

**Archaeological Impact Assessment for
Redevelopment of
Chi Ma Wan Prison Area, Lantau Island**

MAY 2009



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ABSTRACT

The Chi Ma Wan Prison Area is proposed to be redeveloped into two new correctional institutions to meet the operational requirements. Since the redevelopment site is located on Chi Ma Wan Peninsula where several archaeological sites have been found, an Archaeological Impact Assessment (AIA) should be conducted to assess the archaeological potential within the redevelopment site. Mitigation measures will then be worked out and implemented.

The fieldwork of this AIA was conducted by the Antiquities and Monuments Office of the Leisure and Cultural Services Department in two phases, i.e. from 21 July to 4 August 2008 and from 16 February to 7 March 2009. Seven test pits were excavated and the total excavated areas are 18.4m².

Cultural deposits dated to Tang dynasty (618 – 907 A.D.) were unearthed from Chi Sun Correctional Institution. Rescue excavation at Chi Sun Correctional Institution after the demolition of the existing buildings and prior to the commencement of the redevelopment project is recommended. However, the exact extent of the rescue excavation has not been determined due to the existing operation needs of Chi Sun Correctional Institution. A survey will therefore be undertaken in advance to define the scope of the rescue excavation.

中文摘要

大嶼山芝麻灣監獄範圍擬重新興建為兩座新懲教所，以符合營運需要。由於監獄位處的芝麻灣半島過往曾發現考古遺址，因此需要進行一項考古影響評估，以確定芝麻灣監獄範圍內是否有考古潛在價值，並提出及執行相應的緩解措施。

此項考古影響評估的田野調查工作由康樂及文化事務署古物古蹟辦事處負責，分兩期於 2008 年 7 月 21 日至 8 月 4 日及 2009 年 2 月 16 日至 3 月 7 日進行，共發掘 7 個探方，總發掘面積為 18.4 平方米。

調查確定芝新懲教所內存有唐代（公元 618 年至 907 年）的文化遺存，建議於芝新懲教所的現有建築物拆毀後及重建計劃開展前，對受影響範圍進行考古搶救發掘，然而由於芝新懲教所目前仍在運作，故暫時未能定出搶救發掘的範圍，因此需在搶救發掘前再作進一步調查以確定發掘範圍。

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1. INTRODUCTION

- 1.1 The Chi Ma Wan Prison Area on Lantau Island (Figures 1 and 2), operated by the Correctional Services Department (CSD), is proposed to be redeveloped into two new correctional institutions to meet the operational requirements. The redevelopment site is situated on Chi Ma Wan Peninsula where archaeological remains have been found along its coastal areas such as Cheung Sha Wan and Tung Kok. The redevelopment site, which is highly likely to be of archaeological potential, however has yet been covered by any archaeological works. An Archaeological Impact Assessment (AIA) should therefore be undertaken to assess the archaeological potential within the proposed redevelopment site. Mitigation measures will then be worked out and implemented.
- 1.2 This AIA was funded by Architectural Services Department (Arch SD), the work agent of CSD for this redevelopment project, and was conducted by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD). Through the desktop study and on-site visit, four archaeological potential areas within Chi Ma Wan Prison Area were identified, namely Areas A – D (Figure 3). While the CSD has confirmed that redevelopment project will not encroach on Area C, the fieldwork focused on Areas A, B (i.e. Chi Ma Wan Correctional Institution or Upper Camp) and Area D (Chi Sun Correctional Institution or Lower Camp).
- 1.3 Owing to the operational arrangements from the CSD and the AMO, the fieldwork of this AIA was carried out in two phases. The first phase was conducted between 21 July 2008 and 4 August 2008 while the second phase was undertaken from 16 February 2009 to 7 March 2009. Seven test pits were excavated and the total excavated areas are 18.4m². A watching brief was also carried out for a trial pit at Chi Sun Correctional Institution (Area D) during the first phase fieldwork as some other construction works were going on inside the Chi Ma Wan Prison Area.

2. DESKTOP STUDY

2.1 Historical Background

- 2.1.1 The coastal area of Chi Ma Wan includes several bays with Shap Long as the largest one and the closest inhabited area to the redevelopment site. The name

of Shap Long was neither recorded in the 1688 edition nor the 1819 edition of the Xinan Gazetteer. However, the Shap Long Village have been established before 1899. According to the record in 1899, Shap Long was a Hakka village with a population of 100 people (Hong Kong Government 1899: 207).

2.1.2 In 1956, the first open prison was established in Chi Ma Wan (Correctional Services Department 2008). However, the Chi Ma Wan Correctional Institution (or the Upper Camp) and the Chi Sun Correctional Institution (or the Lower Camp) nowadays operated by the CSD were not built up in the same pace.

2.1.3 The Chi Ma Wan Correctional Institution was previously known as “Home for the Disabled” managed by the Social Welfare Department. In 1955, the Prison Department (the former CSD) took over the site and constructed the dormitories and staff house. The site was changed to Vietnamese Refugees Centre from 1979 to 1993 and was developed into the Chi Ma Wan Correctional Institution in 1994 till now (Hyder Consulting Ltd 2008:1 – 2).

2.1.4 The Chi Sun Correctional Institution was built to serve as temporary huts for Vietnamese refugees in 1979/1980 and was gazetted to operate in 1982. The site was developed as Chi Ma Wan Drug Addiction Treatment Centre in 1994 and changed to the Chi Sun Correctional Institution in 2005 (Hyder Consulting Ltd 2008: 2).

2.1.5 Although the occupants and the function of the two camps had been changed several times, it can be estimated that the basic condition of the sites were altered little and the main disturbances to the upper camp was caused by the construction of the open prison in 1955 and to the lower camp, by the construction of the refugee camp in 1980.

2.2 Archaeological Background

2.2.1 Mr. W. Schofield had already visited the area and discovered some artifacts in the 1930s. However, the exact location of the discoveries was unknown since Mr. Schofield referred Shap Long Bay also to Cheung Sha Wan, Ngau Kwu Wan and Chi Ma Wan (Peacock 1986: 484 – 485). He also recorded that the northern coast of the Chi Ma Wan Peninsula had suffered from commercial sand digging between the 1920s to 1930s (Schofield 1937: 102).

2.2.2 The redevelopment site was located between Shap Long and Cheung Sha Wan.

The site was not covered by any previous archaeological work while archaeological investigations on its both sides all revealed to be of archaeological potential or significance. In 1982/83 during the first territory-wide archaeological survey, a stone core (a side product of making stone slot/ring) was collected near the sand bar of Shap Long but its archaeological potential was not yet determined (Peacock 1986: 484 – 485). At Cheung Sha Wan, kiln structures and furniture from the Tang dynasty, as well as pottery sherds from the pre-historical period were found in both investigations in 1982 (Peacock 1986: 488 – 489) and 2008 (Environmental Resources Management 2009).

- 2.2.3 Apart from Shap Long and Cheung Sha Wan, Pui O Archaeological Site, Yi Long Archaeological Site, Tai Long Wan Archaeological Site (Chi Ma Wan) and Tung Kok Archaeological Site are also situated around the Chi Ma Wan Peninsula (Figure 4). The archaeological depositions from these sites range from late Neolithic to Bronze Age, and Tang dynasty.

2.3 Geological map

- 2.3.1 The geological map of Chi Ma Wan Peninsula (Figure 5) shows for the lower camp area (arrow) in northeast-southwest direction a succession of beach deposits (Qb), a raised sandbar (Qrb) and alluvium (Qa) at the back of the small bay where raised sandbar deposits (Qrb) have in general a relative high potential to bear archaeological remains.

2.4 Map Search

- 2.4.1 The District Lands Office/Islands of the Lands Department keeps a series of old maps showing the lot numbers of Lantau Island. The Demarcated District Sheet (D. D. Sheet) No. 341 in 1905 (Appendix I (1)) includes both camps of Chi Ma Wan Prison Area. The area in lower camp was arable land without any premise. No lot number indicated in the area of the upper camp suggests that this area was still unoccupied. In the small valley leading from the upper camp to the beach, a number of paddy fields (Lots Nos. 3 – 25, 93) testify small scale farming.
- 2.4.2 In the map in 1963 (Appendix I (2)), the upper camp was fully developed into the present setting with the area of lower camp was just covered by playgrounds and several premises. Their level is also similar to the present setting after converting the feet above Principal Datum to metre above Principal Datum (mPD).

2.5 Aerial Photographs

- 2.5.1 Chi Ma Wan Prison was opened in 1956. It is therefore essential to collect the information about the original landscape of Chi Ma Wan Prison Area before 1956. This can be help by searching the aerial photos available at the Survey and Mapping Office of the Lands Department. Table 1 shows the aerial photos which have been reviewed (relevant aerial photos are in Appendix II).
- 2.5.2 The earliest aerial photo of Chi Ma Wan site dates back to 1945 (Appendix II (1) and (2)). The location where the upper camp was later built shows a natural hilltop with some footpaths but without any buildings. All hills were obviously bare of any forestation with only some bushes left. As observed from the later aerial photo in 1962 (Appendix II (3)), the upper camp was fully developed into the present setting.
- 2.5.3 The coastline of the lower camp area in 1945 seems to have been much the same as today with a small raised sandbar sealing-off the tiny bay. Along the Northwest slope of the lower camp area were some paddy fields or gardens. These fields had been maintained until the lower camp area was altered as playground on or before 1962 (Appendix II (3)). The playground can still be observed in the aerial photos in 1964, 1973 and 1975 (Appendix II (4) – (6)) until the construction of the lower camp in 1980 (Appendix II (7)) that some huts were built. All buildings on lower camp was erected in 1981 (Appendix II (8)) and the camp was fully operated in 1982.

3. OBJECTIVES

- 3.1 The objective of the Archaeological Impact Assessment is to determine, as far as possible, the location, extent, date, character, condition and significance of any archaeological remains that may be potentially affected by the redevelopment of Chi Ma Wan Prison Area.

4. METHODOLOGY

4.1 Survey Design

- 4.1.1 The boundary of the proposed redevelopment at Chi Ma Wan Prison Area is indicated in Figure 2. Based on the desktop study and on-site visit, four areas with archaeological potential inside the Chi Ma Wan Prison Area were identified

as follows (Figure 3):

- Area A - Chi Ma Wan Correctional Institution (Upper Camp)
- Area B – Around Dining Hall of Upper Camp
- Area C – Small Valley from Area A to the Beach
- Area D - Chi Sun Correctional Institution (Lower Camp)

4.1.2 As the CSD has confirmed that redevelopment project will not encroach on Area C, no archaeological work is required at Area C. The fieldwork therefore mainly focuses on the Chi Ma Wan Correctional Institution (Areas A and B) and Chi Sun Correctional Institution (Area D).

4.1.3 This approach has been chosen for the following reasons:

- The two fenced-off prison camps are the main redevelopment area.
- Chi Sun Correctional Institution is particularly expected to have high archaeological potential since it is situated along the coastline and shares similar topographical characters of the archaeological sites along the Chi Ma Wan Peninsula.

4.1.4 In the first phase fieldwork conducted in July 2008, three 2m × 2m test pits in the Upper Camp 3 (TP1 – TP3) and four 2m × 2m test pits (TP4 – TP7) in the Lower Camp were proposed (two proposed test pits were not excavated and size of some excavated test pits were changed due to the site constraints). Three 2m × 2m test pits (TP8 – TP10) in the Lower Camp were proposed to be carried out in the second phase fieldwork in February 2009 (one proposed test pit was not excavated). Test pit locations are marked on Figures 6 and 7.

4.2 Site Constraints

4.2.1 Since the Chi Ma Wan Prison Area is still operated, the field team encountered several site constraints due to the operation and security issues. They include:

- Test pits should only be conducted at the locations that would not affect the daily operation;
- The original size of the proposed test pits in the first phase fieldwork had to be reduced due to the narrow lanes in the camps;
- Working hours had to follow the daily routines of the prison and the rigorous security checking left only limited working time for the survey;

4.3 Method

- 4.3.1 Test pit hand-excavation was employed while the concrete top layers in the lower camp were broken by the concrete breaking machinery. After the survey, all test pits were backfilled and, when necessary, again sealed with concrete.
- 4.3.2 The site code of the first and second phase fieldwork is CWMP2008 and CWMP2009 respectively. “CWMP” represents “Chi Ma Wan Prison” while “2008” and “2009” is referred to the year of the fieldwork.
- 4.3.3 All layers and features are recorded by context system in AMO standard forms. Test pit excavation is carried out in a reversed time chronological order, with more recent contexts having a much higher tendency to occupy smaller context numbers than the more ancient ones. Finds and Special Finds unearthed will be recorded on their respective designated registers and will be bagged and labelled accordingly for further processing at the AMO workshop. Drawings and photographic records will also be carried out in all test pits.
- 4.3.4 Since no representative section running through the entire camps could be investigated, context numbers of each test pit were given independently in accordance with the following principle:

Notation of Context	Test Pit No.	Two Digits Counting No.
C	X	XX
e.g.: C711 = Context No.11 in Test Pit No. 7		

5. RESULT OF THE ARCHAEOLOGICAL SURVEY

5.1 Chi Ma Wan Correctional Institution (Upper Camp) – Area A

5.1.1 Test Pit 1 (TP1)

- 5.1.1.1 TP1 was located between Dormitories E1 and F1 (Figure 6). During the first phase fieldwork, ground investigation of other construction works was being conducted at the Chi Ma Wan Correctional Institution. Member of the field team inspected the relevant borehole data and confirmed that area around TP1 had been completely disturbed and no test pit excavation was therefore required.

5.1.2 Test Pit 2 (TP2)

- 5.1.2.1 TP2 was excavated in a big flowerbed between the Hospital and J1 Workshop (Figure 6). It measured 1m × 2m and was oriented with its long side perpendicular to the buildings. The strata of TP2 are presented in Table 2 and the section photo and section drawing are shown in Figures 8 and 9 respectively.
- 5.1.2.2 Underneath the present-day lawn surface (C201) came an about 15cm thick layer of medium-brown, sandy topsoil (C202). The northwest half of TP2 was filled with a hard yellowish-grey to Bordeaux-red mottled material (C203) which could not be clearly identified as being fill or weathered bedrock since the other half of TP2 was filled down to 33.69mPD with a very similar coloured but softer, clayish-sandy to sandy-clay fill (C204).
- 5.1.2.3 To further investigate TP2, a 1.53m deep auger hole was drilled to 32.16mPD. The sterile material found in the auger hole (C205) combined the characteristics of C203 and C204.
- 5.1.2.4 Along the southeast edge of TP2, there was a shallow ditch (C206) filled with yellowish-grey clayish-sand (C207) laying a modern utility pipe of unknown function. Such pipes are frequently used for water drainage.
- 5.1.2.5 In the middle of the northeast section of TP2 was an about 25cm deep flat-bottomed pit or ditch (C208). This had no continuation in the opposite section and was filled in its lower half with a dark-brown sandy fill (C209) while the upper part was filled with a more reddish clayish-sand (C210). This sterile material could well have been a mix of contexts C202 and C204. Context C208 was possibly a former plant pit.
- 5.1.2.6 On the whole, TP2 was archaeologically sterile.

5.2 Around Dining Hall of Upper Camp – Area B

5.2.1 Test Pit 3 (TP3)

- 5.2.1.1 TP3 was excavated on the southern side of the Dining Hall (Figure 6). It measured 1m × 2m and was oriented with its long side perpendicular to the building (For the protection of the two water pipes, Trench C304 and its fill C303 as well as Trench C309 and its fill C308 were not fully excavated and TP3 was

reduced to approximately 1m × 1.40m below C302). The strata of TP3 are presented in Table 3 and the section photo and section drawing are shown in Figures 10 and 11 respectively.

- 5.2.1.2 The present-day topsoil consisted of a relatively thin layer of light brown sandy clay (C301) superposing a 8 – 10cm thick layer of hard, brown sandy clay fill sealing the whole test pit (C302). Underneath followed a brownish-red sandy clay fill (C307). This layer may be regarded as result of forming the platform for Chi Ma Wan Correctional Institution.
- 5.2.1.3 C307 was deposited on layers of dark (C310) respectively light brown (C311) sandy clay, which in turn rested on a dark-red weathered bed rock (C312). These contexts, which may indicate the original landscape before the construction of the prison, all sloped gently towards South, pointing to a small valley.
- 5.2.1.4 Two trenches for modern water pipes C309 and C304 of which C304 is stratigraphically younger than the former ran along the southern edge of TP3. The fill of C309 and C304 is dark-brown sandy clay (C308) and dark blackish-brown clay (C303) respectively.
- 5.2.1.5 One Wun Yiu rim fragment and two village ware sherds dated from late Qing to modern were found in C310.

5.3 Chi Sun Correctional Institution (Lower Camp) – Area D

5.3.1 Test Pit 4 (TP4)

- 5.3.1.1 TP4 was located close to the southeast corner of the Office in Lower Camp (Figure 7). The location was currently used as flowerbed, of which all the plants had been removed by the prison inmates prior to fieldwork.
- 5.3.1.2 TP4 measured 2m × 1.5 m and was oriented southeast-northwest parallel to the entrance path of the building. TP4 was excavated about 1.16m deep to a level of 2.80mPD. From there an auger hole was drilled a further 0.95m until water table was reached at 1.85mPD. The strata of TP4 are presented in Table 4 and the section photo and section drawing are shown in Figures 12 and 13 respectively.
- 5.3.1.3 Southwest section gives a good overview of the findings in TP4. The square

adjacent to TP4 is currently used as basketball court with concrete flooring. This flooring consists of several layers of concrete up to 22cm thick (C401). Underneath protruded an older, partly broken concrete flooring (C407) on a thin layer of decayed wood into TP4 leaving only its northwest half accessible for further excavation.

5.3.1.4 The top 12 – 20cm (C402 – C405) in TP4 was formed by different layers of flower soil and reddish sandy clay as part of the present-day flowerbed. Underneath followed a layer of fill mixed with modern construction waste, an old soft drink can and plastic material (C406). Only the very northwest half of TP4 was filled with slightly grey-beige sterile sand (C409). A vertical rusty-red stained root canal (C410) under C406 indicated bygone plant growth.

5.3.1.5 Scattered seashells and weathered corals laid on the bottom of TP4. From there an auger hole was drilled a further 0.95m deep until water table was reached at 1.85mPD. It only revealed beige and archaeologically sterile sand (C415).

5.3.1.6 On the whole, TP4 has to be regarded as heavily disturbed site due to modern building activities and dumping down to a level of approximately 3.40 – 3.10mPD.

5.3.2 Test Pit 5 (TP5)

5.3.2.1 TP5 was scheduled in line with TP6 and TP7 in the lane between the Dormitory 4A and the Office (Figure 7). However, it was not excavated since its relative location to the sandbar was already covered by TP4 and no new results were therefore expected.

5.3.3 Test Pit 6 (TP6)

5.3.3.1 TP6 was excavated at the back of Dormitory 4B along the inner fence of Chi Sun Correctional Institution (Figure 7). TP6 measured 1m × 2 m and was oriented northeast-southwest with its long side along the fence. The location is at the northwest corner of the ancient bay near the hill foot.

5.3.3.2 Top layer of TP6 consisted of massive concrete flooring at 3.86mPD. Different layers of concrete must have been added over time. Along the northwest side ran a modern plastic utility pipe of unknown function (excluding water, as there was a small hole in the pipe and no leaking) at about 3.70mPD. Along the

opposite southeast side was an older rusty metal utility pipe of also unknown function.

5.3.3.3 At about 3.05mPD a layer of reddish heavy sandy clay was found which at first was regarded as natural material from the surrounding hills. However, further cleaning proofed, that this layer just covered dark-brown sand mixed with modern bottles, a crumbled metal sheet, ceramic and molten plastic material. This rubbish dump was partially excavated down to a level of about 2.60mPD where further works were abandoned.

5.3.3.4 TP6 showed all features of a completely disturbed modern rubbish dump site. Being archaeologically sterile, recording of TP6 was kept to photo taking (Figure 14) and video recording. No section was drawn.

5.3.4 Test Pit 7 (TP7)

5.3.4.1 TP7 was excavated in the lane between Dormitory 1B and Clothing Store (Figure 7). It measured 1m × 2 m and was oriented with its long side along the U-drainage channel that runs in front of the mentioned building. About 1m northeast of TP7 was the electric switch room/box of this building. The strata of TP7 are presented in Table 5 and the section photo and section drawing are shown in Figures 15 and 16 respectively.

5.3.4.2 TP7 was covered by a present-day concrete flooring (C701) and slightly sloping towards the drainage U-channel (C703). In the southeast half of TP 7, an elder and partly broken concrete flooring (C702) preceded C701. The remains of C702 laid over a trench with modern utility pipes. This utility trench (C714) could be observed as vertical cut down to 3.53mPD. The trench was backfilled with a sandy fill mixed with modern construction waste (C713) and its bottom partially stained with rusty-red concretions (C715) possibly indicating iron and/or other pollutions.

5.3.4.3 The utility pipes laid in trench C714 consisted of a high voltage cable. This, already been cut, cable must have run at about 4.05mPD from the southwest corner of TP7 towards the electrical switch box. Underneath this cable ran a bundle of 2 × 2 (?) plastic utility pipes of unknown function. For not destabilizing the pipes only three were partly cleaned for documentation. Furthermore, a thinner electrical (?) cable just ran across plastic utility pipes at the northeast end of TP 7 towards the electrical switch box. This cable was

found to be almost crushed by a modern concrete slab in the fill of C713.

- 5.3.4.4 Due to these different pipes the southeast half of TP7 must down to about 3.50mPD be regarded as modern disturbed.
- 5.3.4.5 Along the northwest side of TP7 ran a present-day concrete U-channel (C703) for drainage. This followed a small trench (C705) for the construction of the drainage channel, which was, in turn, backfilled with a dark-grey sandy fill (C704). The northwest half of TP7 was filled with modern construction waste (C706) down to about 4.10mPD. This may have resulted in a thin layer of rusty-red to black concretions (C707) just underneath.
- 5.3.4.6 Another but far less pronounced similar coloured concretion (C709) followed at approximately 3.70mPD. C709 separated an upper layer of medium-brown sterile sand (C708) from a slightly brighter but also sterile sand layer (C710) down to the bottom of TP7 at 3.15mPD.
- 5.3.4.7 On the whole and in contrast to its other side, the northwest half of TP7 seemed below a level of about 4.00mPD to be far less disturbed. In the heap of excavated material of TP7, a rim fragment of a hard pottery stem cup dated to Spring and Autumn period was found.

5.3.5 Watching Brief (WB1)

- 5.3.5.1 Since some other construction works were going on inside Chi Sun Correctional Institution, the opportunity was caught to conduct a watching brief (WB1) at a trench nearby. WB1 was located at the north corner of Dormitory 2B in front of the General Storage (Figure 7).
- 5.3.5.2 The trench had already been dug to repair a metal pipe. It measured about 0.5m × 1.5m and was approximately 1m deep. For recording the trench needed only slight further cleaning. The bottom 15cm of the trench were original and of beige to bright grey sand. No particular structure or layering could be found within it. The Upper part of WB1 laid more dark brown sand with some blackish-brown spots and layering indicated the disturbance caused by previous construction works (Figure 17).
- 5.3.5.3 During the cleaning of WB1, two pieces of kiln furniture dated to Tang dynasty were collected.

5.3.6 Test Pit 8 (TP8)

- 5.3.6.1 TP8, measured 2m × 2m, was excavated inside the Dormitory CII which is located at the heartland of the Chi Sun Correctional Institution (Figure 7). The strata of TP8 are presented in Table 6 and the section photo and section drawing are shown in Figures 18 and 19 respectively.
- 5.3.6.2 TP8 was covered by a present-day 10 – 14cm thick concrete flooring (C801) at 5.23mPD superposing a 10cm thick layer of gravel (C802). Underneath followed by a layer of mottled clayey sand and sandy clay fill (C803). This 66 – 110cm modern fill may be regarded as result of forming the platform of Chi Sun Correctional Institution in which kiln furniture dated to Tang dynasty mixed with modern ceramic sherds, plastic sheet, glasses were unearthed.
- 5.3.6.3 At the southeast corner of TP8, a layer of dark brown sand (C805), probably disturbed or contaminated before the overlaying of C803. Below C805, there was a 0 – 50cm thick layer of reddish brown sand (C804), a cultural layer, in which pottery sherds and kiln furniture dated to Tang dynasty were unearthed. C804 was deposited on layers of light brownish yellow sand (C806) respectively light yellowish brown sand (C807), which in turn rested on a light yellowish brown coarse sand layer (C808) at the bottom of TP8.
- 5.3.6.4 From C808, an auger hole was drilled a further 160cm deep. The sequence of the auger hole was light yellowish brown coarse sand (C808), 20cm thick; light yellow sand (C809), 15cm thick; light brown sand (C810), 20cm thick; light brownish yellow coarse sand (C811), 8cm thick; brown coarse sand (C812), 25cm thick; brownish red coarse sand (C813), 7cm thick; brownish red grit (C814), 35cm thick; dark brownish red grit (C815), 12cm thick and grayish yellow grit C(816) at 2.03mPD, 18cm thick. No artifact was unearthed from the auger hole.
- 5.3.6.5 C804 was identified as cultural layer of Tang dynasty.

5.3.7 Test Pit 9 (TP9)

- 5.3.7.1 TP9, measured 2m × 2m, was excavated inside the Daily Activity Room (the former Book Binding Workshop). Similar to TP8, TP9 is also located at the heartland of the Chi Sun Correctional Institution (Figure 7). The strata of TP9 are presented in Table 7 and the section photo and section drawing are shown in

Figures 20 and 21 respectively.

- 5.3.7.2 TP9 was covered by a present-day 20cm thick concrete flooring (C901) at 4.66mPD superposing an 8 – 12cm thick layer of gravel (C902). Underneath followed by a 35 – 53cm thick layer of mottled sand modern fill (C903) in which tile fragment, quartz stones and kiln furniture were unearthed.
- 5.3.7.3 Below C903, there was a 6 – 20cm thick layer of very dark brown clayey sand (C907). Two pottery sherds were unearthed from this layer. C907 overlaid layers of dark brown clayey sand (C908) respectively brown clayey sand (C909), both cultural layers, in which pottery sherds, ceramic sherds and kiln furniture dated to Tang dynasty were found.
- 5.3.7.4 An archaeological feature, possibly a ditch (C910), was found under C909 (Figures 22 and 23). Considerable amount of kiln furniture and some pottery sherds were unearthed from its fill of dark brown clayey sand (C911). The ditch was almost linear, in northeast-southwest direction with at least 2m in length. Both its cut break into the side and the side break into the base were gradual and its base was almost flat. The maximum width of its surface and base were 125cm and 110cm respectively. The maximum depth of the ditch was 44cm.
- 5.3.7.5 The ditch (C910) cut the underneath layers of grayish brown sand (C912), light yellow sand (C913) and grayish yellow sand (C914). Pottery sherds dated to Tang dynasty were unearthed from C912. C913 was sterile and only existed at Northwest and Southeast corners of TP9 which rested on C914 at the bottom of TP9.
- 5.3.7.6 From C914, an auger hole was drilled a further 110cm deep until the water table was reached at 1.82mPD. The sequence of the auger hole was grayish yellow sand (C914), 20cm thick; light yellow sand (C915), 45cm thick; light yellow coarse sand (C916), 25cm thick; light brown coarse sand (C917), 5cm thick and light brown grit C(918) at 1.82mPD, 15cm thick. No artifact was unearthed from the auger hole.
- 5.3.7.7 In sum, layers C908 and C909 were identified as cultural layer of Tang dynasty while an archaeological feature (C910), possibly a ditch was found under layer C909. Considerable amount of kiln furniture and some pottery sherds also dated to Tang dynasty were unearthed from its fill (C911).

5.3.8 Test Pit 10 (TP10)

- 5.3.8.1 TP10 was proposed to be conducted inside the storeroom of the Dinning Hall (see Figure 7) but not excavated. The storeroom comparing with TP8 and TP9 was relatively small. With reference to the depth of the archaeological deposits revealed from TP8 and TP9, it was considered unsafe to excavate the proposed test pit down to 1.2m. The concrete breaking of the test pit would also raise a dust to the dinning hall. Since the findings from TP8 and TP9 were promising, it was considered unnecessary to excavate TP10 at this stage.

6. FINDS (Tables 8)

6.1 Chi Ma Wan Correctional Institution (Upper Camp) – Areas A and B

- 6.1.1 In TP 3 a rim fragment of a blue-and-white Wun Yiu bowl was found in C310 (Figure 24). This piece was associated in the same context with two unglazed village ware sherds. Such pottery combination suggests human activity on the site before the construction of Chi Ma Wan prison camp in 1956. However, the characteristics of the fragments are likely to date this between Late Qing and modern.

6.2 Chi Sun Correctional Institution (Lower Camp) – Area D

Archaeological deposits including pottery sherds, ceramic sherds as well as kiln furniture was unearthed from TP7, TP8, TP9 and WB1. Details are as follows:

6.2.1 Pottery Sherds

55 pieces of pottery sherds were found during the fieldwork. Among them, one could be dated to Spring and Autumn (春秋時代) period; 39 pieces could be dated to Tang dynasty and the rest is village wares unearthed from disturbed layer which their date could not be determined.

6.2.1.1 Stem Cup

- 6.2.1.1.1 In the heap of excavated material of TP7, a rim fragment of a hard pottery stem cup (TP7SF1) was found (Figure 25). This stem cup rim fragment is with slightly pronounced shoulder, simple round rim and a shallow cannellure inside. Its surface is beige to slightly orange-beige in colour and is unglazed and

undecorated. Rim diameter is 18cm.

- 6.2.1.1.2 A stem cup with comparable, undecorated rim (M117: 7) has, for example, been found in grave M117 of the Shang and Zhou period cemetery in Henglingshan in Bolou County, Guangdong (Guangdong Provincial Institute of Cultural Relics & Archaeology 2005). It was associated with vessels decorated with a combination of diamond/net pattern (M117: 2) as well as one with Double-F pattern (M117TB: 3). Grave M 117 dates into Period IV8B, which corresponds to Spring and Autumn (春秋時代) period.

6.2.1.2 Pottery Jar

- 6.2.1.2.1 39 sherds of Tang pottery jar were unearthed from TP8 and TP9 (see Figures 27 – 30). Representative pieces are presented below:

- 6.2.1.2.2 A rim fragment of pottery jar with loop-handles (TP8C804SF2) was unearthed from C804 of TP8 (Figure 31). This jar, with everted lip, round rim, collar neck and globular body, is covered with a brown glaze. The loop-handle was shed. Rim diameter is 20cm.

- 6.2.1.2.3 A rim fragment of pottery jar with loop-handles (TP9C911SF3) was unearthed from C911 of TP9 (Figure 32). This jar is with slightly everted lip, flattened rim, collar neck and globular body. Its surface is covered with a dark brown glaze. The loop-handle was shed. Rim diameter is 20cm.

- 6.2.1.2.4 A rim fragment of pottery jar (TP9C908SF4) was unearthed from C908 of TP9 (Figure 33). This jar is with slightly everted lip, round rim, collar neck and round shoulder. Its surface is covered with a dark brown glaze. Rim diameter is 17cm.

- 6.2.1.2.5 Two base fragments of pottery jars were found in C909 and C911 of TP9 respectively. Both base fragments are with flat base and covered with a dark brown glaze. The diameter of the base fragments is 17.2cm (TP9C909SF5) (Figure 34) and 18cm (TP9C911SF6) (Figure 35) correspondingly.

6.2.2 **Ceramic Sherds**

- 6.2.2.1 7 pieces of Tang ceramic sherds were unearthed from C908 of TP9 (Figure 36). It is believed that they are belonged to the same ceramic bowl but cannot be

reconstructed. One of the rim fragments of this bowl (TP9C908SF7) reveals that this bowl is with flared mouth, round rim and slanting sides. Rim diameter is 15cm (Figure 37).

6.2.3 Kiln Furniture

- 6.2.3.1 261 pieces of Tang kiln furniture were unearthed from different layers in WB1, TP8 and TP9 (Figures 38 to 40). About 55% (144 pieces) of Tang kiln furniture was unearthed from C911 (fill of a ditch C910) in TP9.
- 6.2.3.2 Fragments like these can be found as part of kilns and are commonly referred to as *kiln sausages*. *Sausages, bars, mushrooms* and *props* were roughly hand formed pieces of clay that were assembled to form the grate of a lime kiln (Cameron 1993: 106). This grate supported corals and fuel during the burning process and insured the flow of oxygen. Grooves are found on the kiln furniture indicating that some kind of forming process (kneading) had been applied to them. The representative pieces are presented as follows:
- 6.2.3.3 The shape of TP9C908SF8 (Figure 41) unearthed from C908 of TP9 is similar to a stone pounder. It is 19cm long and its width is 5.8cm at one end and 3.3cm at the other end.
- 6.2.3.4 TP9C909SF9 (Figure 42) from C909 of TP9 is a small cylinder. It is 10.3cm long and its maximum width is 4.4cm.
- 6.2.3.5 Kiln furniture TP9C909SF10 (Figure 43) from C909 of TP9 is 11cm long and its maximum width is 6.9cm. A particular point is that one of its ends is concave in shape for inlaying other parts of the kiln.
- 6.2.3.6 TP9C911SF11 (Figure 44) from C911 of TP9 is a narrow and longer one. Kneading grooves can be observed around its body. The length of this kiln furniture is 13.7cm and its maximum width is 3.8cm.
- 6.2.3.7 Both TP9C911SF12 (Figure 45) and TP9C911SF13 (Figure 46) were unearthed from C911 of TP9. Their triangular shape with flat base indicates that both of them are used as some kind of supporting although the former is bevelled while the latter is upright. Their maximum heights are 8.3cm and 9.3cm respectively.
- 6.2.3.8 The Tang kiln furniture unearthed from Chi Ma Wan Prison Area is similar to

those kiln furniture found from Cheung Sha Wan, Lantau (Environmental Resources Management 2009) as well as Sham Wan Tsuen on Chek Lap Kok Island (Meacham 1994).

7. DISCUSSIONS AND RECOMMENDATIONS

Evidence for the presence of cultural deposits within Chi Ma Wan Prison Area has been found in this Archaeological Impact Assessment, including Tang deposits in TP8, TP9 and WB1 as well as prehistoric pottery in TP7 within Chi Sun Correctional Institution. Based upon the results, Figure 3 is referred where different areas have been identified for different actions as redevelopment works continue.

7.1 Area A – Chi Ma Wan Correctional Institution (Upper Camp)

- 7.1.1 The upper camp area with today's Chi Ma Wan Correctional Institution is located on a hill top that has been modified for the construction of the prison in 1956. There is very little information available about the original landscape before construction works. However, it is possible that the area between fountain and water tank may have been a kind of natural saddle between two hill tops, which is now filled and enlarged with material cut from the rest of Chi Ma Wan Correctional Institution. Therefore, the part where the dormitories are located is likely to be destroyed as TP2 suggests. As such, no further archaeological work will be recommended at Area A.

7.2 Area B – Around Dining Hall of Upper Camp

- 7.2.1 A blue-and-white Wun Yiu bowl sherd was found in TP3. This piece was associated in the same context with two unglazed village ware sherds. The characteristics of the fragments could be attributed to Late Qing and modern. The archaeological potential of Area B is considered as very low and no archaeological work will therefore be recommended.

7.3 Area C – Small Valley from Area A to the Beach

- 7.3.1 Map search reveals that the small valley leading down from TP3 towards the sea was used for small scale terraced farming or gardening in 1905. Even though the area is very small, it shows that on Chi Ma Wan Peninsula also such places had been used for dwelling. Therefore, it is advisable to further investigate in

this part to confirm its archaeological potential although the redevelopment project will not encroach on Area C.

7.4 Area D – Chi Sun Correctional Institution (Lower Camp)

7.4.1 Even though also rather little information is obtainable for the original situation of the Lower Camp area, the desktop study has shown that modern construction works have had an ambivalent effect on it. On the one hand, different utility pipes in the lanes between the buildings have disturbed some of the deposits. On the other hand, no high-rise buildings requiring deep-grounding foundations have been erected and most of the place is sealed with different layers of fill and concrete. Therefore, there is a fair chance that some archaeological remains have been preserved particularly underneath the buildings themselves.

7.4.2 Test pit excavations have confirmed the archaeological potential inside Chi Sun Correctional Institution and the archaeological deposits had not been fully destroyed by the modern construction works. The considerable amount of kiln furniture unearthed from a 2m × 2m test pit (TP9) strongly suggests the existence of kiln features in the Lower Camp area.

7.4.3 Based on the field data collected from this AIA, the archaeological deposits dated to Tang dynasty has been confirmed although its exact extent could not be fully revealed due to the existing operation needs of Chi Sun Correctional Institution. The presence of prehistoric pottery sherd indicates the existence of prehistoric remains in the site. A rescue excavation at Chi Sun Correctional Institution after the demolition of the existing buildings and prior to the commencement of the redevelopment project is therefore recommended. Figure 47 indicates the area with archaeological potential. An advanced survey at this area will be undertaken to define the scope of the rescue excavation area.

8. ACKNOWLEDGEMENTS

8.1 The following departments and their staff are to be thanked for their support and cooperation to this Archaeological Impact Assessment:

- Project Management Branch 2, Architectural Services Department
- Correctional Services Department
 - Chi Ma Wan Correctional Institution (Upper Camp)
 - Chi Sun Correctional Institution (Lower Camp)
 - Works and Planning Section, Administration and Planning Division
- Survey and Mapping Office, Lands Department
- Transport Operations (NT) Division, Transport Department

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Table 1 List of Aerial Photographs (see relevant photos in Appendix II)

	Date	Ref. No.	Remarks
(1)	11.11.1945	4118	Upper camp area is a natural hilltop; lower camp area is low-laying land with grass and paddy field.
(2)	11.11.1945	3112	As above (1)
(3)	22.01.1962	0114	Upper camp exists; sports ground and no building on the lower camp area.
(4)	13.12.1964	2470	Lower camp area maintained as sports ground.
(5)	04.04.1973	3767	As above (4).
(6)	19.12.1975	11683	Lower camp area maintained as sports ground although some clouds covered the site.
(7)	24.11.1980	33238	Some huts were built on the lower camp area.
(8)	03.02.1981	36463	Buildings on lower camp are clearly visible.

Table 2 Strata of TP2

Context No.	Description	Thickness (cm)
C201	Present-day lawn surface of flower bed.	N.A.
C202	Medium-brown sandy top soil of C201; sterile.	10 – 15
C203	Hard surface of yellowish-grey to Bordeaux-red mottled material; fill or weathered bed rock (?); sterile.	0 – 7
C204	Yellowish-grey to Bordeaux-red mottled clayish-sandy to sandy-clay material; in colour very similar to C203 but softer; sterile.	56 – 65
C205	Material same as C204 but sometimes harder; sterile.	1.53
C206	Negative of ditch for utility pipe of unknown function.	N.A
C207	Yellowish-grey fill of C206; sterile.	0 – 14
C208	Negative of shallow, flat-bottomed pit or ditch; no continuation in southwest section; sterile.	N.A.
C209	Dark-brown fill of C208; sterile.	0 – 12
C210	Upper half of C208 filled with more reddish clayish sand; material could be a mix of C202 and C204; sterile.	0 – 16

Table 3 Strata of TP3

Context No.	Description	Thickness (cm)
C301	Light-brown sandy clay; present-day top soil; sterile.	2 – 4
C302	Brown sandy clay; modern fill; sterile.	8 – 10
C303	Dark, blackish-brown clay; modern fill of trench C304; sterile.	0 – 9
C304	Negative of trench dug for modern water pipe; sterile.	N.A.
C305	Dark, blackish-brown clay; modern feature of unknown function; only in southwest corner; not drawn; sterile.	N.A.
C306	Unknown modern disturbance; only in southwest corner; not drawn; sterile.	N.A.
C307	Brownish-red sandy clay; artificial fill while forming the platform for the modern development; sterile.	15 – 38
C308	Dark-brown sandy clay with red mottles; fill of modern pipe trench; sterile.	0 – 46
C309	Trench for modern water pipe; truncated by C304; sterile.	N.A.
C310	Dark-brown sandy clay; possibly the original surface before the construction of the prison camp; pottery and blue-and-white sherds dated from late Qing to modern unearthed.	15 – 32
C311	Light-brown sandy clay; natural layer; sterile.	0 – 10
C312	Dark-red decomposed, weathered rock layer; sterile.	6 – 14

Table 4 Strata of TP4

Context No.	Description	Thickness (cm)
C401	Present-day walking level.	N.A.
C402	Present-day lawn and flower bed.	N.A.
C403	Humus of present-day flower bed; sterile.	0 – 2
C404	Rusty-red sandy clay; top soil; sterile.	1 – 9
C405	Modern flower soil with little bush in the middle of the flower bed; sterile.	6 – 19
C406	Fill with modern construction waste; sterile.	12 – 76
C407	Modern concrete flooring.	N.A.
C409	Slightly greyish-beige sand; sterile.	26 - 76
C410	Root canal; sterile.	0 -48
C412	Concrete block.	N.A.
C415	Auger hole with beige sand; water table at about 1.85mPD; sterile.	95

Remark: C406, C408 and C413 were combined as C406.
C411 and C414 were cancelled.

Table 5 Strata of TP7

Context No.	Description	Thickness (cm)
C701	Present-day concrete flooring.	5
C702	Modern but partly broken concrete flooring over trench with bundle of 2 × 2 modern plastic utility pipes.	12
C703	Present-day concrete U-channel for drainage along northwest section of TP 7; sterile.	Not measured
C704	Medium compacted dark-grey sandy backfill of C705; sterile.	0 – 20
C705	Trench dug for the construction of concrete U-channel C703; sterile.	N.A.
C706	Modern fill mixed with construction waste; sterile.	0 – 22
C707	Rusty-red to black concretion; sterile.	1 – 2
C708	Medium-brown, slightly moist sand; sterile.	36 – 44
C709	Rusty-red to black concretion; sterile.	1 – 2
C710	Medium-brown sand; slightly brighter than C708; sterile.	33 – 53
C713	Sandy fill mixed with modern construction waste of all kinds; sterile.	0 – 66
C714	Trench negative of C712.	N.A.
C715	Rusty-red concretion at the bottom of modern trench C714; sterile.	0 - 3

Remark: C711 and C712 were cancelled.

Table 6 Strata of TP8

Context No.	Description	Thickness (cm)
C801	Present concrete floor.	10-14
C802	Gravel; modern fill; sterile.	0-10
C803	Mottled clayey sand and sandy clay; modern fill; modern ceramic sherds, plastic sheet, glasses, kiln furniture unearthed.	66-104
C804	Reddish brown sand; possibly cultural layer; pottery sherds, kiln furniture dated to Tang dynasty unearthed.	0-50
C805	Dark brown sand; disturbed and contaminated soil; only exist at southeast corner of TP8; sterile.	0-44
C806	Light brownish yellow sand; sterile.	0-28
C807	Light yellowish brown sand; sterile.	0-25
C808	Light yellowish brown coarse sand; sterile.	48
C809	Light yellow sand; sterile.	15
C810	Light brown sand; sterile.	20
C811	Light brownish yellow coarse sand; sterile.	8
C812	Brown coarse sand; sterile	25
C813	Brownish red coarse sand; sterile.	7
C814	Brownish red coarse grit; sterile.	35
C815	Dark brownish red grit; sterile.	12
C816	Grayish yellow grit; sterile.	18

Table 7 Strata of TP9

Context No.	Description	Thickness (cm)
C901	Present concrete floor.	16 – 20
C902	Gravel; modern fill; sterile.	6 – 10
C903	Mottled sand; modern fill; pottery sherds, ceramic sherds, kiln furniture unearthed.	38 – 60
C907	Very dark brown clayey sand; few pottery sherds unearthed.	6 – 18
C908	Dark brown clayey sand; cultural layer; pottery sherds, ceramic sherds, kiln furniture dated to Tang dynasty unearthed.	12 – 24
C909	Brown clayey sand; cultural layer; pottery sherds, ceramic sherds, kiln furniture dated to Tang dynasty unearthed	6 – 24
C910	Archaeological feature, possibly a ditch; considerable amount of kiln furniture and some pottery sherds dated to Tang dynasty unearthed from its fill (C911).	N.A.
C911	Dark brown clayey sand; fill of C910; considerable amount of kiln furniture and some pottery sherds dated to Tang dynasty unearthed.	0 – 44
C912	Grayish brown sand; pottery sherds dated to Tang dynasty unearthed.	0 – 40
C913	Light yellow sand; only exist at Northwest and Southeast corner of TP9; sterile.	0 – 28
C914	Grayish yellow sand; sterile.	30
C915	Light yellow sand; sterile.	45
C916	Light yellow coarse sand; sterile.	25
C917	Light brown coarse sand; sterile.	5
C918	Light brown grit; water table at about 1.82mPD; sterile.	15

Remark: C903, C904, C905 and C906 are modern fill of TP9 and were combined as C903.

Table 8 Archaeological Finds Unearthed from Chi Ma Wan Prison Area

Test Pit	Context No.	Finds Unearthed						
		Spring and Autumn Period Pottery	Tang Kiln Furniture	Tang Pottery	Tang Ceramic	Late Qing to Modern Ceramic/Village Ware	Tile	Quartz
TP3	C310					3		
TP7	N/A	1						
TP8	C803		15	1		11	3	
	C804		21	5				
TP9	C903		4				13	6
	C907					2		
	C908		40	5	7			1
	C909		35	4				
	C911		144	15				
	C912			9				
WB1	N/A		2					
Total:		1	261	39	7	16	16	7

Remark: Special Finds (SF) are also included in the above table.

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- Figure 47 Area with Archaeological Potential



Figure 1 Location of Chi Ma Wan Peninsula

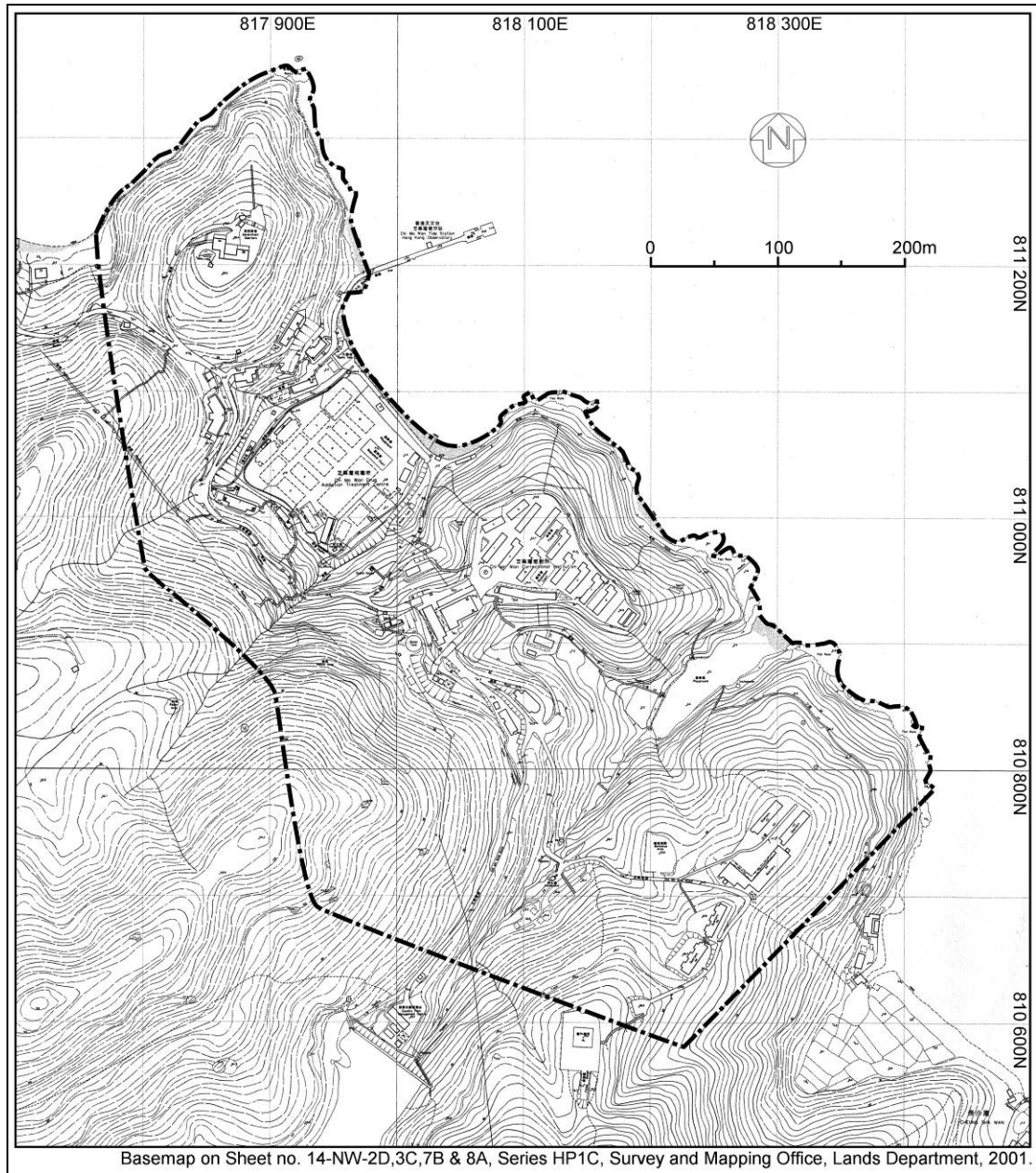


Figure 2 Project Area of the Proposed Redevelopment of Chi Ma Wan Prison Area

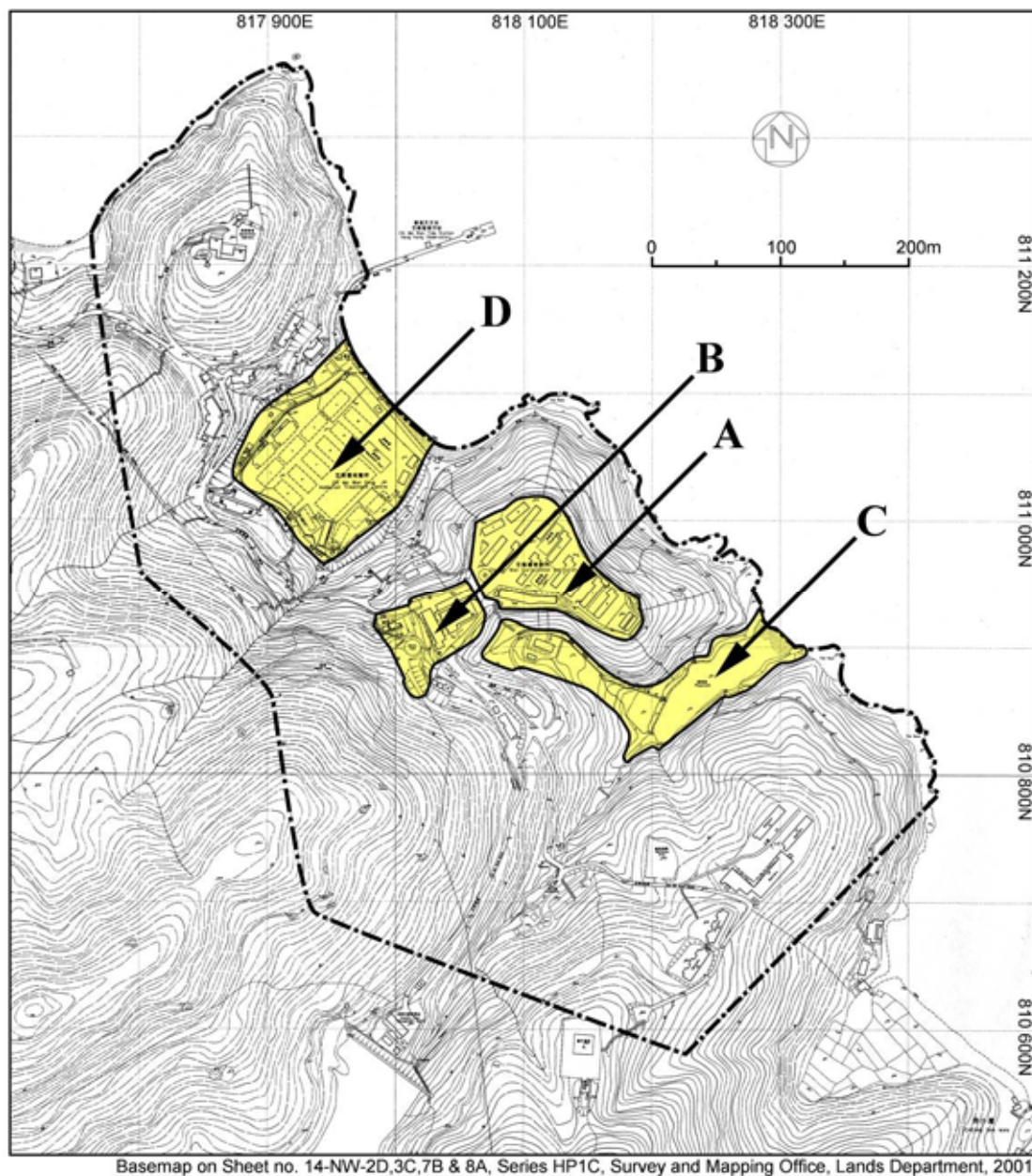


Figure 3 Archaeological Potential Areas within Chi Ma Wan Prison Area identified through Desktop Study

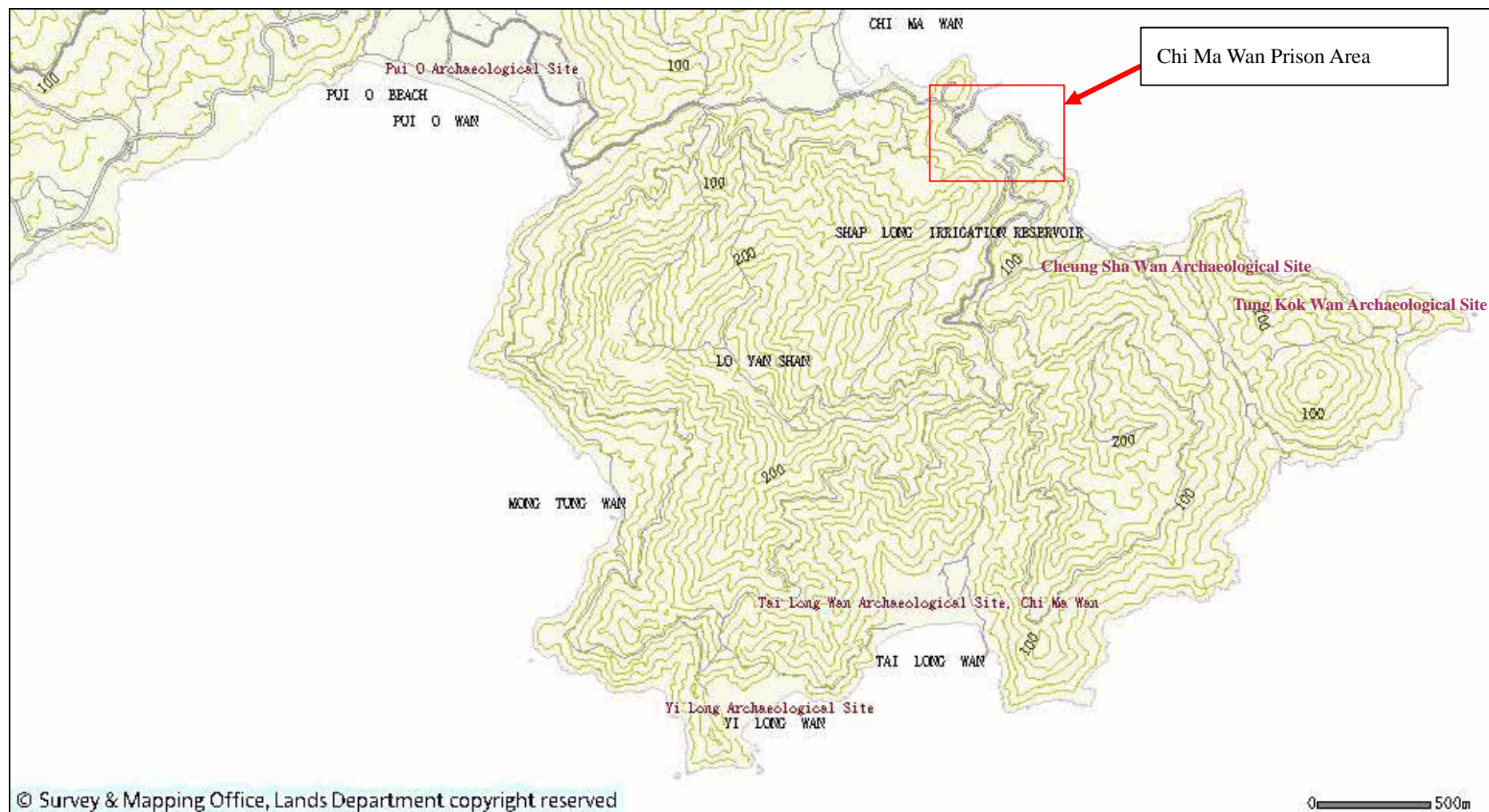


Figure 4 Archaeological Sites Situated around the Chi Ma Wan Peninsula

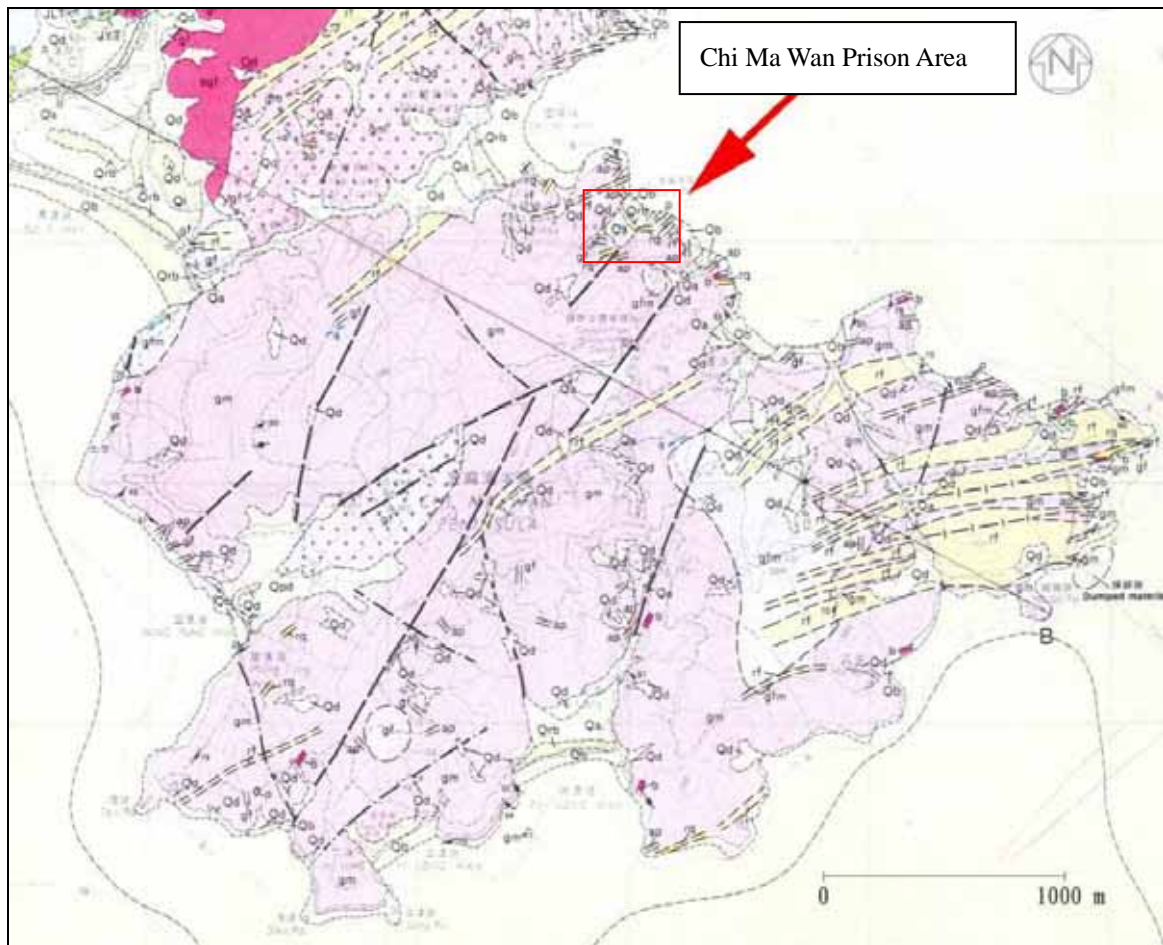


Figure 5 Geological Map of Chi Ma Wan Peninsula (Source: Hong Kong Geological Survey, Solid and Superficial Geology, Series HGM20, Edition 1-1995, Sheet 14, Geotechnical Engineering Office)

Superficial Deposits

	<u>Genetic Classification</u>	<u>Principal Materials</u>
Qa	Alluvium	Slit, Sand and Gravel
Qb	Beach Deposits	Sand
Qrb	Raised Beach Deposits	Sand

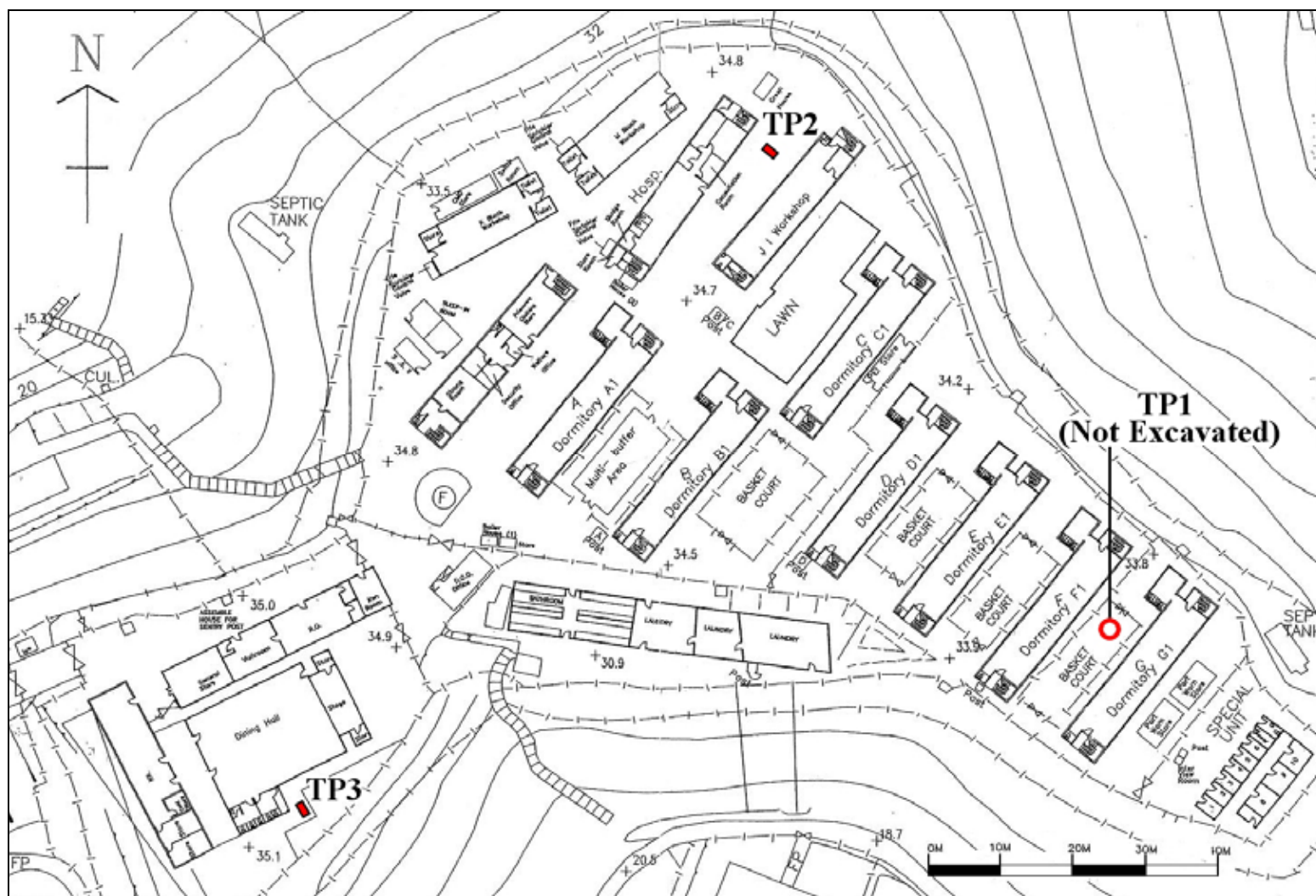


Figure 6 Test Pit Locations at Chi Ma Wan Correctional Institution

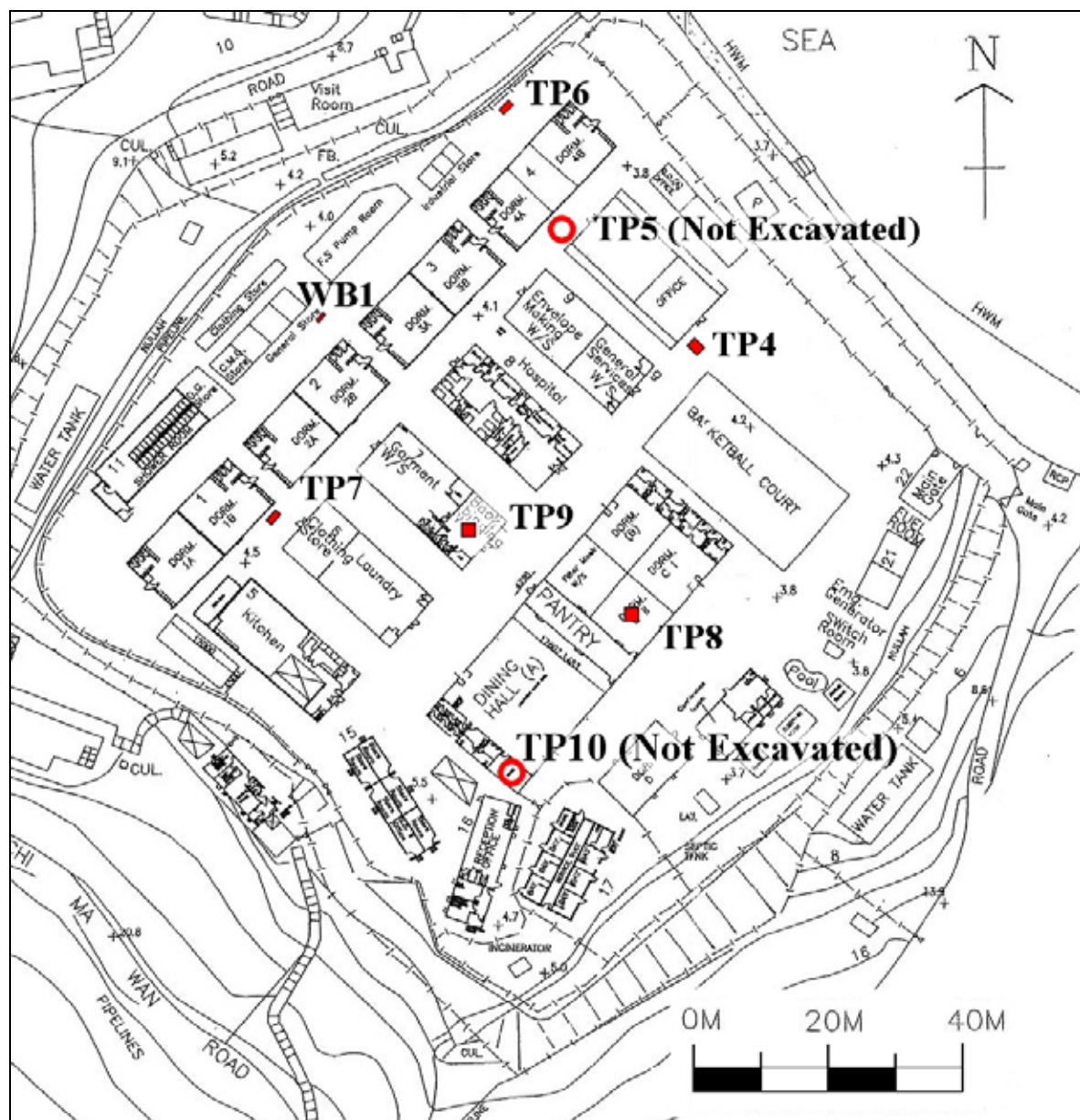


Figure 7 Test Pit Locations at Chi Sun Correctional Institution



Figure 8 Northeast Section of TP2

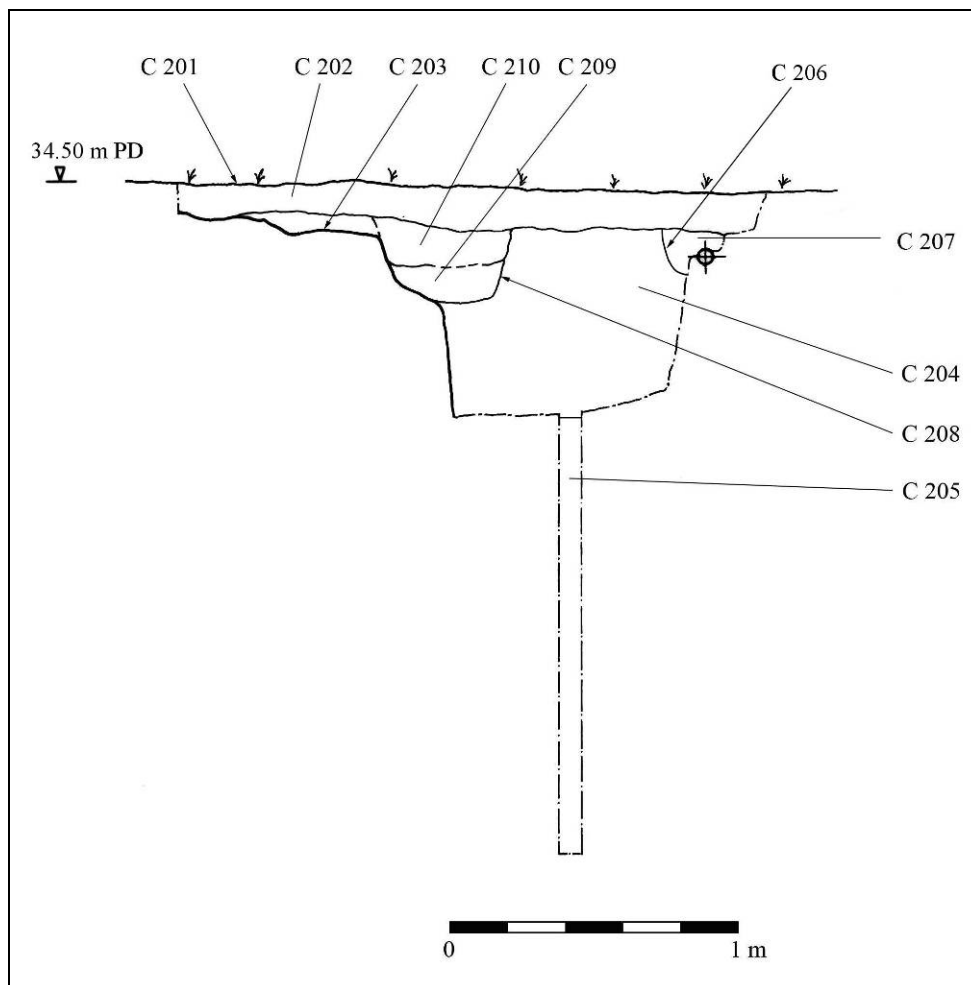


Figure 9 Northeast Section Drawing of TP 2



Figure 10 East Section of TP3

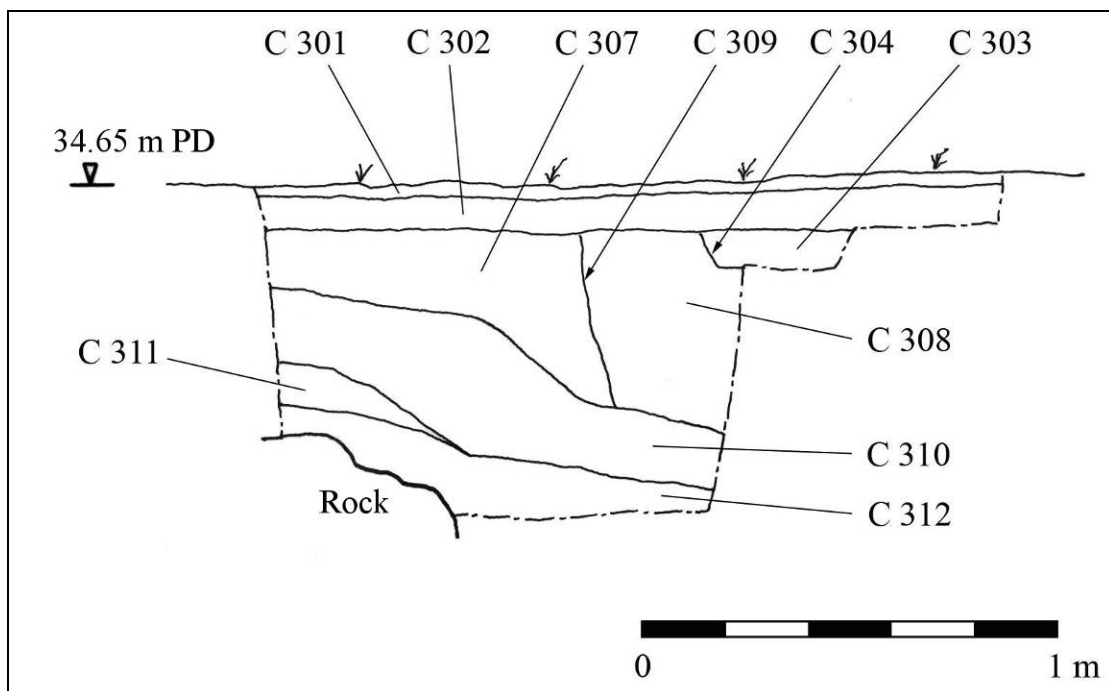


Figure 11 East Section Drawing of TP3



Figure 12 Northwest Section of TP4

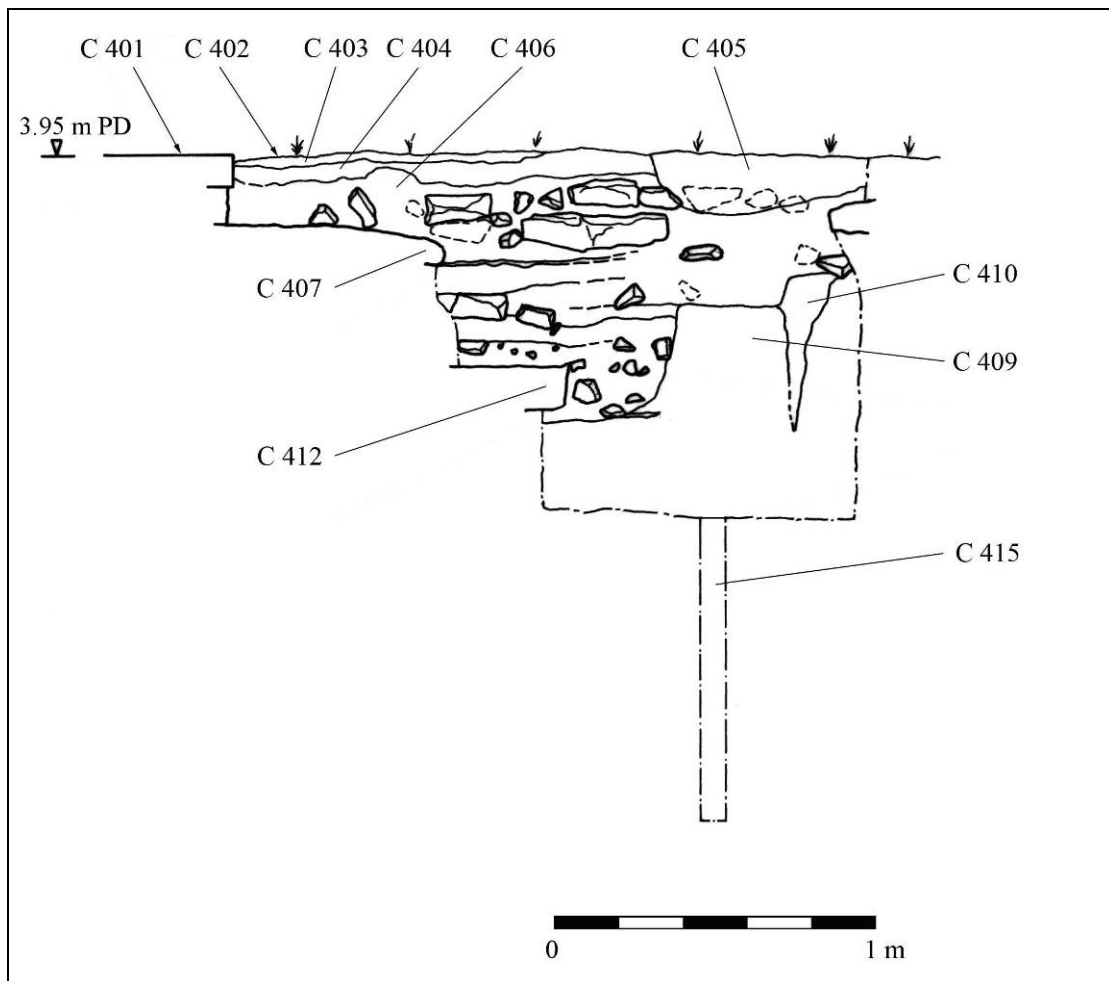


Figure 13 Southwest Section Drawing of TP4



Figure 14 Northwest Section of TP6



Figure 15 Southwest Section of TP7

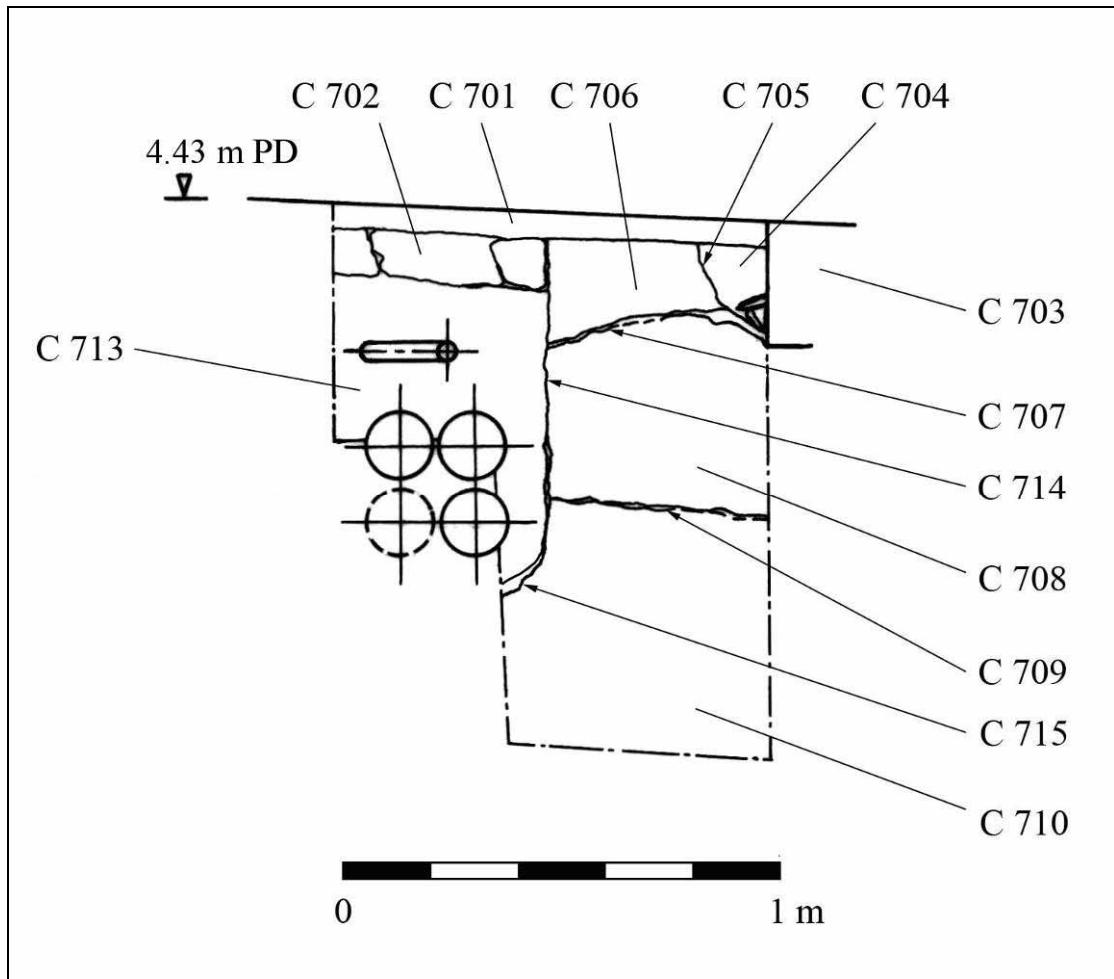


Figure 16 Southwest Section Drawing of TP7



Figure 17 Northwest Section of WB1



Figure 18 West Section of TP8

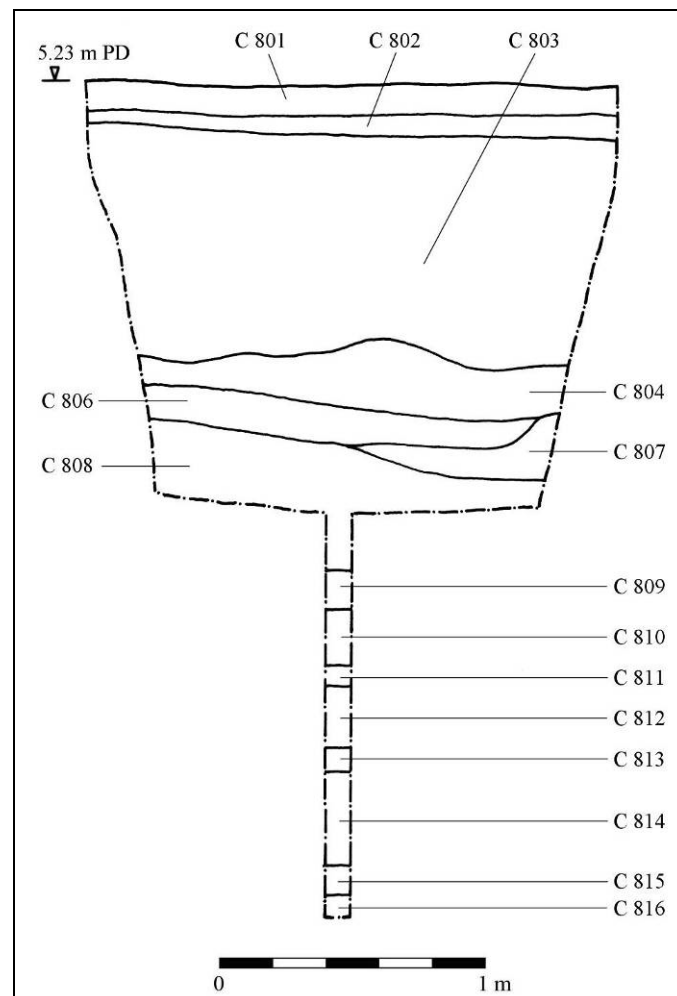


Figure 19 West Section Drawing of TP8



Figure 20 West Section of TP9

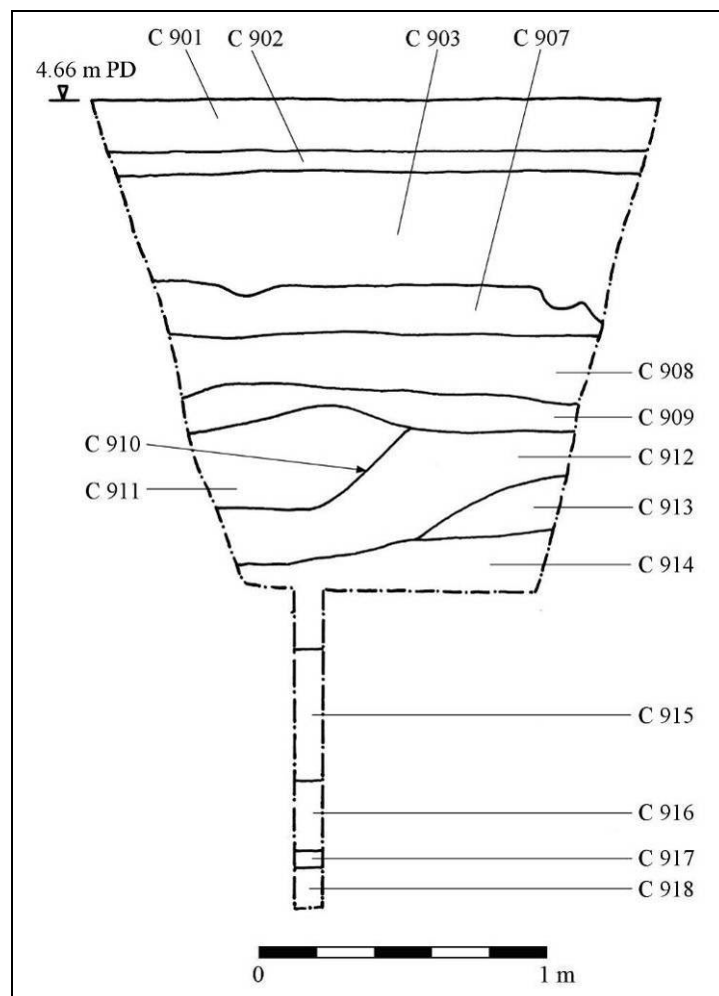


Figure 21 West Section Drawing of TP9



Figure 22 A Ditch (C910) Found in TP9 (from Southwest to Northeast)

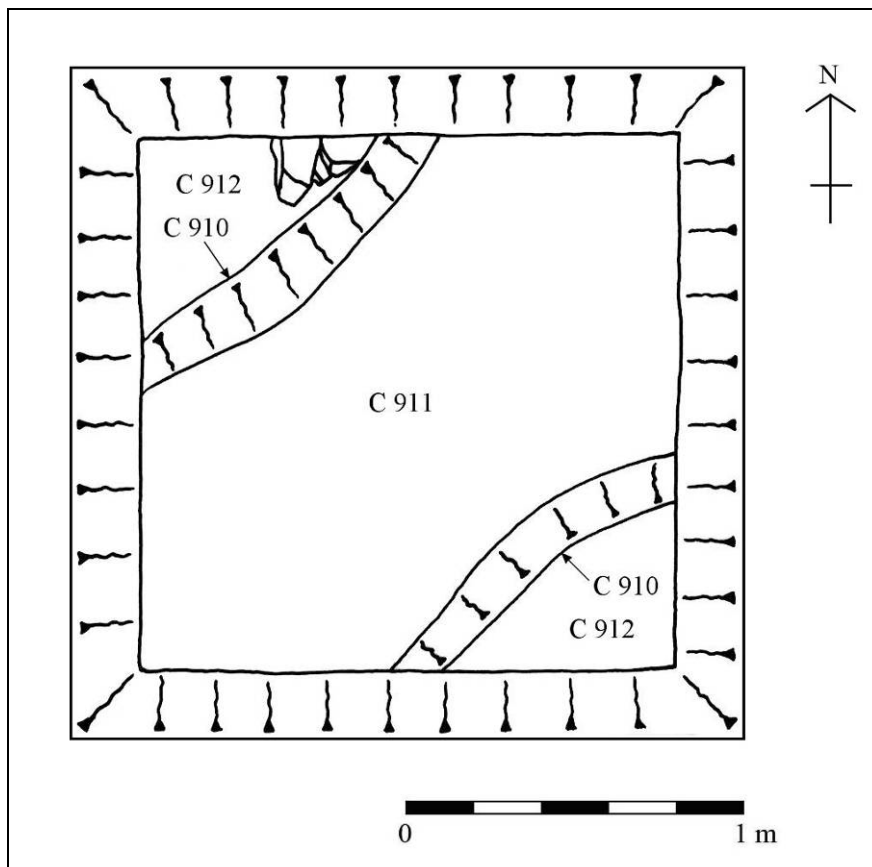


Figure 23 Floor Plan of a Ditch (C910) Found in TP9



Figure 24 Wun Yiu Rim Fragment

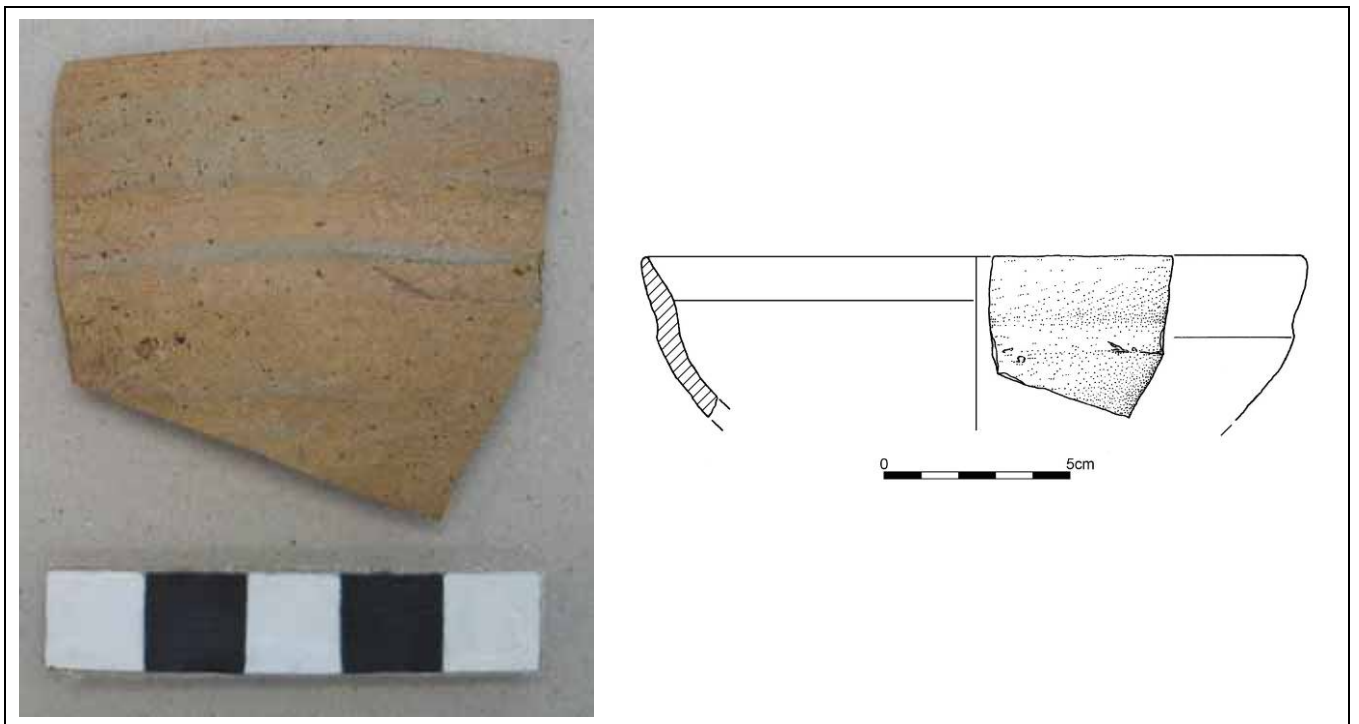


Figure 25 Rim Fragment of Hard Pottery Stem Cup (TP7 SF1)



Figure 26 Tang Pottery Shards Unearthed from C804 of TP8



Figure 27 Tang Pottery Shards Unearthed from C908 of TP9



Figure 28 Tang Pottery Shards Unearthed from C909 of TP9



Figure 29 Tang Pottery Shards Unearthed from C911 of TP9



Figure 30 Tang Pottery Shards Unearthed from C912 of TP9

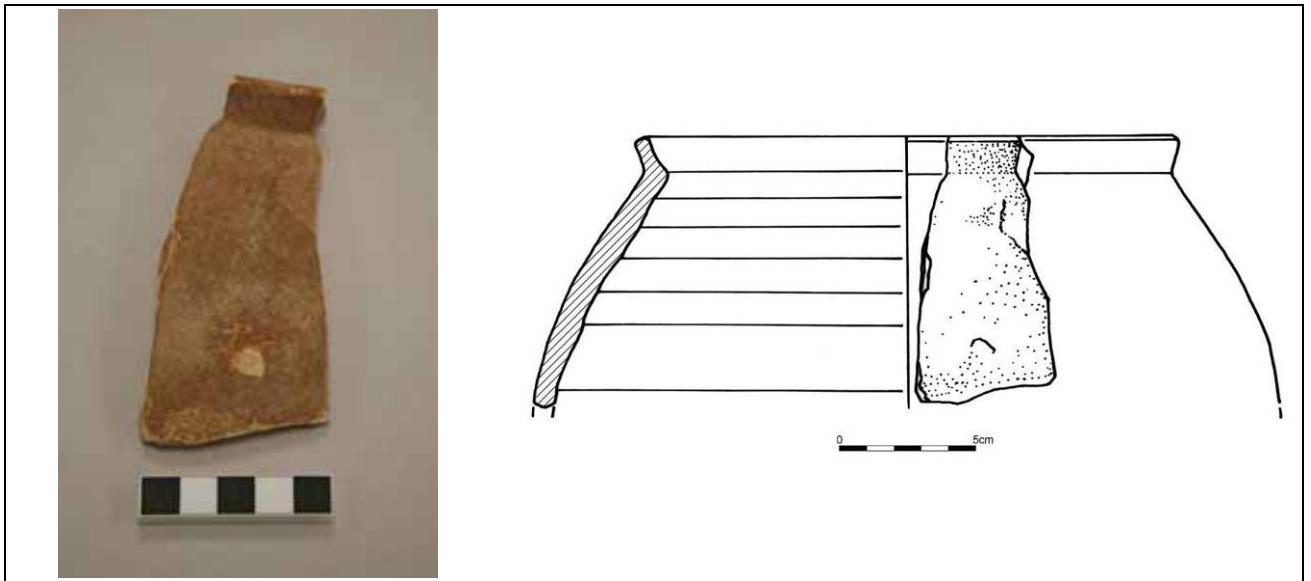


Figure 31 Rim Fragment of Pottery Jar with Loop-Handles (TP8C804SF2)

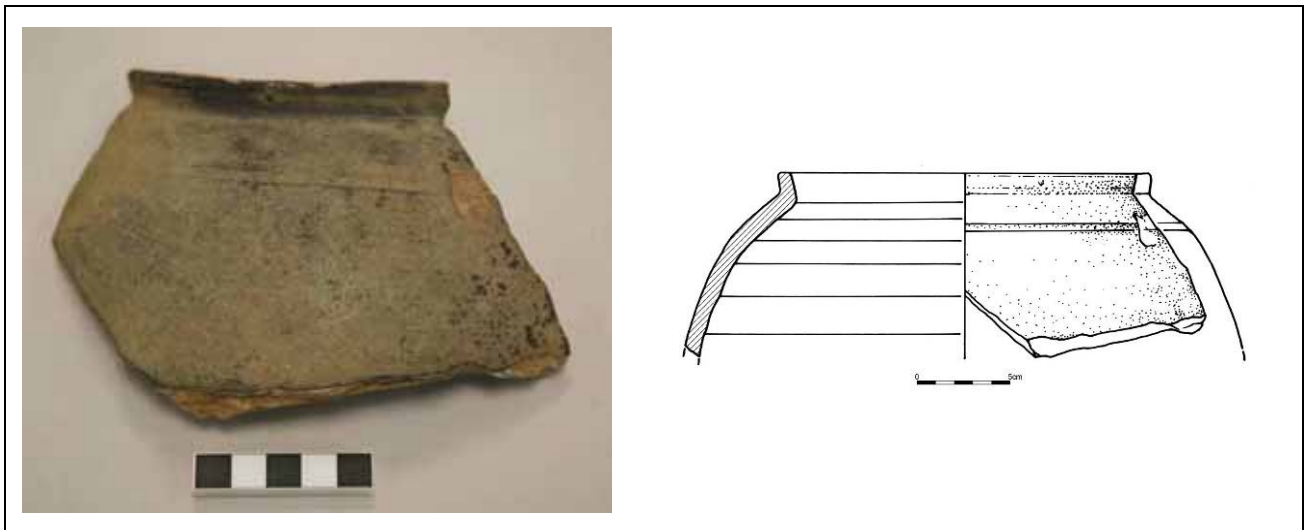


Figure 32 Rim Fragment of Pottery Jar with Loop-Handles (TP9C911SF3)

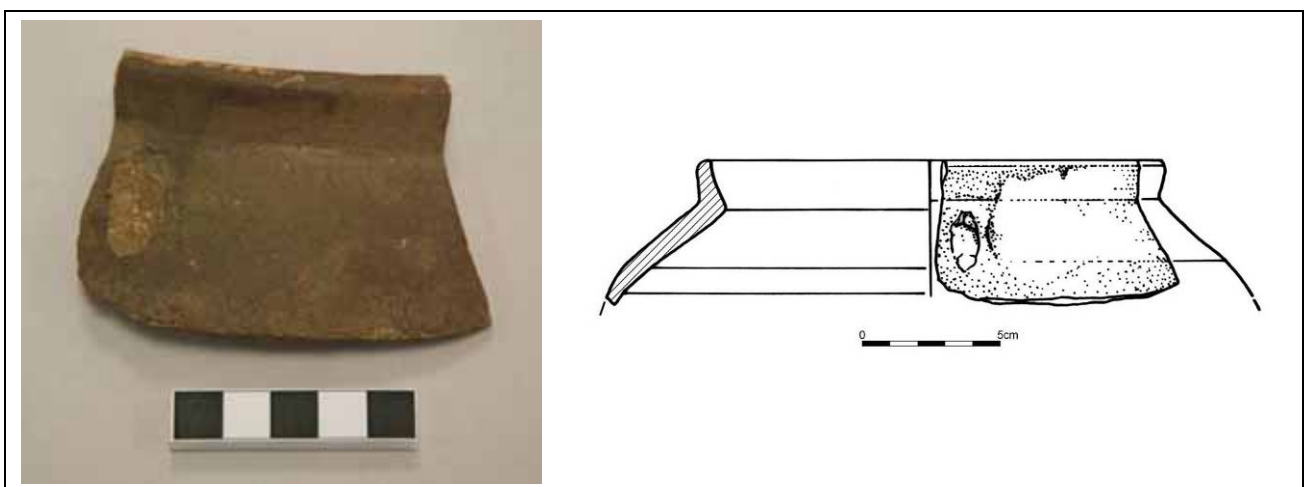


Figure 33 Rim Fragment of Pottery Jar (TP9C908SF4)

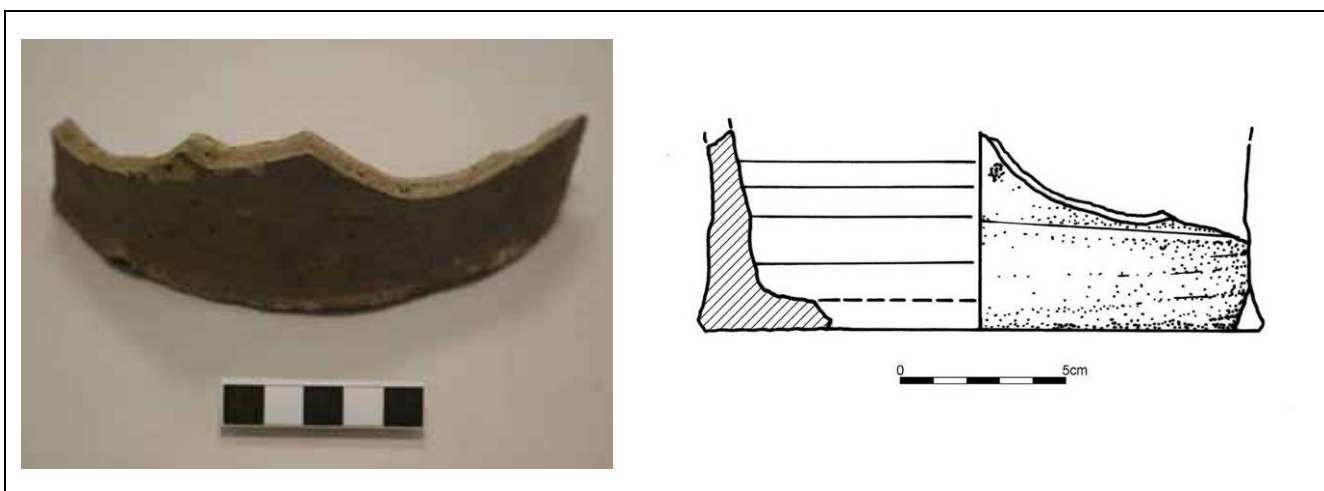


Figure 34 Base Fragment of Pottery Jar (TP9C909SF5)

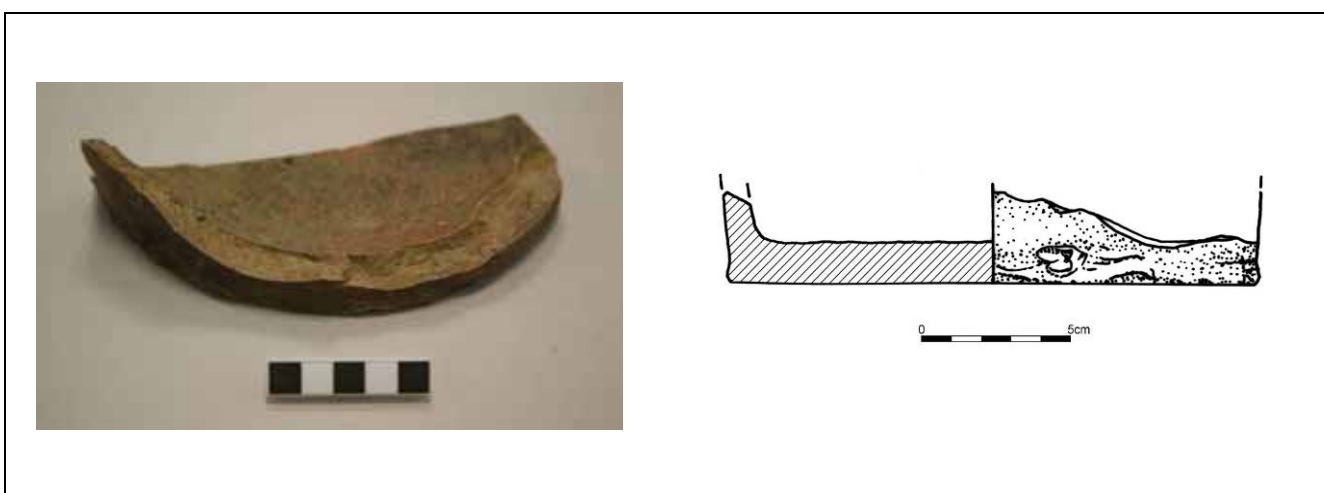


Figure 35 Base Fragment of Pottery Jar (TP9C911SF6)



Figure 36 Ceramic Sherds Unearthed from C908 of TP9

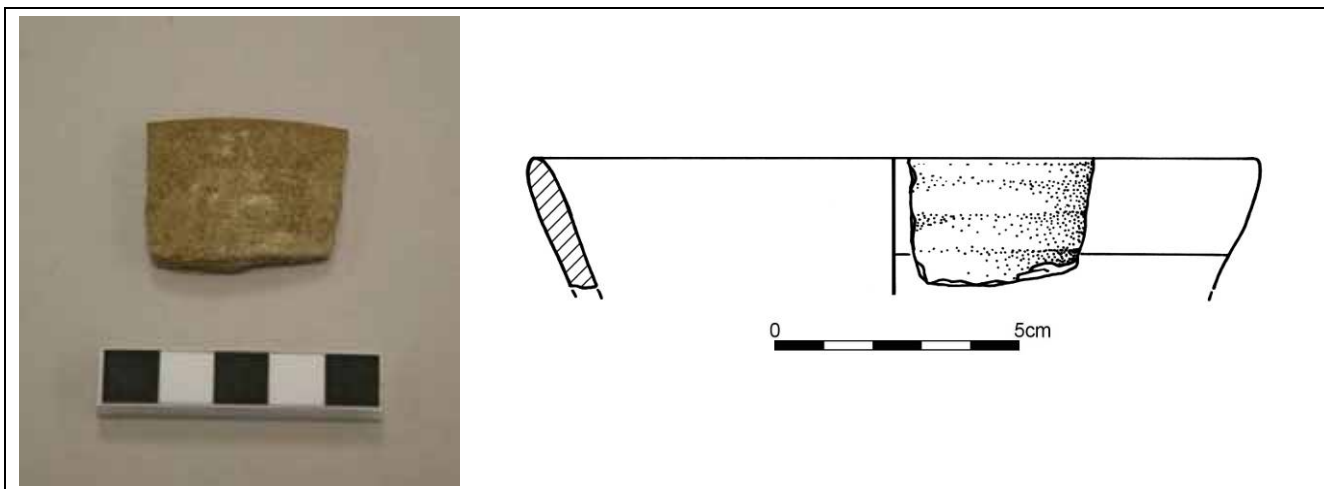


Figure 37 Rim Fragment of Ceramic Bowl (TP9C908SF7)



Figure 38 Kiln Furniture Unearthed from C804 of TP8



Figure 39 Kiln Furniture Unearthed from C908 of TP9



Figure 40 Kiln Furniture Unearthed from C909 of TP9

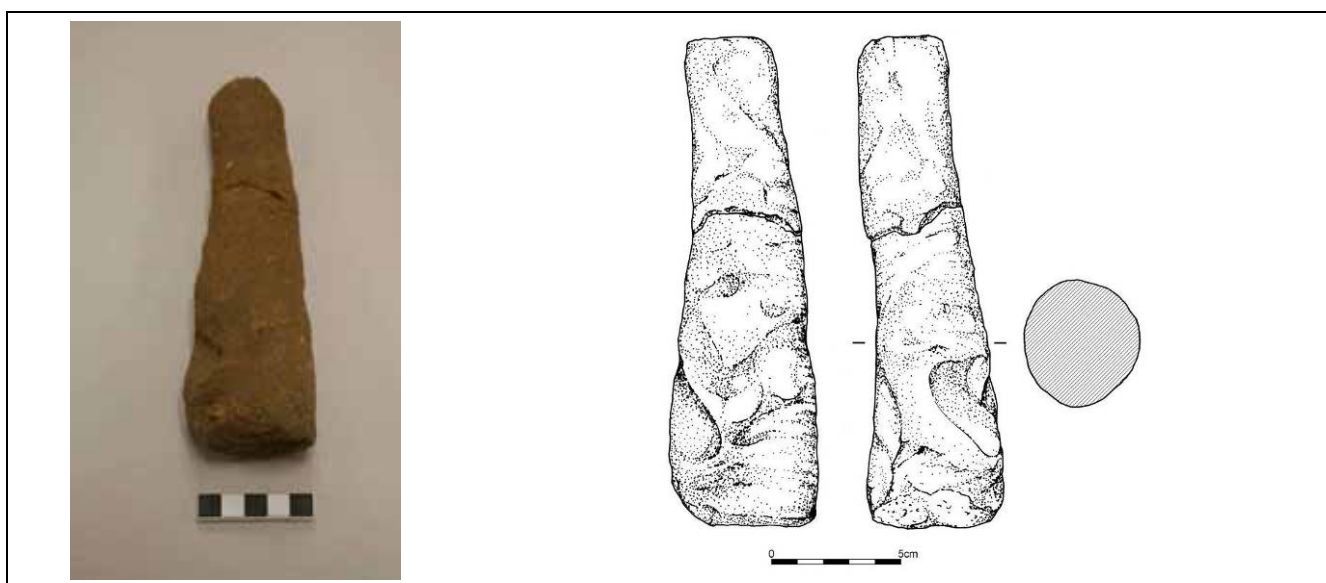


Figure 41 Kiln Furniture TP9C908SF8

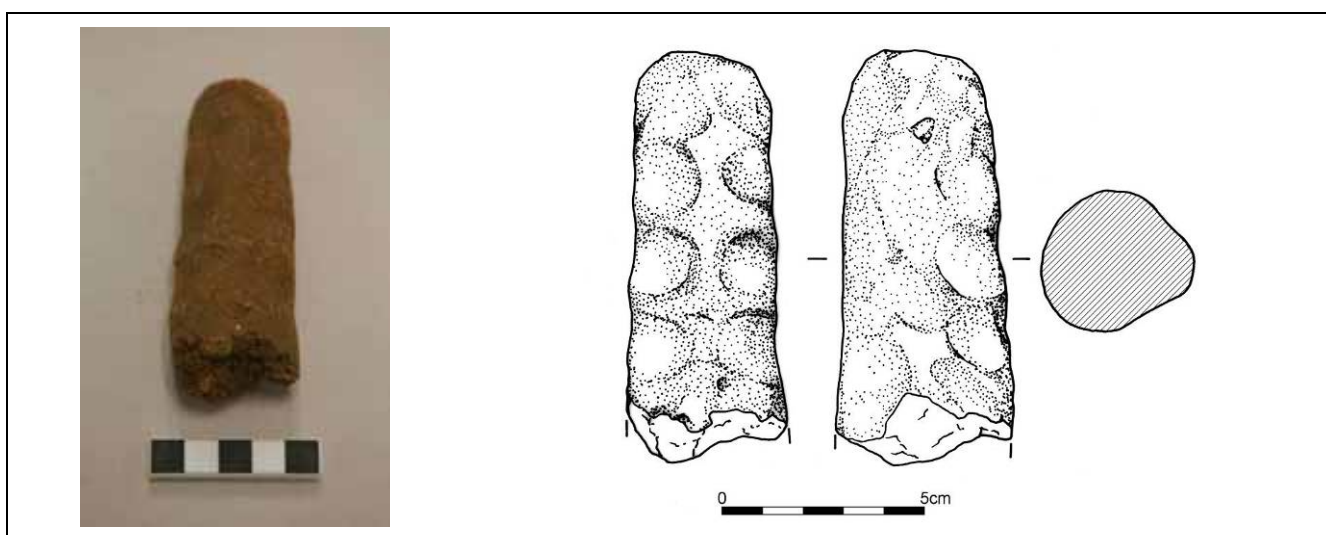


Figure 42 Kiln Furniture TP9C909SF9

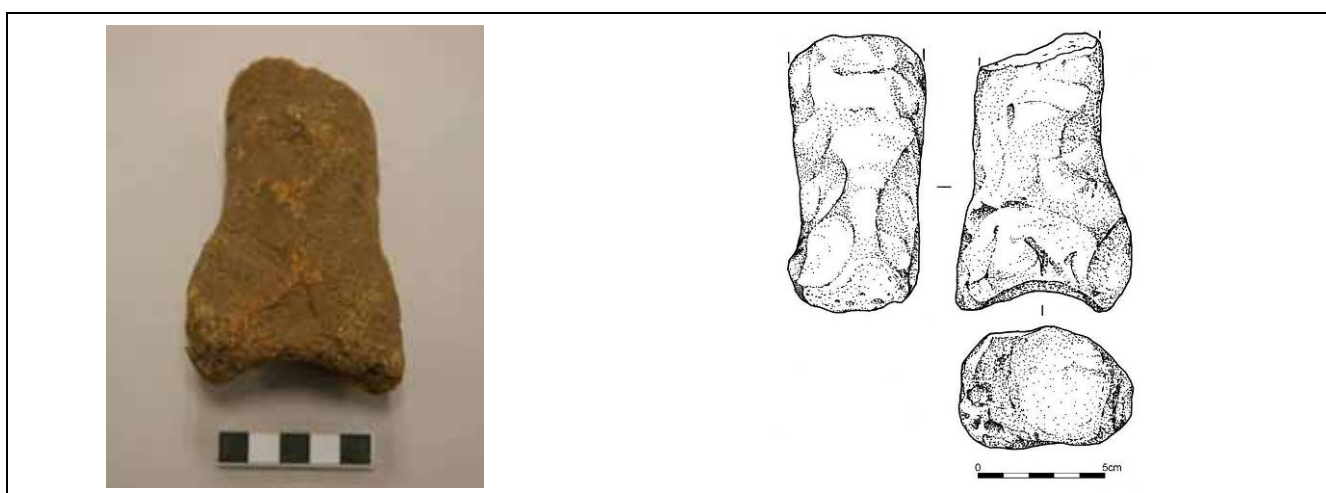


Figure 43 Kiln Furniture TP9C909SF10

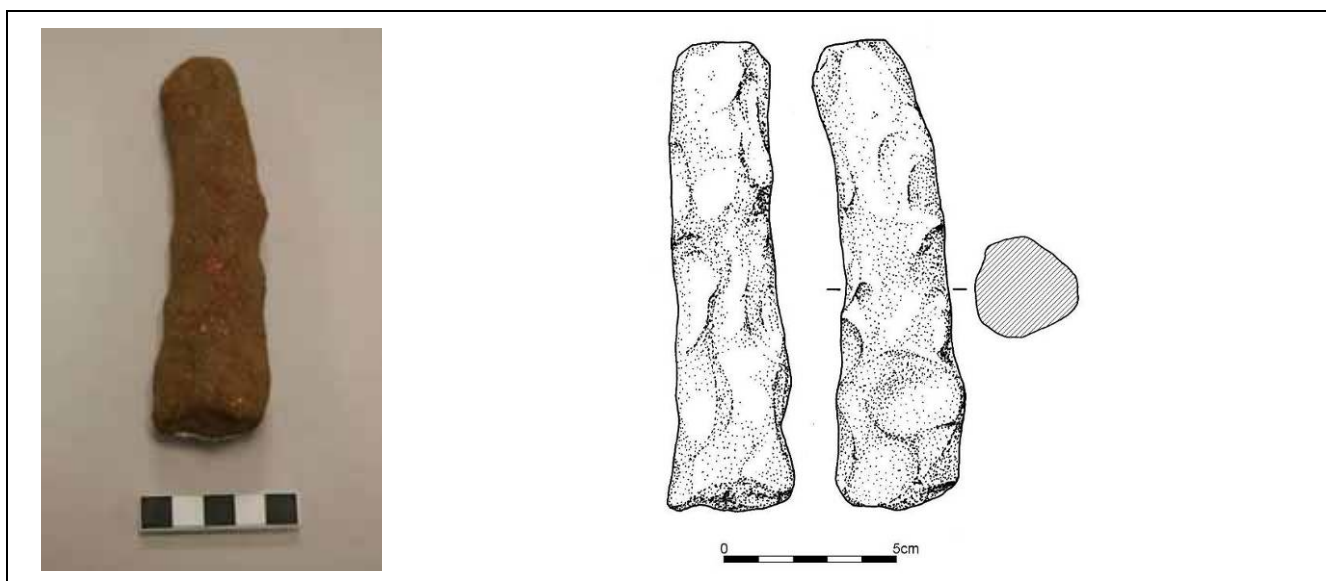


Figure 44 Kiln Furniture TP9C911SF11

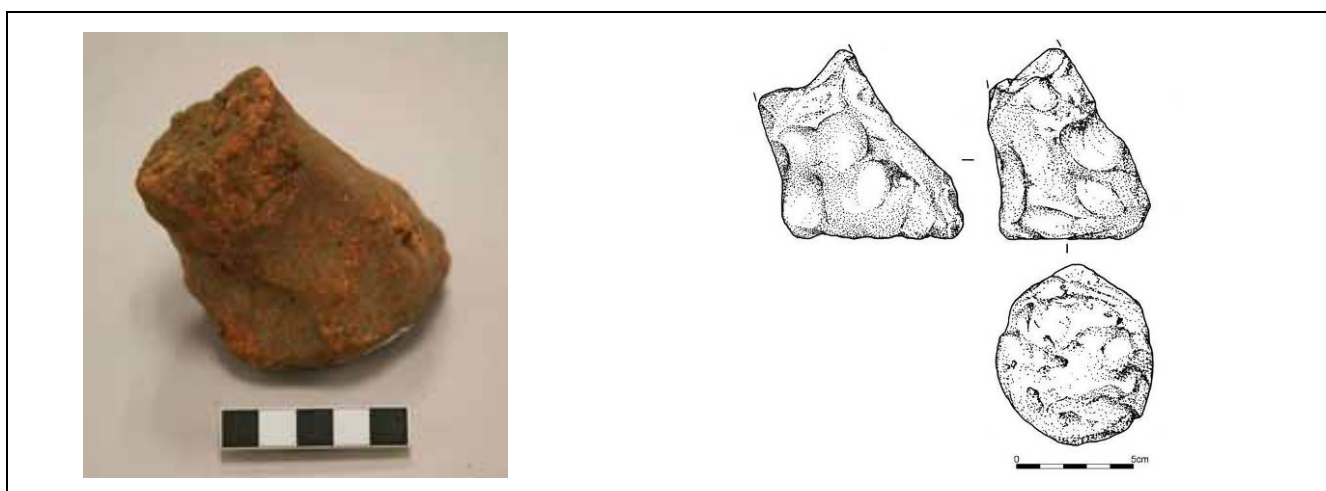


Figure 45 Kiln Furniture TP9C911SF12

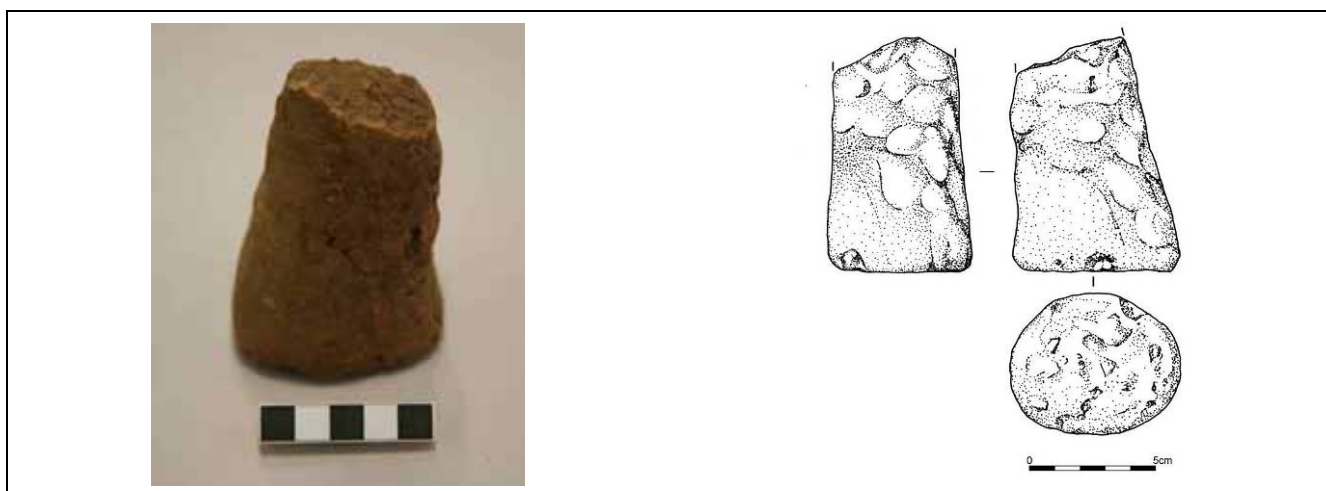


Figure 46 Kiln Furniture TP9C911SF13

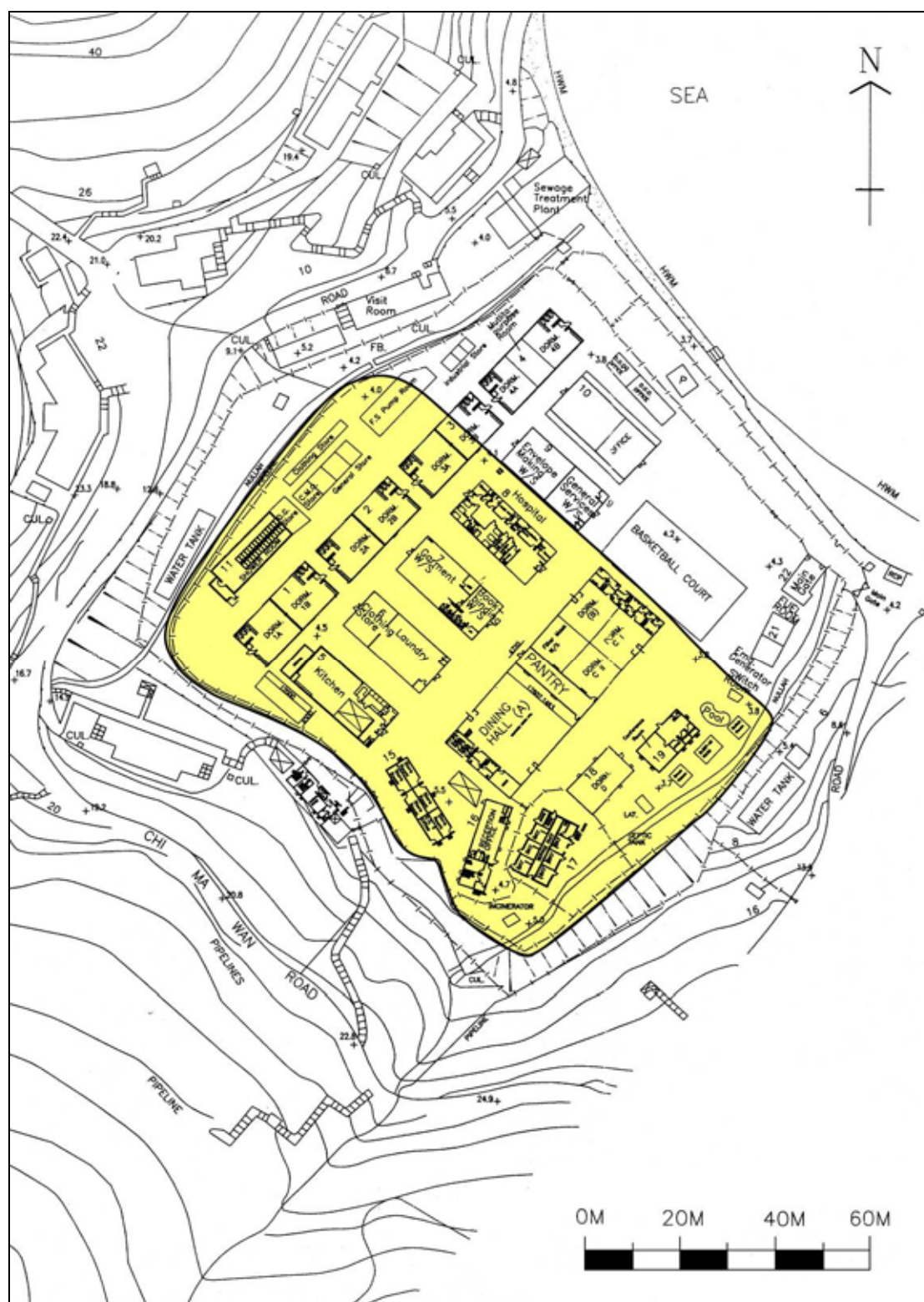
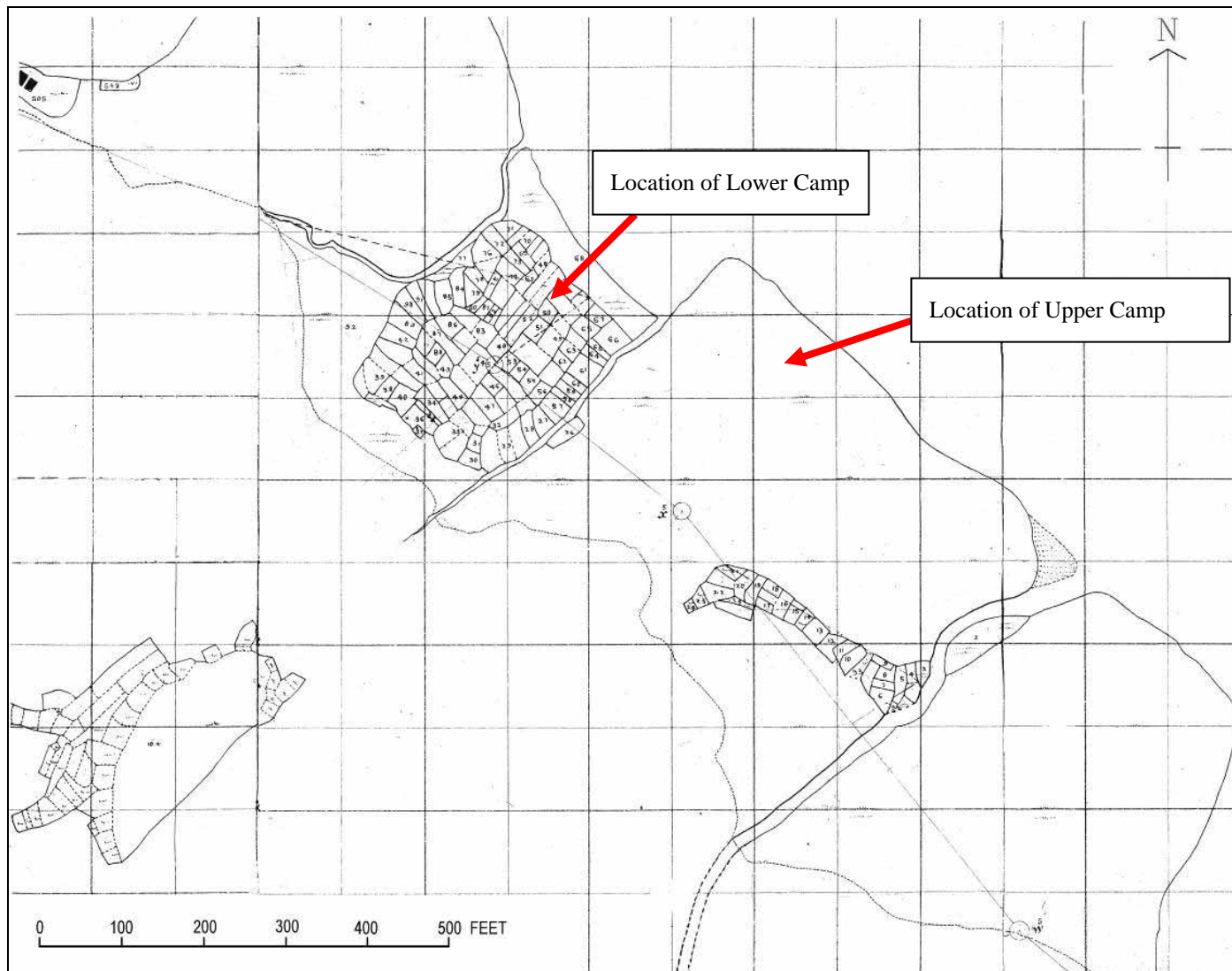


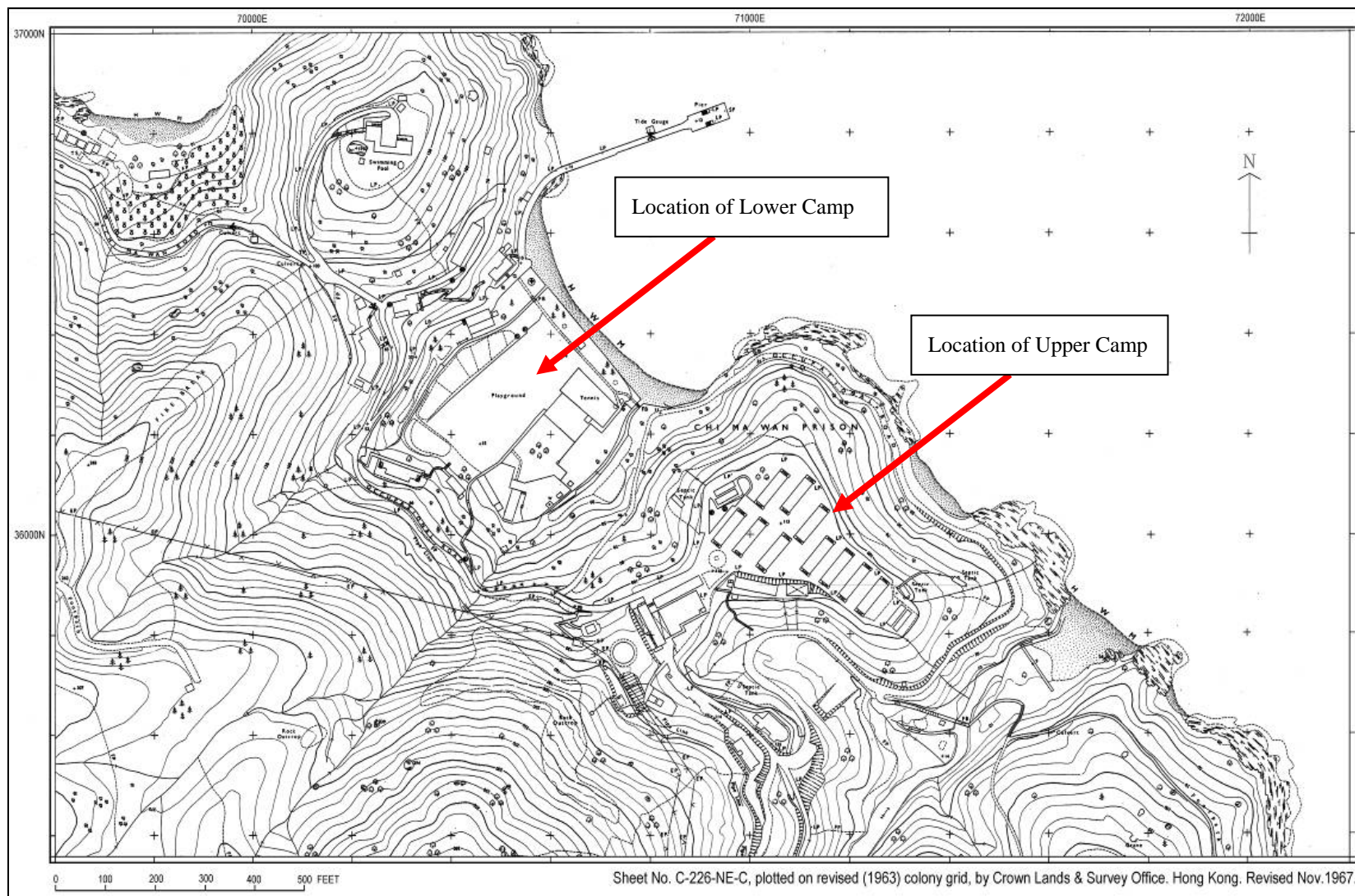
Figure 47 Area with Archaeological Potential

Appendix I

Old Map



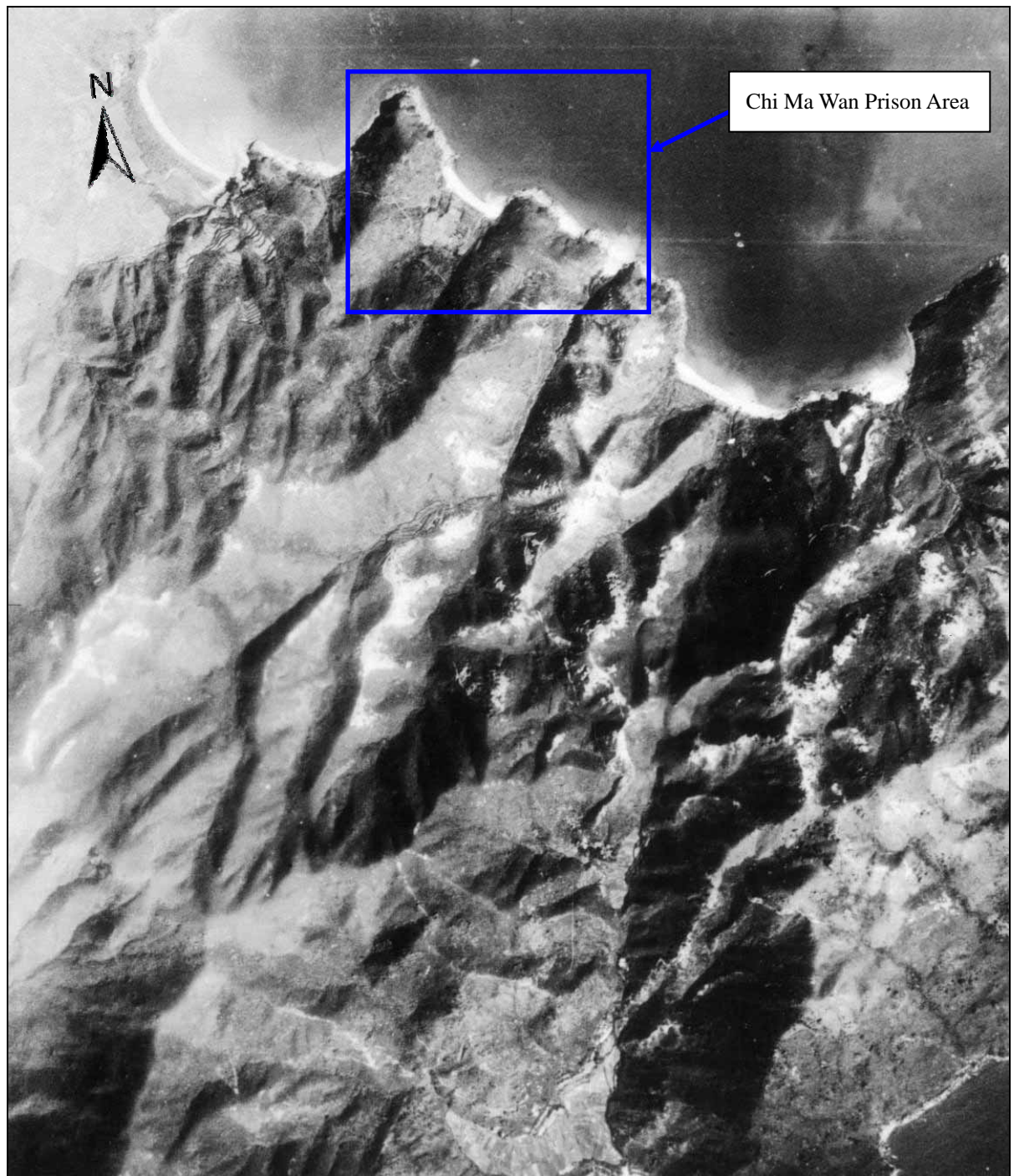
(1) Demarcated District Sheet in 1905



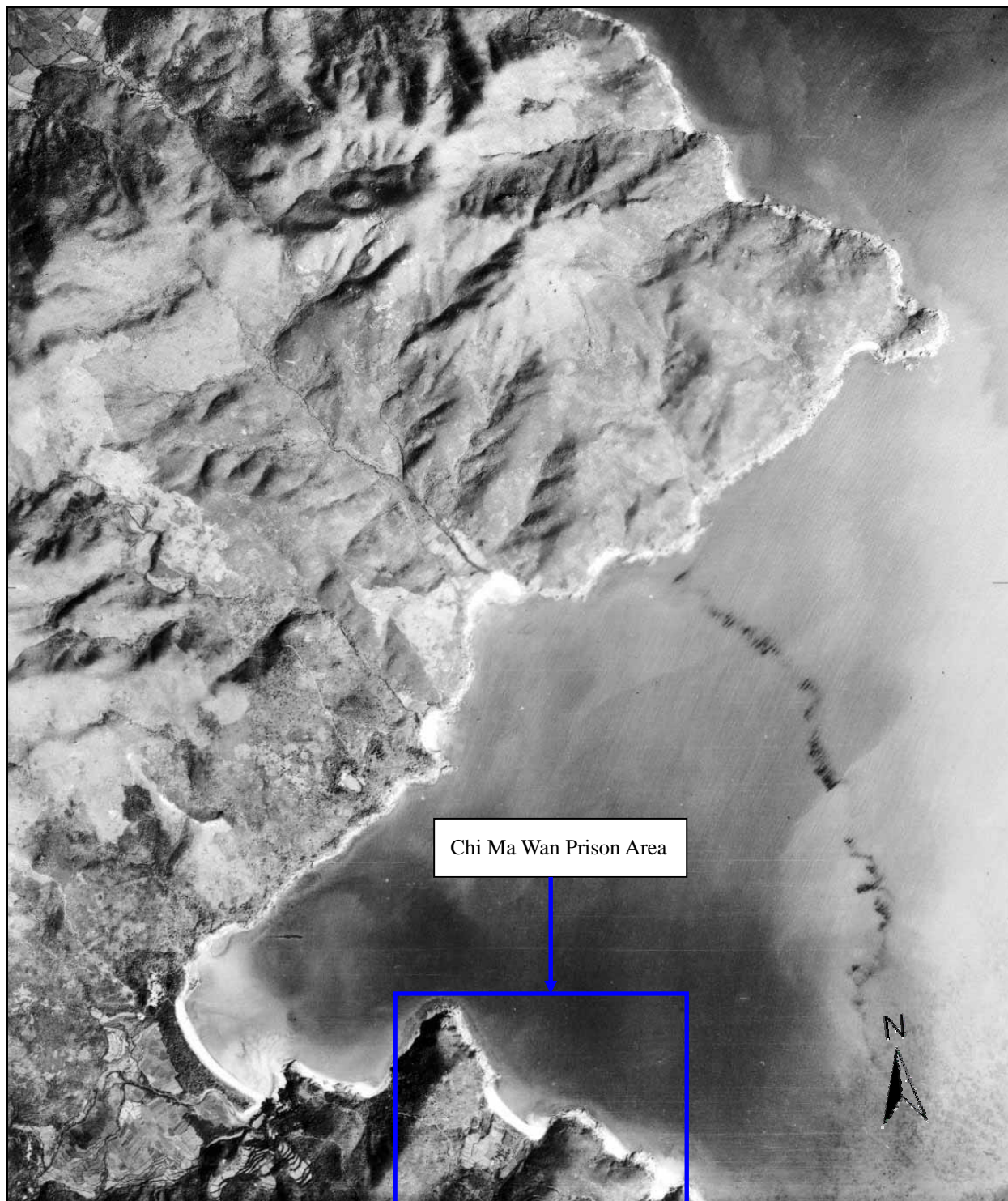
(2) Map in 1963

Appendix II

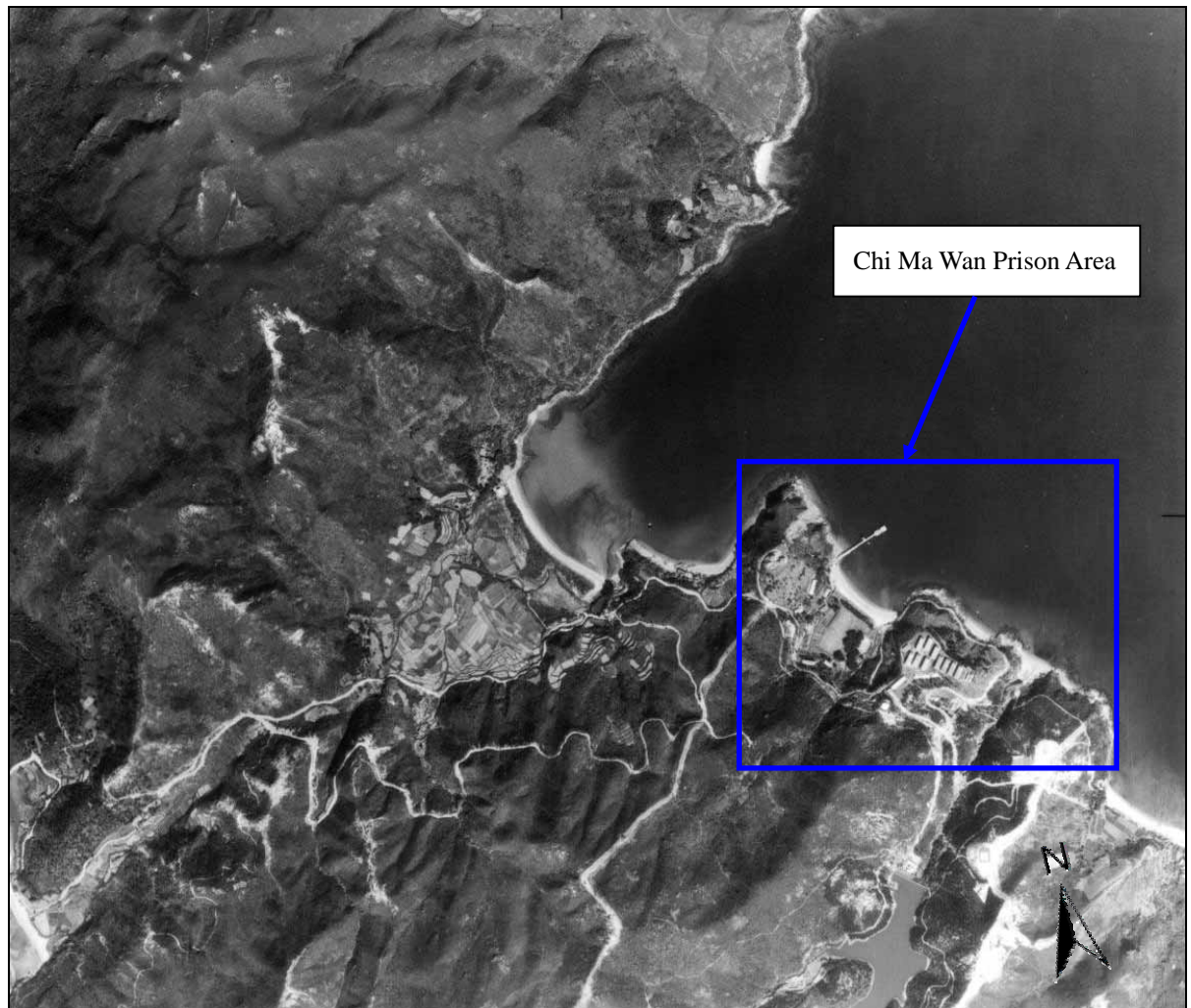
Aerial Photos



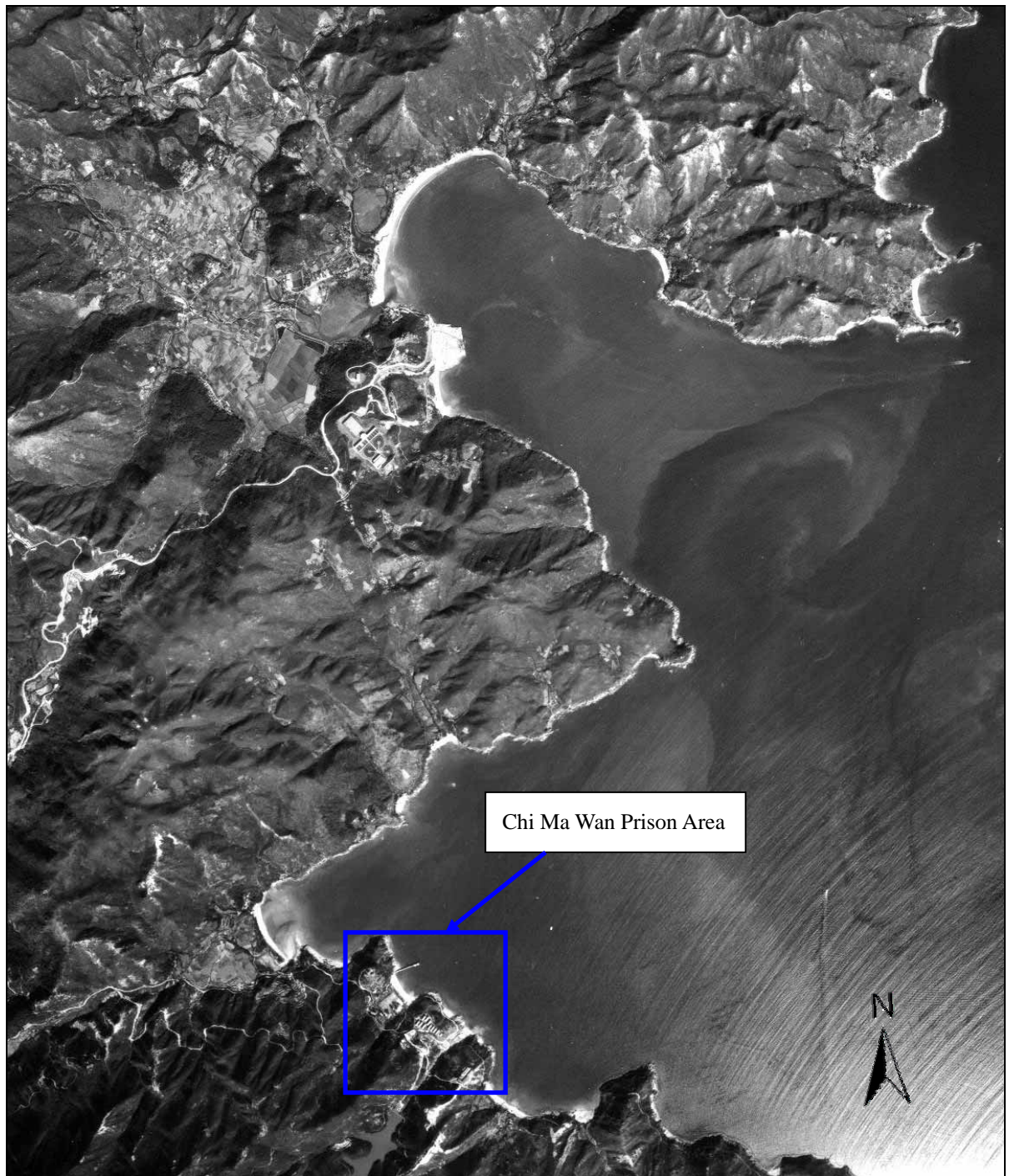
(1) Aerial Photo taken on 11.11.1945 (Source: Survey and Mapping Office, Land Department)



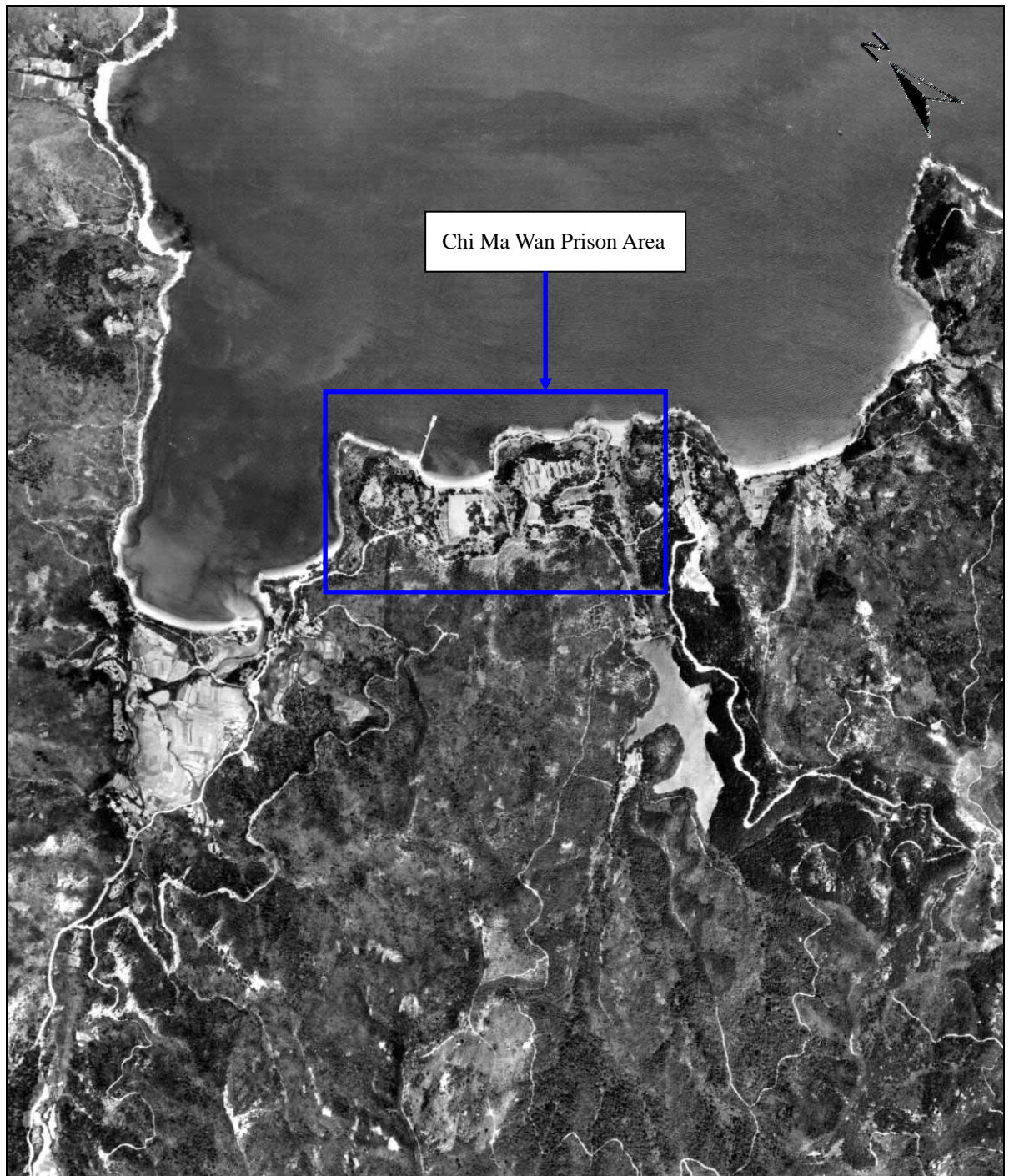
(2) Aerial Photo taken on 11.11.1945 (Source: Survey and Mapping Office, Land Department)



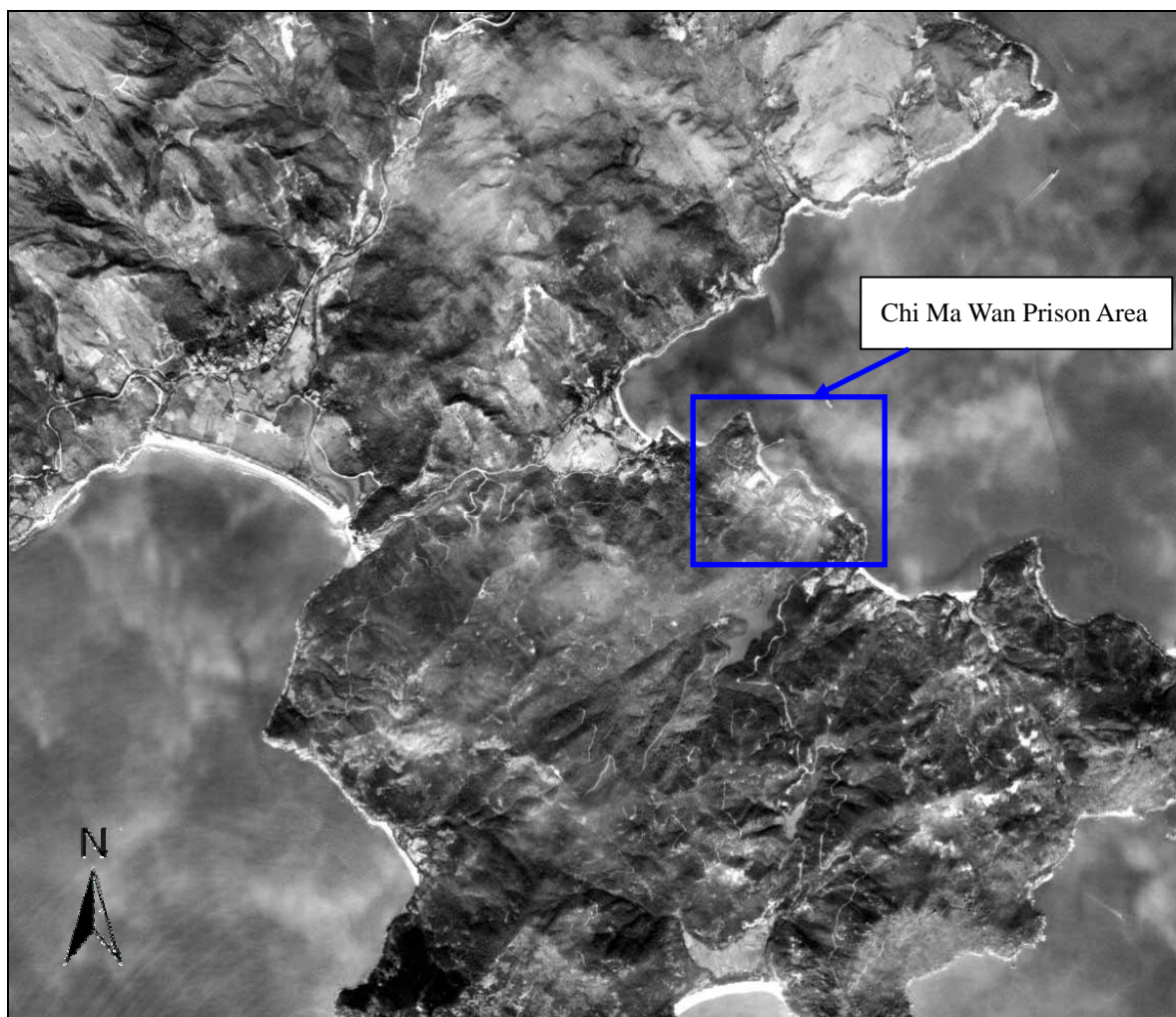
(3) Aerial Photo taken on 22.01.1962 (Source: Survey and Mapping Office, Land Department)



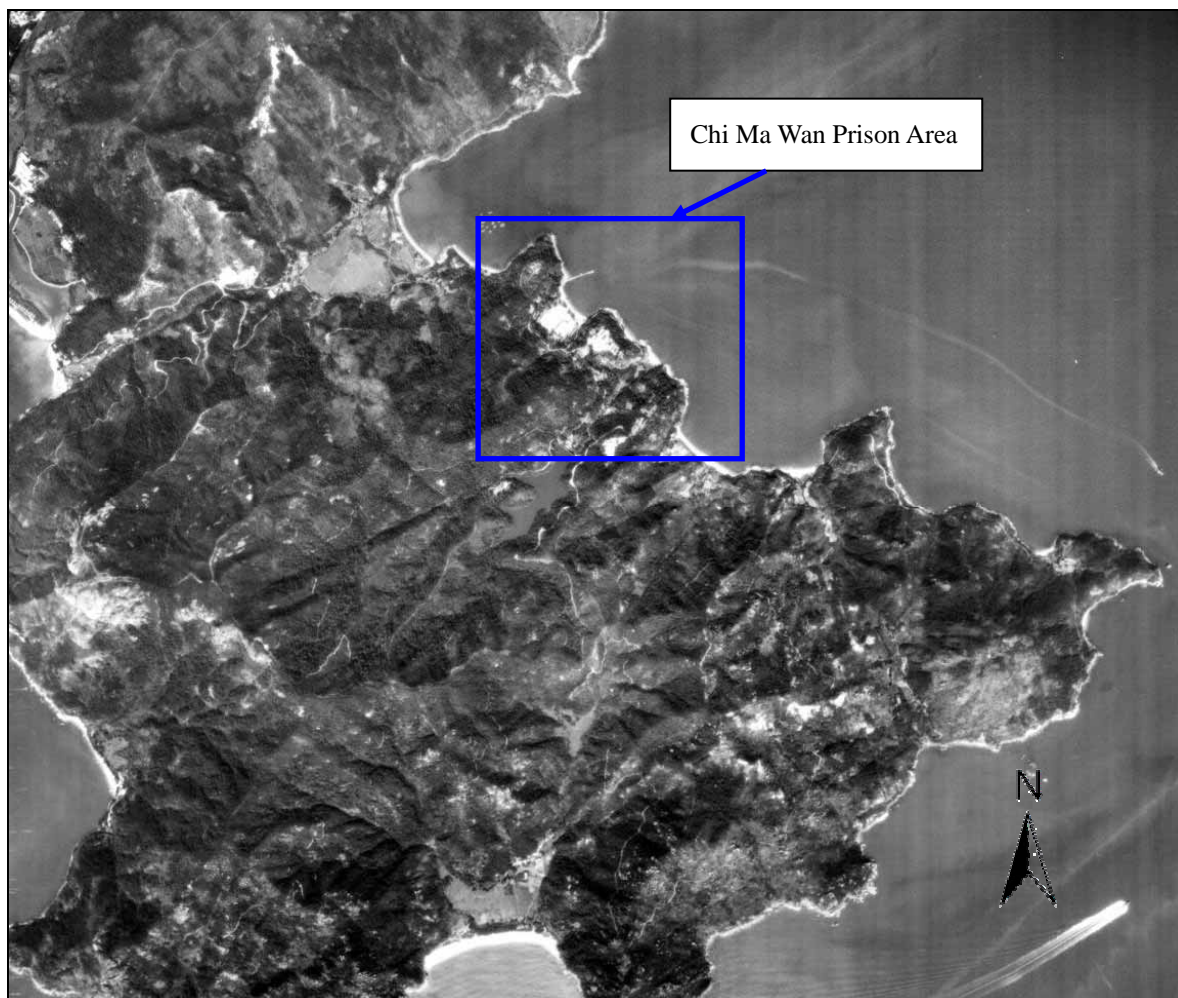
(4) Aerial Photo taken on 13.12.1964 (Source: Survey and Mapping Office, Land Department)



(5) Aerial Photo taken on 04.04.1973 (Source: Survey and Mapping Office, Land Department)



(6) Aerial Photo taken on 19.12.1975 (Source: Survey and Mapping Office, Land Department)



(7) Aerial Photo taken on 24.11.1980 (Source: Survey and Mapping Office, Land Department)



(8) Aerial Photo taken on 03.02.1981 (Source: Survey and Mapping Office, Land Department)