.3** and **B.4** showing detail of the grave plaque). No archaeological material was recorded.

Southern Study Area: The Southern Study Area included the top of hill, hill slope and artificial fill areas. The top of the hill was partially in agricultural use marked by a makeshift fence (**Plate B.5**). The western hill slope was covered in glass, broken pots and metal bars and wire; it had some minimal terracing. Along the eastern hillslope the vegetation was dense (**Plate B.6**) and little could be established on the surface. The area at the base was covered in artificial fill (**Plate B.7**). No archaeological materials were recorded.

### 4.2 Auger hole testing

4.2.1 A total of eleven auger hole tests were undertaken in the both Study Areas; the results of the auger test can be found in Annex D (Auger Hole Test Results). Auger testing is undertaken to in order to establish soil sequence, the presence/absence of cultural soils or deposits and their horizontal extent in this case within the Government Lands of the Study Areas.

4.2.2 Within the Northern Study Area (**Drawing G.1**), a total of four auger tests were proposed and undertaken. Auger hole test (AH) 1 and 3 were conducted on a hillslope that was terraced for some industrial (?) structures which are now dilapidated and ruinous. AH3 was on the higher terrace and shows a more mature stratigraphy, including top-soil, subsoil and weathered debris flow deposits than AH 1, which did not present the subsoil. This suggests the lower terracing was done in more recent times.

4.2.3 AH2 and 4 were positioned at the base of the hillslope in a flat area. Both auger test results are similar and show natural stratigraphy of topsoil, subsoil and decomposing

debris flow deposit. No archaeological materials were recorded in the auger tests within the Northern Study Area.

4.2.4 Within the Southern Study Area (**Drawing G.2**), a total of seven auger hole tests were conducted. Auger tests 11, 7 and 8 were on or near the top of the hillock and show natural soil and rock weathered stratigraphy and the auger tests hit rock or grind through decomposing rock. Tests 5, 6 and 10 are along the northern, eastern and southern hill slopes and show top and subsoils above debris flow or decomposing rock deposits. Finally Auger test 9 appeared as a fill layer near the base of the hill slope and despite some attempts auger could not get through the rubble. Illegal dumping was noticed in the surrounding area of AH 9. No archaeological materials were recorded in the auger tests within the Southern Study Area.

**4.3 Test pit excavation**

4.3.1 Four test pit excavations were conducted in total.

4.3.2 **Test Pit A** (**Plate B.8-10** and **Drawing G.1)** is located in the Northern Study Area between AH 1 and 3 on the lower terrace. It measured 1.5 by 1m and was hand excavated to a depth around 100cm. The test pit excavated was halted for safety reasons and natural soils were reached. An auger test through the bottom confirmed only natural soils.

4.3.3 Three contexts were recorded (**Drawing A.1-2**): *Context 01* is a dark yellowish brown very slightly gravelly and very slight clayey silt topsoil with modern rubbish inclusions such as plastic, red brick and metal objects. It has a thickness of about 10cm. *Context 02* appears as a brown slightly sandy, very slightly gravelly clay fill lenses blow the topsoil and above the natural soils of Context 03. *Context 03* is a reddish yellow gravelly clay which is a deeply weathered debris flow deposit on top of weathered rocks which were apparent in the auger test through the bottom. The top of Context 03 lies around 28cm below the surface and continues to the end of the hand excavation. The auger test was conducted to end of auger at around 120cm below the bottom of the test pit; Context 03 continues with some increase of rock and decomposing rock noted.

4.3.4 A selection of finds were collected (**Plate C.1**) from Context 01 only; the modern materials including plastic, metal, red brick and glass was not collected. The selection consist of generic village ware and provincial porcelain pottery fragments of undiagnostic date.

4.3.5 **Test Pit B** (**Plate B.11-13** and **Drawing G.1**) is located in the Northern Study Area near AH4 in the flat area at the base of the hill. It measured 1.5 by 1m and was hand excavated to a depth around 100cm. The test pit excavated was halted for safety reason and natural soils were reached. An auger test through the bottom confirmed only natural soils.

4.3.6 Three contexts were recorded (**Drawing A.3-4**): *Context 01* is a dark greyish brown topsoil of slightly gravelly, clayey silt. The topsoil included glass, pottery, plastic, rusty nails and concrete and had a thickness of 15cm. *Context 02* is a strong brown gravelly clay subsoil with more modern pottery and a glass marble; it had a thickness of around 35cm. Finally *Context 03* is a yellowish red very gravelly, slightly sandy



clay weathered debris flow deposit. The soils contained semi-angular rocks of varied size. It was recorded from a depth of 50cm below the surface to end of hand excavation and within the auger test through the bottom.

4.3.7 Finds from two contexts were collected from Test Pit B, again modern materials including plastic, glass, rusty nails were not retained. Some generic village ware and provincial porcelain undiagnostic pottery fragments were collected from both Context 01 and 02 (**Plates C.2 and C.3**).

4.3.8 **Test Pit C** (**Plate B.14-17** and **Drawing G.2**) is located in the Southern Study Area near AH5 on the north eastern slope of the hillock. It measured 1.5 by 1m and was hand excavated to a depth around 100cm. The test pit excavated was halted for safety reason (live cable was suspected in Context 05) and natural rock was reached in the southwest corner.

4.3.9 A total of five contexts were recorded at Test Pit C (**Drawing A.5-6**): *Context 01* is a brown very slightly clayey silt topsoil with modern rubbish inclusions such as plastic. *Context 02* is a strong brown slightly clayey silt subsoil with semi angular rocks. *Context 03* is a strong brown very silty, gravely clay with rocks and may be interpreted as debris flow/fill. *Context 04* was recorded as a reddish yellow very gravelly, slightly silty clay at the bottom of the pit. The deposit was very rocky and was interpreted as decomposing bed rock with rocks. A trench (Drawing A.6) had been cut into this Context 4 and the fill was indistinguishable from Context 03 along the south of the pit. *Context 05* was a surprise in the shape of a concrete cable cover recorded at the bottom of the test pit excavation around 100cm from the surface and most likely within the continuation of the trench. The fill also part of Context 05 and recorded immediately around the concrete, consist of silty, gravelly clay. No auger test was attempted as the worry of live cable existed.

4.3.10 The finds from Test Pit C are slightly more interesting as four fragments of cloth impressed tile fragments alongside one village ware sherd (**Plate C.5**) were excavated from Context 03. Contexts 01 and 02 contained modern pieces and few generic undiagnostic village ware pottery sherds were collected from Context 02 (**Plate C.4**). Finally, a single brown glazed village ware sherd was found within Context 04 (**Plate C.6**).

4.3.11 **Test Pit D** (Plates B.18-20 and Drawing G.2) is located in the Southern Study Area near AH11 near the top of the hillock. It measure 1.5 by 1m and was hand excavated to depth of around 90cm. The test pit was halted after bedrock was reached and confirmed.

4.3.12 Test pit D had three contexts (**Drawing A.7-8**): *Context 01* is a brown very slightly clayey and very slightly gravelly silt topsoil. Context 02 is a strong brown clayey and gravelly silt with chunks of decomposing rocks. Finally *Context 03* is the bedrock in various stages of decomposing. No finds were collected or found in Test

Pit D with the exception of some plastic, glass and modern pottery fragments in the topsoil.

## 5. EVALUATION OF ARCHAEOLOGICAL POTENTIAL

5.1.1 Although no known sites of archaeological interest are located within the two Study Areas, the topography indicates a well-watered area with several small hillocks and lower hill slopes suitable for habitation. In addition, the general area of Yuen Long and Ping Shan is historically known to have been settled since the 12th century. A previous investigation recorded a single Song dynasty sherd at the edge of the Northern Study Area. These areas were thus determined to have some archaeological potential. Moreover, the areas are relatively undeveloped with minimal existing impacts and the potential for undisturbed archaeological deposits was deemed high.

5.1.2 In general the stratigraphy showed that the areas tested had been minimally disturbed and the disturbance noted was recent. No Song dynasty material was excavated or recovered from the surface scans. The auger tests did not yield any archaeological information and test pit excavations A, B and D were sterile with exception of modern materials in upper layers.

5.1.3 The results of Test pit A showed that the terrace may have been constructed fairly recent as no subsoil had formed yet while in contrast nearby auger test 3 (AH 3) on the higher terrace did show a more mature stratigraphy which included the subsoil. AH 3 however, did not indicate cultural soils.

5.1.4 Test pit C was slightly more interesting. The fieldscan suggested the topography has been modified with a concrete drain to the west of the TP. The stratigraphy appeared natural if not for the concrete cover over cable at 100cm below the surface. No cut from the surface was visible in the east facing section where the three upper layers clearly cover the feature. This suggests that the layers above the concrete cover are either dumped or washed on top. The contour of bedrock or debris flow rocks surrounding the feature however, suggest a trench was cut for the cable and concrete cover (**Drawing A.6**); the cut is visible in the north facing section drawing in the boundary between Context 03 and 04. Overall the stratigraphical results should be interpreted as a disturbed landform.

5.1.5 The finds in Test Pit C consisting of Song, Ming or Ming/Qing cloth impressed tiles[1] suggest pre-Qing dynasty occupation of the area. On the other hand the results of the test pit show a stratigraphy which is disturbed and the finds are excavated from a debris flow or fill deposit (Context 03); hence the original location of the finds/archaeological area cannot be deduced from test pit result. The test pit (C) is set on a lower hill slope and the slope below the test pit has been cut; it is possible

[1] Similar impressed cloth tiles were recorded in previous investigations: Archaeological survey and assessment around the proposed sewerage works in northern New Territories (Contract 1). (HKIA 2002); Archaeological Investigation on Siu Hang Tsuen in Tuen Mun (Liu, M 2002) and Archaeological Excavation on Hok Chau, Mong Tseng Wai (Mo, Z. & Li, Z.M. 2002). The investigations provide information regarding the dating of these cloth impressed tiles.



that soil was dumped on the test pit area or erosion may have redeposited upper slope soils. It is unlikely that the (fill/debris flow) soils would have been transported from great distances and it is thus assumed that the pre-Qing dynasty finds are relatively local.

## 6. SUMMARY AND CONCLUSION

6.1.1 The results of the desk-based review and field investigation indicate that the topography of the Northern and Southern Study Areas were relatively undisturbed until recently.

6.1.2 Within the Northern Study Area: In the Northern Study Area a major terrace was cut for erection of buildings and construction of new access road. Neither fieldscan, auger testing nor test pit excavations yielded any archaeological materials or suggested archaeological deposits in the Northern Study Area despite the isolated Song dynasty sherd recovered in previous archaeological monitoring programme near the current boundary of Northern Study Area. Previous investigations which were located further to the north and west of the hillock failed to indicate potential and the recent result support the lack of archaeology within the Northern Study Area hillock.

6.1.3 Southern Study Area: The top of the hill and auger tests around the hillock of the Southern Study Area show natural stratigraphy, while the lower parts i.e. at the base remain untested due to the fact that the base of the hill area is covered by artificial fill or is on private lands. The Song/Qing dynasty cloth impressed tiles within a disturbed stratigraphy in Test Pit C, located on the lower hill slope, suggest some occupation in historic times in the area. The exact location of such settlement however, could not be determined from the results. It is assumed[2] that the soil deposit with the pre-Qing dynasty finds derives from the vicinity.

6.1.4 Considering the existing disturbance and that the potential for discovering pre-Qing dynasty finds on the lower areas within the Southern Study Area should not be ruled out, it is suggested that upon the availability of more detailed information about the proposed development in the aforesaid area, the project proponent should conduct an archaeological review (based on the findings of this archaeological investigation) to assess the archaeological impact on such areas imposed by the proposed works

[2] Assumed as it cannot be conclusively stated. Context 03 was interpreted as debris flow/fill layer. It is not clearly fill as it is not vastly different from surrounding natural soil deposit, i.e. it has not been taken from a vastly different geological area or consists of rubbish/rubble. Therefore, since the deposit is not clearly a fill layer and there was no visible need for raising the level of the lower slope, it is assumed that the soil was dumped during nearby excavation works.

and propose appropriate mitigation measures in prior agreement with the AMO during next stage of this EIA study.

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Aerial Photographs:

GEO, Lands Department, 1945 (Ref: 3185), 1961 (Ref: 0010)





Old Maps:

Public Works Department 1957, 1966

Lands Department 1979


## 8. ARCHAEOLOGICAL TEAM

8.1.1 The project was led by Julie Van Den Bergh, licenced archaeologist for the project. She was supported by AAL's Senior Archaeologist Kennis Yip and archaeologist and conservator Paul Harrison and four labourers.

## 9. COPYRIGHT AND DISSEMINATION [separate sheet]

## 10. SUPPORTING ILLUSTRATIONS

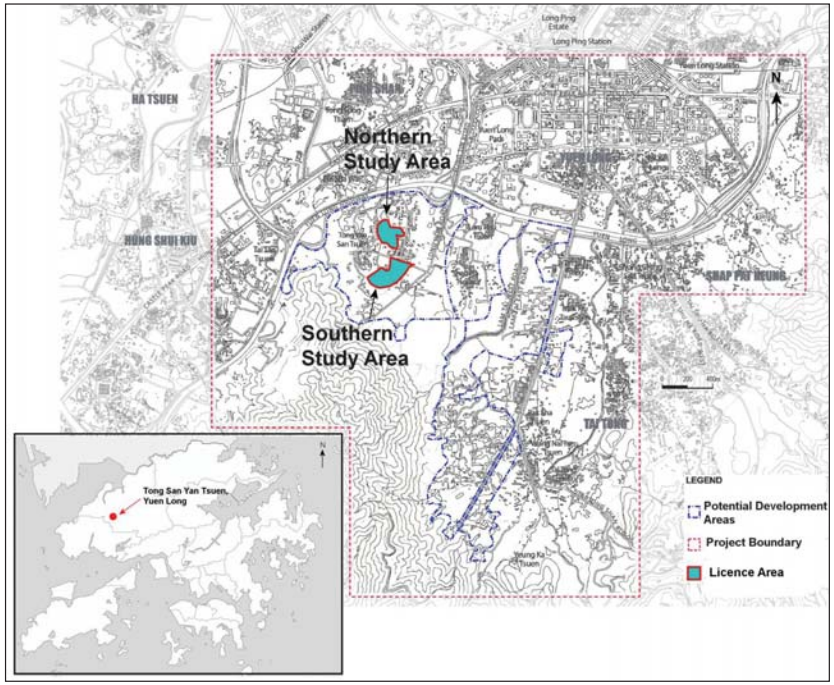



Figure 1 Map showing the two identified areas for Archaeological Field Investigation ('Licence Area')

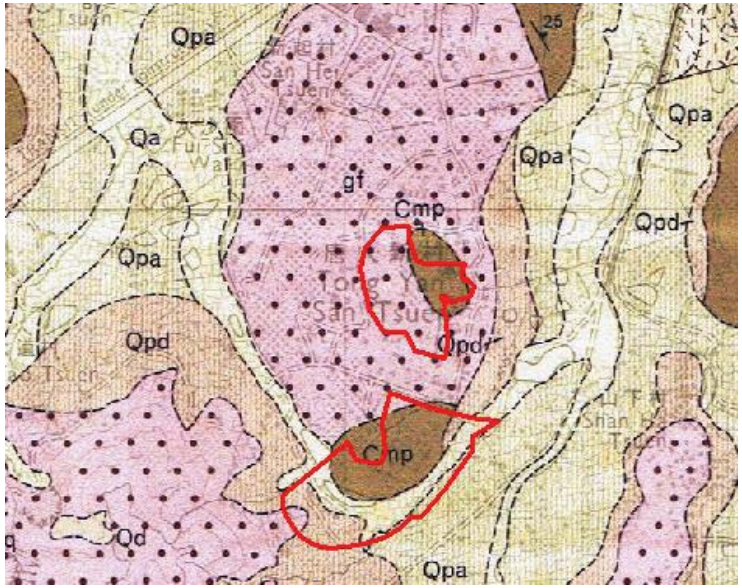



Figure 2 Geological map showing the Study Areas (within red lines, indicative only) for Archaeological Field Investigation: Key Qa: Holocene alluvium; Qpa: Pleistocene alluvial deposit; Qpd: Pleistocene debris flow; Cmp: metasiltstone and Phyllite with metasandstone; gf: fine-grained granite.



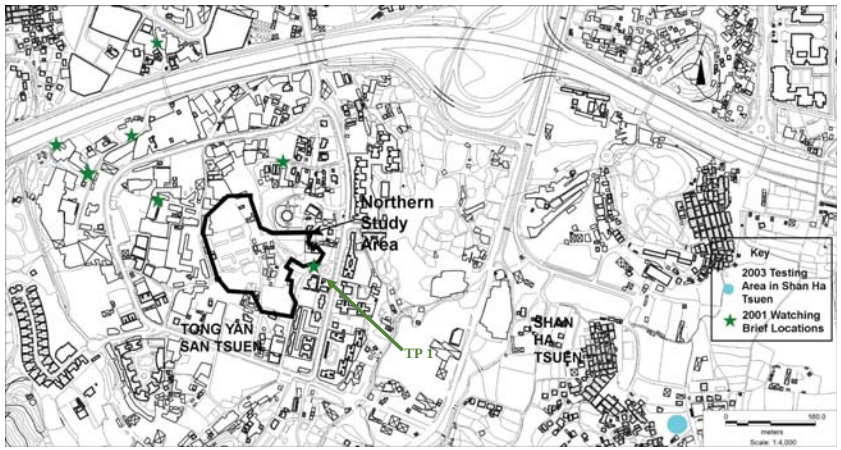



Figure 3 Previous archaeological testing locations in relationship to Northern study area (boundary indicative only)

Figure 4 Aerial photograph taken in 1945 showing the two Study Areas in Tong Yan San Tsuen, within red lines indicative only (GEO 1945)



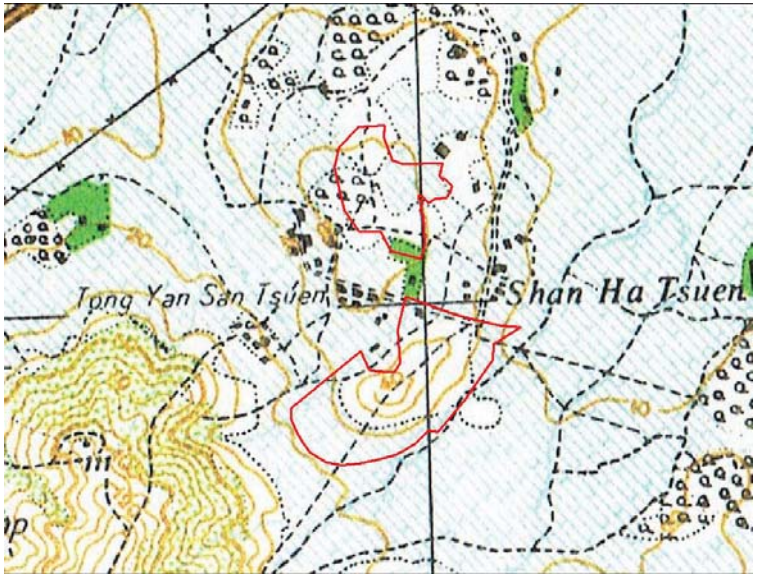



Figure 5 1957 map showing the Study Areas at Tong Yan San Tsuen, within red lines indicative only (based on Public Works Department 1957)

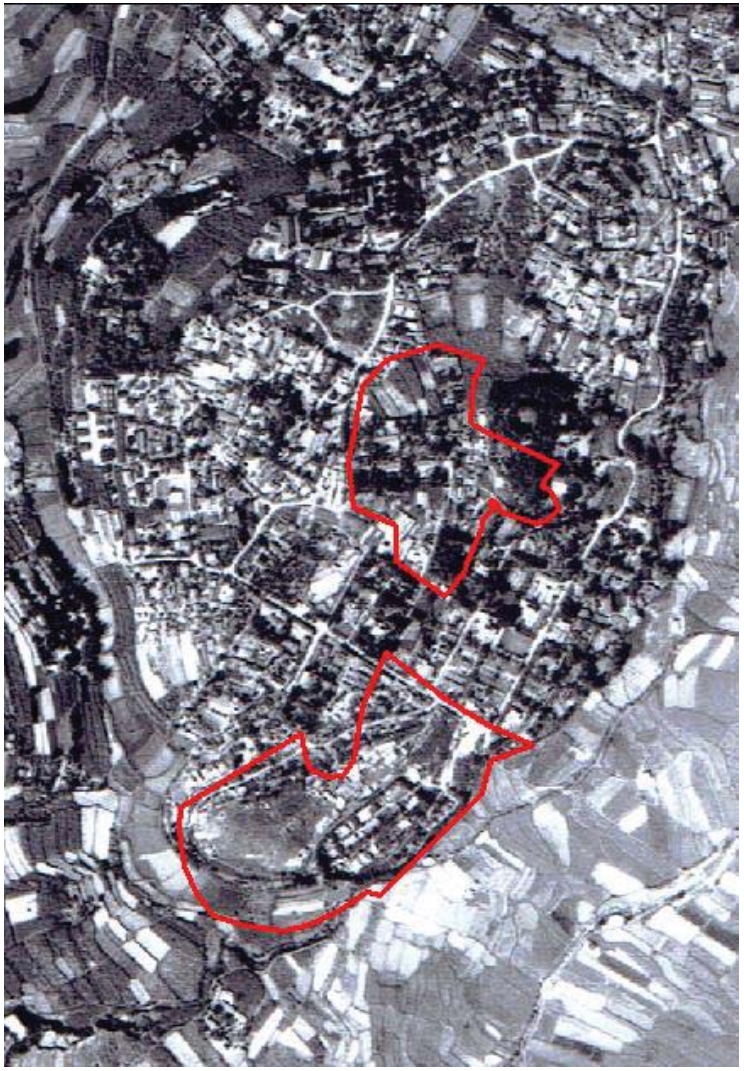


Figure 6 Aerial photograph taken in 1961 showing the Study Areas in Tong Yan San Tsuen, within red lines indicative only (GEO 1961)



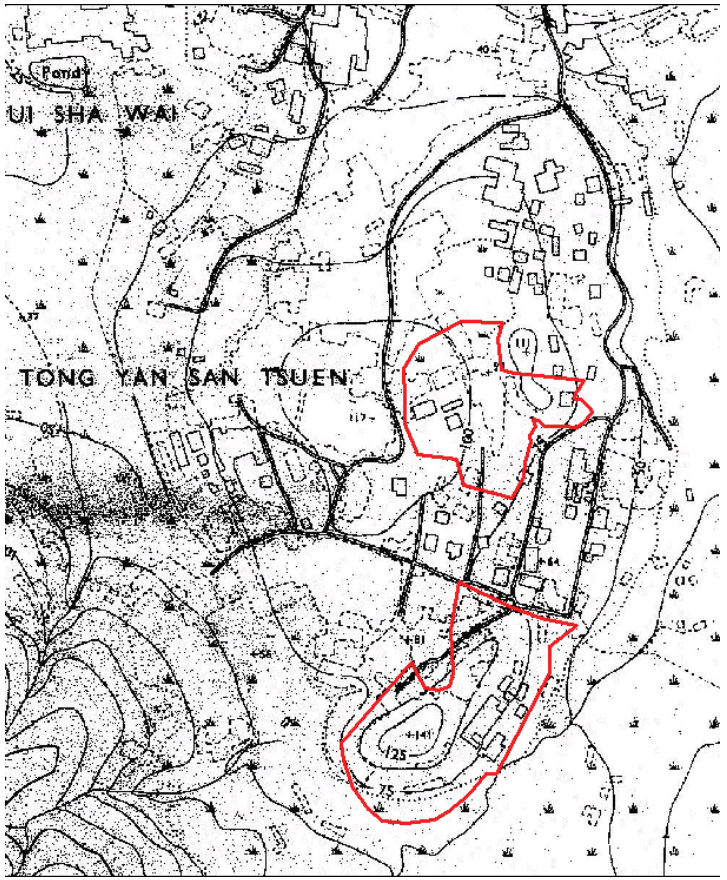



Figure 7 Map of 1966 showing the Study Areas at Tong Yan San Tsuen, within red lines indicative only (based on Public Works Department 1966)

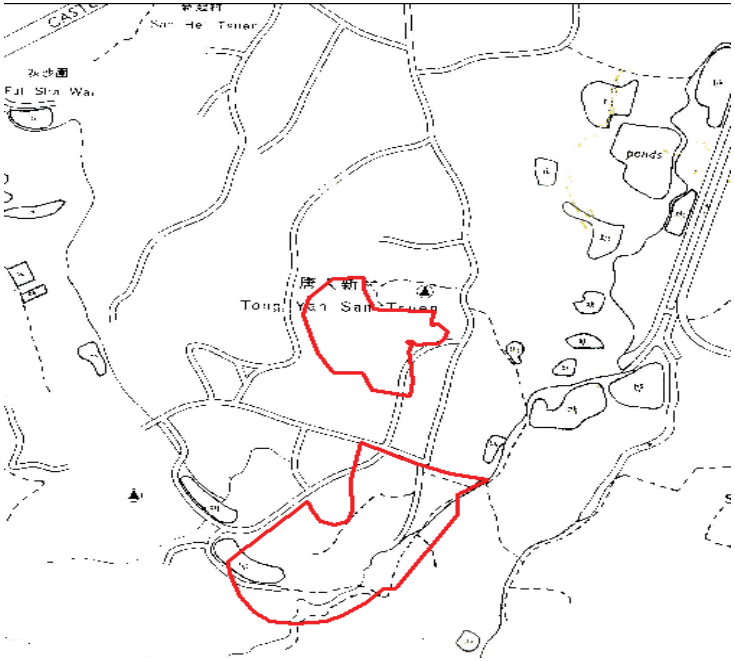



Figure 8 1979 map showing the Study Areas in Tong Yan San Tsuen, within red lines indicative only (Lands Department 1979)




Figure 9 2015 Satellite image showing the two Study Areas at Tong Yan San Tsuen, within red lines indicative only (based on DigitalGlobe 2015 image)

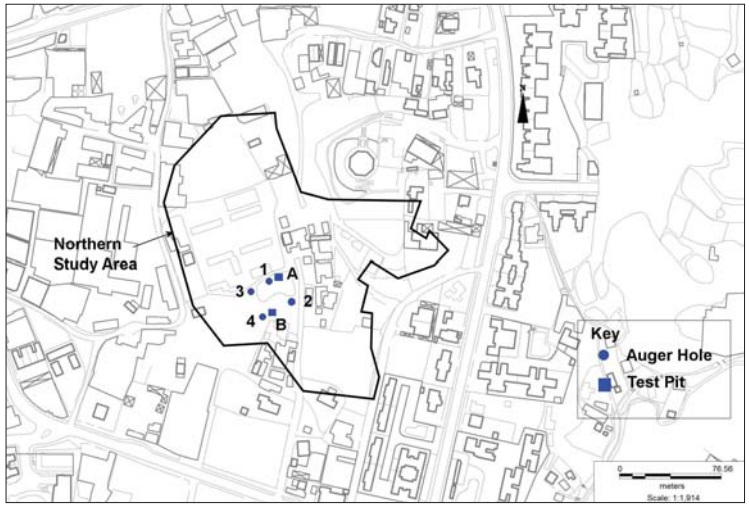



Figure 10 Proposed locations on Government Land for auger hole testing and test pit excavations in the Northern Study Area



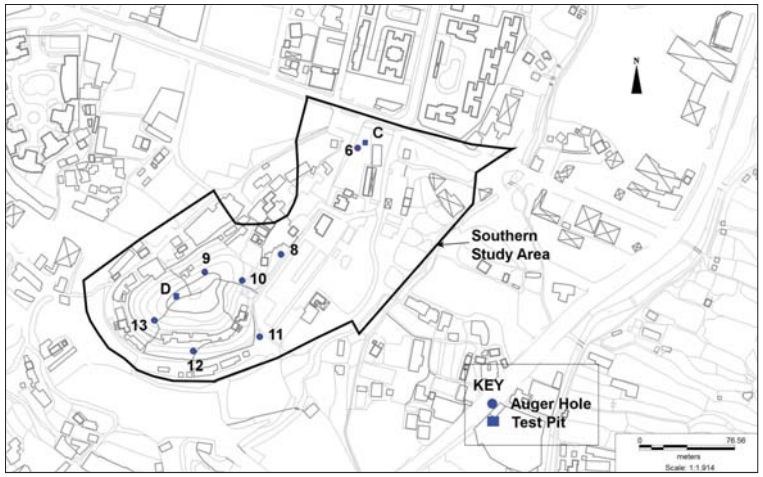
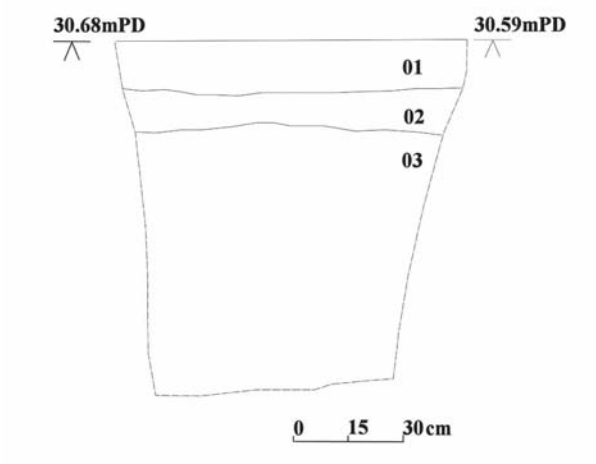



Figure 11 Proposed locations on Government Land for auger hole testing and test pit excavations in the Southern Study Area

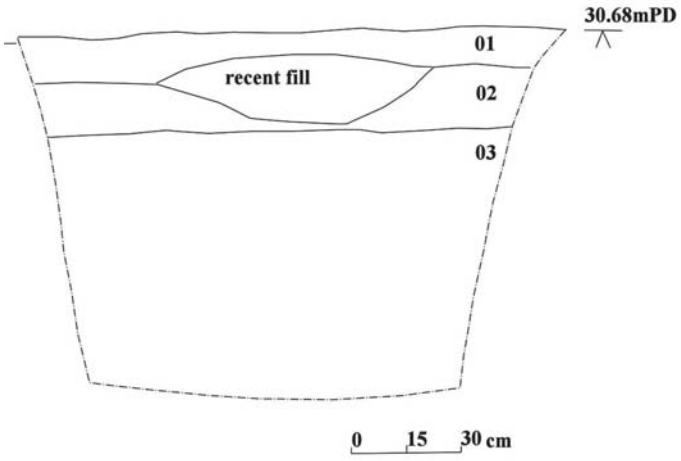
**ANNEX A Test Pit Drawings**

**Test Pit A**

Drawing A.1 East Facing Section



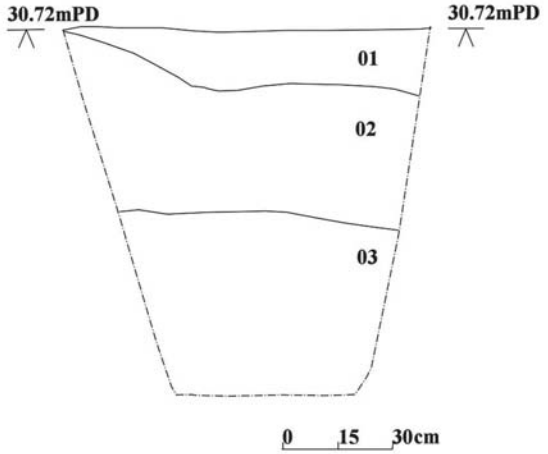

Drawing A.2 North Facing Section



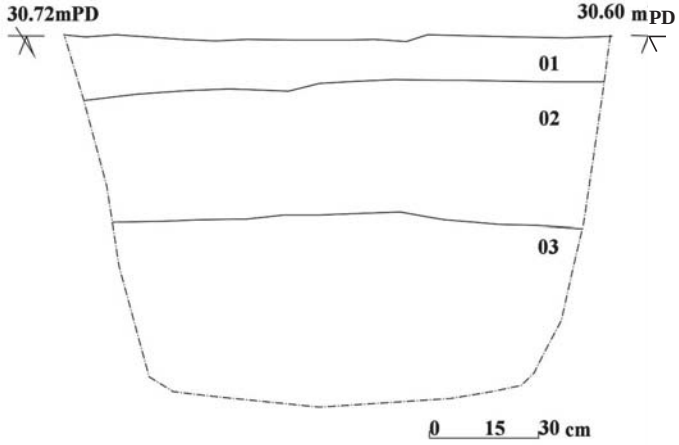



Test Pit B

Drawing A.3 North-West Facing Section

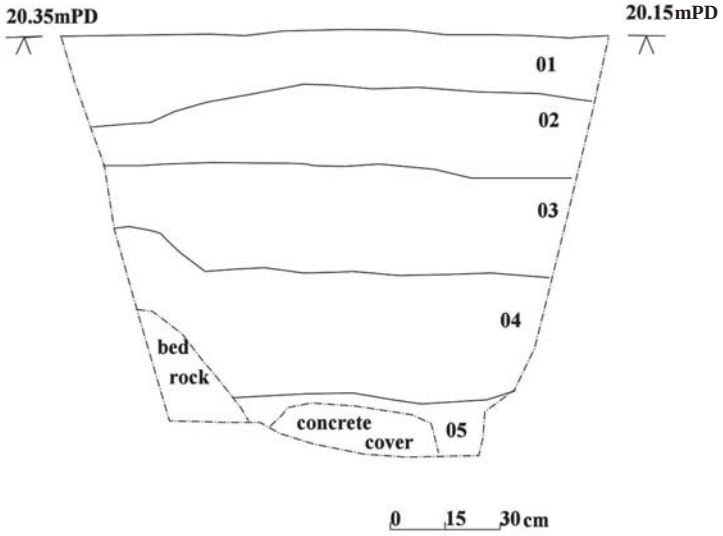



Drawing A.4 South-West Facing Section

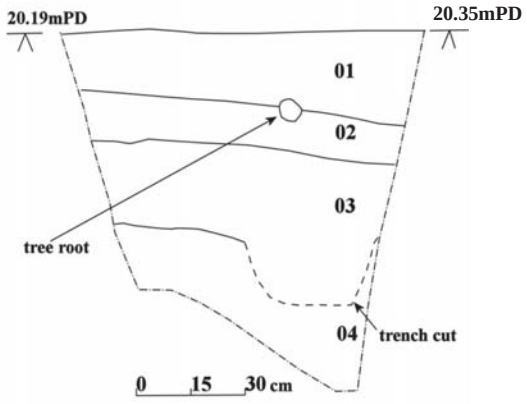


Test Pit C

Drawing A.5 East Facing Section



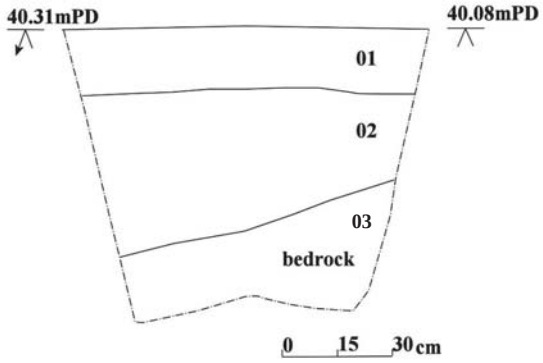

Drawing A.6 North Facing Section



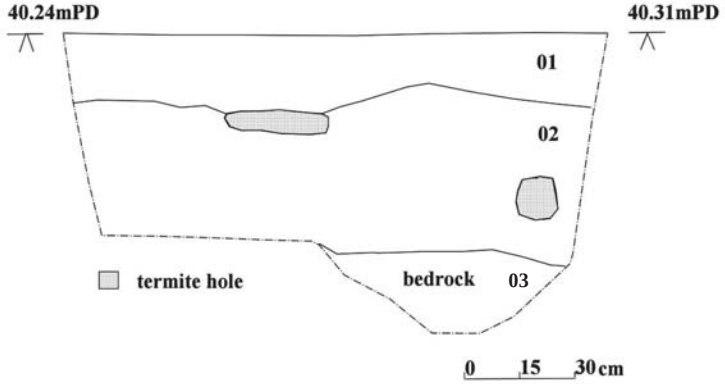



Test Pit D

Drawing A.7 North Facing Section




Drawing A.8 West Facing Section



ANNEX B Field Visit/Scan and Test Pit Plates

FIELDSCAN

Northern Study Area

Plate B.1 A new road being constructed.



Plate B.2 Terracing, building debris, rubbish and some foliage cover the surface.

Plate B.3 Grave and kam tap noted within the Northern Study Area's lower area which has more dense vegetation


Plate B.4 Detail of inscription of grave



Southern Study Area

Plate B.5 Top of hillock in agricultural use.

Plate B.6 Dense vegetation hampered fieldscan.



Plate B.7 Artificial fill deposits at base of hillock.

TEST PIT A

Plate B.8 Test Pit A. Generally looking west.



Plate B.9 North Facing Section

Plate B.10 East Facing Section

TEST PIT B

Plate B.11 Test Pit B. Generally looking north-west.

Plate B.12 South-West Facing Section



Plate B.13 North-West Facing Section

TEST PIT C

Plate B.14 Test Pit C. Generally looking south.

Plate B.15 East Facing Section

Plate B.16 North Facing Section



Plate B.17 Concrete cover and cable at bottom of hand excavated pit

TEST PIT D

Plate B.18 Test Pit D. Generally looking North.

Plate B.19 North Facing Section

Plate B.20 West Facing Section



ANNEX C Finds Plates

Plate C.1 Test Pit A – Context 01

Plate C.2 Test Pit B – Context 01

Plate C.3 Test Pit B – Context 02

Plate C.4 Test Pit C – Context 02



Plate C.5 Test Pit C – Context 03

Plate C.6 Test Pit C – Context 04

ANNEX D Auger Hole Test Results

Northern Study Area

AH1

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 10 | SILT, clayey, very slightly gravelly | 10YR 4/2 Dark greyish brown |
| 10 – 23 | CLAY, gravelly, angular to sub-angular | 7.5YR 5/4 Brown |
| 23 – 70 | CLAY, gravelly, angular to sub-angular | 5YR 5/6 Yellowish red |
| 70 – 78 | CLAY, gravelly, with decayed rocks | 2.5 YR 5/8 Red |
| 78 – 120 | CLAY, with small chunks of decomposed rocks; small piece of wood at c.80cm; more decomposed rocks in depth from c.110cm onwards; abandoned due to end of auger | 5 YR 5/6 Yellowish red |

AH2

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 20 | CLAY, silty and ashy | 2.5 YR 2.5/1 Black |
| 20 – 29 | CLAY, gravelly, very slightly sandy | 7.5 YR 5/4 Brown |
| 29 – 73 | CLAY, gravelly, angular to sub-angular | 7.5 YR 5/6 Strong brown |
| 73 – 106 | CLAY, gravelly, with decomposed rocks | 7.5 YR 6/6 Reddish yellow |
| 106 – 120 | CLAY, slightly gravelly, with small chunks of decomposed rocks; abandoned due to end of auger | 5YR 6/6 Reddish yellow |

AH3

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 16 | SILT, clayey | 10 YR 4/1 Dark grey |
| 16 – 36 | CLAY, silty and gravelly | 7.5YR 5/4 Brown |
| 31 – 87 | CLAY, gravelly | 7.5 YR 5/6 Strong brown |
| 87 – 120 | CLAY, slightly silty<br>Abandoned due to end of auger | Mix of 10 YR 5/4 Yellowish brown and 7.5 YR 5/6 Strong brown |



AH4

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 10 | SILT, clayey | 10 YR 2/2 Very dark brown |
| 10 – 50 | CLAY, silty | 7.5 YR 5/6 Strong brown |
| 50 – 64 | CLAY, gravelly; abandoned due to rock | 5YR 5/6 Yellowish red |

Southern Study Area

AH 5

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 16 | CLAY, silty | 10 YR 3/4 Dark yellowish brown |
| 16 – 45 | CLAY, gravelly and slightly sandy | 7.5 YR 5/6 Strong brown |
| 45 – 69 | CLAY, gravelly and slightly sandy, with decomposed rocks; abandoned due to rock | 7.5 YR 6/6 Reddish yellow |

AH 6

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 7 | SILT, clayey | 10 YR 4/2 Dark greyish brown |
| 7 – 22 | CLAY, very slightly gravelly | 10 YR 5/3 Brown |
| 22 – 60 | CLAY, gravelly; water table at c.28cm; abandoned due to rock | 7.5 YR 5/6 Strong brown; becoming 7.5 YR 6/6 Reddish yellow in depth |

AH 7

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 14 | SITL, slightly gravelly and slightly clayey | 10 YR 4/3 Brown |
| 14 – 51 | CLAY, gravelly, angular to sub-angular | 7.5 YR 4/6 Strong brown |
| 51 – 60 | CLAY with frequent gravel, angular to sub-angular; abandoned due to rocks | 7.5 YR 5/6 Strong brown |

AH 8

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 5 | SILT, slightly clayey | 10 YR 3/3 Dark brown |
| 5 – 26 | SILT, clayey and gravelly | 10 YR 4/6 Dark yellowish brown |
| 26 – 120 | CLAY, silty and gravelly, with more decomposed rocks in depth; abandoned due to end of auger | 7.5 YR 5/8 Strong brown |

AH 9 (second attempt)

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 10 | SILT, clayey | 10 YR 2/2 Very dark brown |
| 10 – 16 | CLAY, silty and gravelly; abandoned due to rock | 10 YR 5/3 Brown |

AH 10

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 21 | CLAY, silty, with frequent roots and stones | 7.5 YR 4/2 Brown |
| 21 – 48 | CLAY, very silty; plaster at 29cm | 7.5 YR 5/4 Brown |
| 48 – 73 | CLAY, very slightly silty; abandoned due to rock | 7.5 YR 5/6 Strong brown |

AH 11

| Measurement (cm) | Soil Description | Colour |
|---|---|---|
| 0 – 9 | SILT, clayey | 10 YR 3/3 Dark brown |
| 9 – 42 | SITL, slightly clayey, with decomposed rocks | 7.5 YR 5/4 Brown |
| 42 – 55 | CLAY, silty | 7.5 YR 5/4 Brown |
| 55 – 120 | CLAY, fine powdery; bed rock; abandoned due to end of auger | 5 YR 5/8 Yellowish red |



ANNEX E Test Pit Results Summary

**Test Pit A**.

| **Context #** | **Description** | **Colour** | **Finds/inclusion** | **Approx. depth from surface in cm** |
|---|---|---|---|---|
| 01 | TOPSOIL<br>very slightly gravelly and very slight clayey silt | Dark yellowish brown<br>10YR 4/4 | Asbestos, metal objects, modern pottery, red brick fragments, plastic and glass | 0-10 |
| 02 | FILL<br>slightly sandy, very slightly gravelly clay | Brown<br>7.5YR 5/4 | None | 10-28 |
| 03 | WEATHERED DEBRIS FLOW<br>gravelly clay increasingly rocky | Reddish yellow<br>5YR 6/6 | None | Below 28 to around 220 |

**Test Pit B**

| **Context #** | **Description** | **Colour** | **Finds/inclusion** | **Approx. depth from surface in cm** |
|---|---|---|---|---|
| 01 | TOPSOIL<br>slightly gravelly, clayey silt | Dark greyish brown | Glass, pottery, plastic, rusty nails and concrete | 0-15 |
| 02 | SUBSOIL<br>gravelly clay | Strong brown | Modern pottery and a glass marble | 15 – 50 |
| 03 | WEATHERED DEBRIS FLOW<br>very gravelly, slightly sandy clay with semi-angular rocks | Yellowish red | None | Below 50 |

**Test Pit C**

| Context # | Description | Colour | Finds/inclusion | Approx. depth from surface in cm |
|---|---|---|---|---|
| 01 | TOPSOIL<br>very slightly clayey silt | Brown | Modern pottery fragments and modern rubbish, including glass, plastic. | 0-18/25 |
| 02 | SUBSOIL<br>slightly clayey silt | Strong brown | Two undiagnostic village ware pottery sherds. | 18/25 – 40 |
| 03 | DEBRIS FLOW<br>very silty, gravely clay with rocks | Strong brown | Tile fragments with cloth impression (4) and one village ware sherd. | 40 –53/65 |
| 04 | WEATHERED DEBRIS FLOW<br>ROCKS<br>Very gravelly, slightly silty clay | Reddish yellow | Single pottery base with interior brown glaze. | 53/65 – 100 |
| 05 | FILL<br>silty, gravelly clay | N/A | Concrete slab and cable. | Below 100 |

**Test Pit D**

| Context # | Description | Colour | Finds/inclusion | Approx. depth from surface in cm |
|---|---|---|---|---|
| 01 | TOPSOIL<br>very slightly clayey and very slightly gravelly silt | Brown | Few plastic, glass and modern pottery fragments. | 0 - 18 |
| 02 | WEATHERED BEDROCK | Strong brown | Chunks of decomposing rocks. | 18 – 40/72 |
| 03 | BEDROCK | Reddish yellow | None. | Below 40/72 |



ANNEX F Finds Summary

| Test Pit A | Context | Material | Fabric | Type | Vessel Form | DIA | EVE | Surface Treatment | Count | Wt (g) | Date/Phase | Comments | Photo Ref. (.jpg) | Bag Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | POT | HSW | BO | | | | glazed | 3 | 19 | UD | one with part handle on shoulder | PTA_1 | 1 |
| | | POT | HSW | BO | | | | unglazed | 1 | 18 | UD | neck part | PTA_1 | 1 |
| | | POT | POP | RI | bowl | N/A | | | 1 | 3 | UD | small fragment | PTA_1 | 1 |

| Test Pit B | Context | Material | Fabric | Type | Vessel Form | DIA | EVE | Surface Treatment | Count | Wt (g) | Date/Phase | Comments | Photo Ref. (.jpg) | Bag Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | CER | TL | | | | | | 1 | 18 | Modern | red tile fragment | PTB_1 | 2 |
| | | POT | HSW | BS | | N/A | | glazed | 1 | 5 | UD | green exterior glaze | PTB_1 | 2 |
| | | POT | HSW | BO | | | | | 2 | 4 | UD | one thin village ware sherd with remnant of handle and one shoulder sherd with green exterior glaze | PTB_1 | 2 |
| | | POT | POP | RI | bowl | N/A | | | 1 | 2 | UD | small fragment | PTB_1 | 2 |
| | 2 | POT | HSW | BO | | | | glazed | 2 | 6 | UD | one green exterior glaze and one interior brown glazed fragment | TPB_2 | 3 |

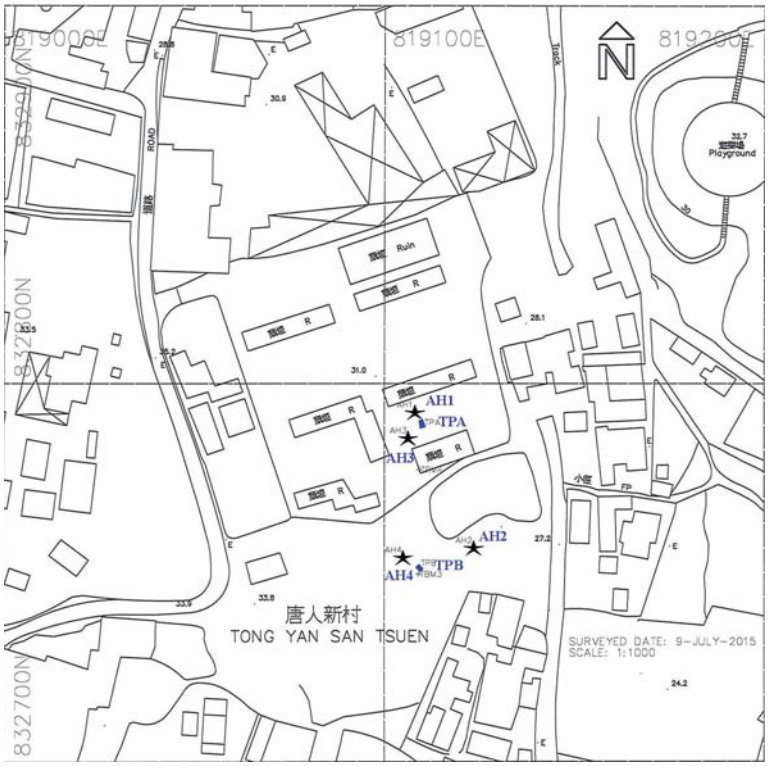


| Test Pit C | Context | Material | Fabric | Type | Vessel Form | DIA | EVE | Surface Treatment | Count | Wt (g) | Date/Phase | Comments | Photo Ref. (.jpg) | Bag Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 | POT | HSW | BO | | | | glazed | 1 | 2 | UD | brown interior glaze | TPC_1 | 4 |
| | | POT | HSW | BO | | | | | 1 | 2 | UD | | TPC_1 | 4 |
| | 3 | CER | TL | | | | | | 4 | 320 | Song, Ming or Ming/Qing dynasty | with cloth impression on interior | TPC_2 | 5 |
| | | POT | HSW | BO | | | | glazed | 1 | 23 | UD | green exterior glaze | TPC_2 | 5 |
| | 4 | POT | HSW | BO | | | | glazed | 1 | 7 | UD | near base fragment; some interior glaze pooling in bottom of vessel. Small fragment. Possibly pre-Qing? | TPC_3 | 6 |

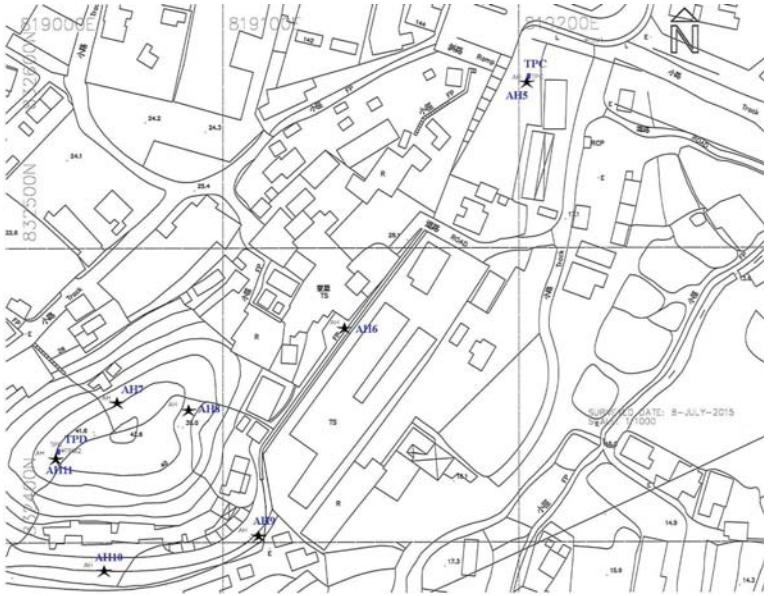
Key:

POT: pottery
CER: general ceramic
HSW: village ware
TL: tile
POP: provincial porcelain
RI: rim
BS: base
BO: body
UD: undiagnostic

ANNEX G Survey Data and Plans (supplied be Geomatic Surveyors Ltd.)




Drawing G.1 Map showing the auger test locations and Test Pit A and B (Scale: one square is 100x100m)




Drawing G.2 Map showing the auger test locations and Test Pit C and D (Scale: one square is 100x100m)

Auger Hole Locations

| Point No. | Easting | Northing | Elevation |
|---|---|---|---|
| AH1 | 819108.203 | 832792.407 | 30.728 |
| AH2 | 819123.746 | 832756.505 | 29.260 |
| AH3 | 819106.369 | 832785.592 | 30.792 |
| AH4 | 819105.102 | 832753.952 | 30.981 |
| AH5 | 819202.705 | 832556.053 | 20.401 |
| AH6 | 819141.100 | 832472.706 | 27.171 |
| AH7 | 819064.420 | 832447.434 | 41.450 |
| AH8 | 819089.556 | 832444.689 | 39.980 |
| AH9 | 819112.090 | 832402.206 | 24.445 |
| AH10 | 819060.153 | 832390.479 | 25.722 |
| AH11 | 819043.923 | 832428.461 | 39.912 |

Location of TBM

| Point No. | Easting | Northing | Elevation |
|---|---|---|---|
| TBM1 (near TPC) | 819222.724 | 832570.475 | 18.101 |
| TBM2 (Near TPD) | 819046.158 | 832431.258 | 40.609 |
| TBM3 (Near TPB) | 819109.084 | 832749.578 | 30.713 |
| TMB4 (Near TPA) | 819123.746 | 832756.505 | 29.260 |

Location of Test Pit

| Point No. | Easting | Northing | Elevation |
|---|---|---|---|
| **TP A** | | | |
| TP A (NE) | 819110.076 | 832790.279 | 30.589 |
| TP A (SE) | 819110.687 | 832788.614 | 30.702 |
| TP A (SW) | 819109.654 | 832788.334 | 30.720 |
| TP A (NW) | 819109.225 | 832790.192 | 30.682 |
| **TP B** | | | |
| TP B (E) | 819110.138 | 832750.936 | 30.603 |
| TP B (N) | 819109.239 | 832751.949 | 30.724 |
| TP B (W) | 819108.724 | 832751.260 | 30.725 |
| TP B (S) | 819109.623 | 832750.247 | 30.610 |
| **TP C** | | | |
| TP C (NE) | 819203.773 | 832558.963 | 20.086 |
| TP C (NW) | 819203.083 | 832559.138 | 20.158 |
| TP C (SW) | 819202.813 | 832557.630 | 20.349 |
| TP C (SE) | 819203.517 | 832557.570 | 20.191 |
| **TP D** | | | |
| TP D (NW) | 819044.238 | 832431.732 | 40.018 |
| TP D (NE) | 819045.089 | 832431.745 | 40.244 |
| TP D (SE) | 819045.073 | 832430.294 | 40.311 |
| TP D (SW) | 819044.222 | 832430.281 | 40.085 |