



McDONALD INSTITUTE MONOGRAPHS

Temple places

Excavating cultural sustainability in prehistoric Malta

By Caroline Malone, Reuben Grima, Rowan McLaughlin,
Éóin W. Parkinson, Simon Stoddart & Nicholas Vella



Volume 2 of *Fragility and Sustainability – Studies on Early Malta*,
the ERC-funded *FRAGSUS Project*

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Dedication – in memoriam

John Davies Evans David Hilary Trump

Malta may be small in scale but it has had a rich and important archaeological past which has been explored and enjoyed by many past scholars. A visit to the Archaeology Museums of Malta and Gozo testifies to a long history of collecting, scholarship and passion dating back to the early to mid-nineteenth century. It is a heritage that is beloved by Malta and its visitors alike.

The editors of this volume wish to pay tribute to two remarkable ‘visitors’ to Malta, each of whom, in their own way, made great contributions to our present appreciation of the islands’ ancient past and supported our early researches, teams and ideas. Now we want to record our debt as some of the continuing scholars of Maltese prehistory, since we cannot imagine where we could have begun our current quest to take the story onwards and deeper without their prior work.

On behalf of the whole *FRAGSUS* team, we wish to dedicate this volume to their enduring memory.

Professor John Davies Evans (OBE) (1925–2011) arrived in Malta in 1952 from Cambridge to commence the task of organizing the war-damaged museum collections in preparation for a synthesis of Maltese prehistory. His task was enormous, and involved a new assessment of the pottery and material culture sequence of Maltese prehistory. He prepared his now classic study *The Prehistoric Antiquities of the Maltese Islands*, published in 1971, which has remained the primary compendium of reference to this day. Together with carefully targeted excavations, John Evans set in train the many questions that inspired not only David Trump, his successor, to explore and challenge the com-

plex story of Malta’s prehistoric past, but also ourselves over the last 35 years. John noted important aspects of sequence, material connectivity and, of course, the temples. These he recorded and described in such detail that his work remains vitally important today.

David Hilary Trump (OM) (1931–2016) succeeded John Evans, having already experienced Maltese prehistory in the field with him, and became the Curator of the Museum of Archaeology for five years until 1963. In that short time, he too made an enormous impression on the understanding of prehistoric Malta. His work at Skorba (as we discuss in Chapter 7) was inspired and informed, and it too set the direction for the future explorations of prehistory in the islands. David Trump maintained his interest in Malta throughout his career, leading regular study tours to the island and latterly, with ourselves, undertaking the sustained programme of fieldwork at the Xagħra Brochtorff Circle (1987–9). He wrote numerous books and papers on Malta’s prehistory, popular and academic; and his contribution has been widely acknowledged through museum displays, the award of the Order of Merit of Malta and an Honorary Degree from the University of Malta for which he felt hugely honoured. But back in the United Kingdom, from whence both these scholars came, there has been less mention of their work on Malta. Evans moved eastwards to Crete in his research interests, and has been identified mainly with that work; whilst Trump, a retiring and extremely modest individual, did not promote his achievements on Malta during his teaching years at Cambridge, which was arguably too theoretical to fully appreciate his remarkable contribution.



Figure 0.1. *David Trump and John Evans together at the Deya Conference, Mallorca (c. 1983) (reproduced with permission of Judith Conway, niece of John Evans).*

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All archaeological excavations described in this volume were carried out using standard methods, in accordance with the policies of the SCH, in particular the guidance given in the document *Operating Procedures and Standards for Archaeology Services – February 2013*. Permits to enable excavation, survey, sampling and study were granted through the SCH and we are especially grateful to Anthony Pace and Nathaniel Cutajar for their unstinting efforts to ensure fieldwork was enabled.

Tač-Ċawla

The Tač-Ċawla excavations were directed by Prof. Caroline Malone, and the crew consisted primarily of students and staff from UoC, UM and QUB, supervised by Stephen Armstrong, Jeremy Bennett and Conor McAdams, with additional supervision from Dr Simon Stoddart, Dr Sara Boyle and Dr Emily Murray. We are also very grateful for Dr George Azzopardi who sought out accommodation for the project, assisted on

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Santa Verna

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Ġgantija

The Ġgantija excavations in 2015 were directed by Prof. Charles French, Dr Simon Stoddart, Dr Sean Taylor and David Redhouse, assisted by Stephen Armstrong, Jeremy Bennett, Dr Catriona Brogan, Conor McAdams, Aran McMahon, Eóin Parkinson, Jacob Pockney and Mariele Valci. Flotation of soil samples was undertaken by Dr Evan Hill. Digital laser scanning was undertaken by John Meneely. The field researchers comprised the geophysical survey team in 2014 under the supervision of David Redhouse and Dr Alistair Ruffell with assistance from Jeremy Bennett. Dr Sara Boyle and Jeremy Bennett undertook initial survey of the WC section area in 2014.

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Kordin III

The excavations were directed jointly by Prof. Caroline Malone and Prof. Nicholas Vella, assisted by Dr Reuben Grima, Dr Rowan McLaughlin, Ella Samut-Tagliaferro and Dr Simon Stoddart. The crew consisted mainly of students from UM, who participated as part of their annual training excavation. They were supervised by Jeremy Bennett, Dr Catriona Brogan, Rebecca Farrugia, Dr Reuben Grima, Tore Lumsdalen and Eóin Parkinson. Flotation of soil samples was undertaken by Dr

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Permits and access

The *FRAGSUS* team is very grateful to the heritage bodies of Malta, namely HM and the SCH and their officers, who enabled access to sites and provided the

permissions and opportunities to study the buried archaeology. It cannot be over-emphasized just how privileged the *Project* has been in having access to excavate and examine the exceptional sites of prehistoric Malta. Not only is the entire category 'Maltese Temple' protected, but most sites are also inscribed within the UNESCO World Heritage Site listing for Malta. Some readers may wonder why very small trenches and sondages were permitted at all, whilst others may query the value of small investigations. This volume presents a range of scales of study from the small to the large across prehistoric sites and assesses the value of particular data sets that have been collected. Together with Volume 1, which examines the wider landscapes and environments of early Malta, and Volume 3, which examines the bones and lives of the ancient individuals, this volume fills the middle ground – the sites themselves, and we thank all our collaborators and volunteers in this venture. In particular, we thank the willing site assistants, volunteers, surveyors, cooks and illustrators who gave their time and energy to the archaeological work, and we list them below:

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Foreword

Joseph Magro Conti

Consider, 5000 years ago you are on one of the smallest islands in the Mediterranean, which has no water sources, dependent on brief winter rain showers, shallow soil patches, with only stone, clay and salt as natural resources, perhaps a few trees and shrubs. How would you live in such environment? This second volume of the *FRAGSUS Project* (2013–18) provides readers with fresh information achieved through high quality scientific research on palaeoenvironmental analysis, radiocarbon dating, human and faunal bone studies as well as on ceramics, lithics, domestic contexts and monuments, fully addressing five main questions targeted by the project. The support of the European Research Council has been transformative in making this new knowledge about Maltese prehistory more understandable and accessible, as a reader will discover throughout this and the other two volumes.

The coming of *FRAGSUS* was a long journey. Twenty-seven years passed since I first met the main protagonists of this project, Prof. Caroline Malone and Dr Simon Stoddart. They left a long-lasting positive impression on me. I was an archaeology undergraduate at the University of Malta in 1993, under the academic guidance of Prof. Anthony Bonanno, with colleagues Nicholas Vella (now Professor, and former Head of the Archaeology Department at the University of Malta) and Dr Anthony Pace (my predecessor as Superintendent of Cultural Heritage). I was on my first archaeological research excavation by an Anglo-Maltese mission at the unique Neolithic mass burial site of the Xaghra Brochtorff Circle in Malta's sister island of Gozo. A couple of decades later I had the opportunity to participate on other research digs in Malta with Malone-Stoddart, this time as part of *FRAGSUS* at Kordin III Neolithic temples in Malta, a site about which I had long endeavoured to raise awareness for its better understanding and management.

The Temple Period is renowned for the monumental megalithic structures (presumed temples) and the associated underground mass burial places, which offer an aura about the Neolithic mindset, belief system, organisation, ritual and physical capabilities in engineering and art. But what should be further intriguing to the reader is another aspect of human life – how the early people lived? What evidence is there for this aspect from the Temple Period? Previously, such questions were largely without much evidence except sporadic discoveries of typical deposits and material culture, but which were very lacking in data to advance site prediction and environmental data collection. The very few huts so far discovered and interpreted as domestic were ephemeral and thus prone to unrecorded destruction during building construction. I was pleased to contribute my knowledge of domestic sites to the publication of the Gozo study in 2009, and delighted to write this Foreword. This work records the next stages of discovery of the inhabitation record of the Maltese islands, most notably at Taç-Ċawla, a site preserved from development by the action of the Superintendence.

In the past fifty years, the Maltese Islands have undergone successive building booms, each significantly endangering Malta's historic environment. In my quest as an applied archaeologist/heritage manager for over two decades at the Planning Authority and for the past two years as Superintendent of Cultural Heritage, I have endeavoured to collaborate with disparate stakeholders to save or mitigate impacts on the fragile remains of the past, and to raise awareness. The findings from *FRAGSUS* will be an especially useful source of information for policy makers, heritage managers, regulatory agencies and conservation scientists in their quest to preserve and understand Malta's past. The study enables them to make informed decisions about future human impacts on the archaeological heritage, mainly caused by



Figure 0.2. *Joseph Magro Conti at Kordin.*

building development on the small island environment and its island society and economy.

This volume is a seminal interdisciplinary study, not only for Maltese prehistory but also a milestone

in world prehistory more generally. As prehistory pre-dates the invention of writing, the approach of *FRAGSUS*'s research agenda turns archaeo-environmental data into 'words' by digging deep into the embryonic matrix of garden soils on which the temples builders sustained themselves. The project can now explain queries about this sustainability, a theme that is still relevant to modern generations. With the use of multidisciplinary and multinational teams of specialists, the study placed innovative scientific approaches at the fore, and addressed silent aspects that go beyond the traditional art-historical basics of Grand Traditions. The investigations into the core essence of life five millennia ago belong to new scientific approaches.

The *FRAGSUS Project* has addressed lacunae and used unconventional approaches in theory and method to obtain robust scientifically-backed results that have filled in significant gaps in the research agenda of Maltese prehistory and beyond. Equally, the results have surely raised many questions for future research agendas. I look forward to further collaboration, and I am eager to see more collaborative projects between Maltese veterans and upcoming academics and our overseas colleagues.

Joseph Magro Conti
Superintendent of Cultural Heritage, Malta
September 2020

Chapter 3

Excavations at Taċ-Ċawla, Rabat, Gozo, 2014

Caroline Malone, Rowan McLaughlin, Stephen Armstrong,
Jeremy Bennett, Conor McAdams, Charles French,
Simon Stoddart & Nathaniel Cutajar

3.1. Introduction

In this chapter, we present the results of archaeological excavations at the prehistoric settlement known as Taċ-Ċawla, Rabat, Gozo (site code TCC14), undertaken by the *FRAGSUS Project* from 27 March to 17 July 2014. This exercise involved sampling intact archaeological deposits for dateable environmental and economic remains, and identifying and interpreting new features found at a significant settlement site. The site had potential to tackle the fundamental research questions posed by the *FRAGSUS Project* (§1.5) and expand knowledge of early domestic settlement on Malta.

Following the completion of earlier researches (the 1987–95 Cambridge Gozo Project; Malone *et al.* 2009) the *FRAGSUS Project* was devised to focus on the scientific study of population, settlement, landscape and economy supported by a robust dating programme. The Neolithic site of Taċ-Ċawla had the potential to investigate a number of pressing questions relating to the use of landscape in Malta and Gozo in prehistoric times. In particular, it offered the opportunity to examine the nature of settlement, economy and subsistence strategies that had adapted to the resource limitations provided by the natural environment. Until recently, a paucity of settlement evidence from the Maltese islands during the Neolithic period had led to a significant lacuna in the understanding of Neolithic domestic subsistence and its economic landscape. Instead, the elaborate temple sites had been the focus of most studies on the prehistory of Malta (see Evans 1971 for general summary).

The scientific Cambridge Gozo Project study of the Xagħra Brochtorff Circle burial site (1987–94) advanced knowledge into new areas, with new findings about Malta's early history and an understanding of the Maltese population (Malone *et al.* 2009). That work was supported by a detailed absolute chronology, an understanding of the cave environment, and the role of animal remains, ceramics, lithics and artistic artefacts.

The research highlighted the nature of funerary ritual at a level of detail hitherto unrecorded in Malta – the Ħal Saflieni Hypogeum having been cleared largely without record (Zammit 1912). In addition, the Cambridge Gozo Project raised questions about diet, disease and physical stress factors within that population. The Project also included landscape surveys (1987–95) that extended over the Xagħra plateau around the Xagħra Brochtorff Circle site, and sampled much of the open area through fieldwalking to capture the presence of prehistoric activity. The materials recovered were studied in detail just before and during the *FRAGSUS Project* (see Boyle 2013; Malone *et al.* 2009, Chapter 3; Volume 1, Chapters 6 & 7). They give a unique insight into the spatial density and organization of prehistoric and later settlement in Gozo. The GIS mapping undertaken by Boyle (and subsequently McLaughlin) (see Volume 1, Chapters 6 & 7) highlights the distinct patterning of relationships between soil quality, geology, slope, aspect, water availability and physical factors in the landscape with particular phases of settlement occupation. The Cambridge Gozo Survey effectively identified earlier Neolithic occupation (especially the Għar Dalam and Skorba phases) for the first time. These had been little regarded in the prehistoric landscape of Malta and Gozo, but were now identified mostly in the form of lithic and pottery scatters. These scatters occurred in various locations, often close to the later megalithic sites, which seemed to be situated to take advantage of aspect, soil and water. Other contemporary early sites (e.g. Is-Sruġ, Ta' Kuljat) occur around the plateau edges of the dramatic 'mesa' type topography of Gozo, where rock overhangs and caves may have been exploited by early settlers. The surface record of the Cambridge Gozo Survey highlighted the need to sample early Neolithic stratigraphic deposits in order to extract materials for dating, cultural identification, palaeoeconomic reconstruction, and to obtain a range of environmental indicators from this little known period.

Unfortunately, few locations identified in the Cambridge Gozo Survey provided easy access or represented definite evidence of long-term occupation. Consequently, the researchers were drawn to the site of Taċ-Ċawla, an accessible settlement site with known evidence for various prehistoric phases of use dating from the Ghar Dalam phase and the Temple Period of the Neolithic.

Investigating Taċ-Ċawla was a priority for a number of reasons. Little is known about the domestic sphere of prehistoric Malta. In part, this is because of the paucity of known settlements. Yet, it is also due to the fact that no programme of research had focused on identifying domestic sites. For example, Malone *et al.* (2009, 54–5) listed only ten potential Neolithic domestic structures. The settlement theme was thus identified as a priority for the *FRAGSUS Project* since it could yield rich and important information on economic life in prehistory. Focus on settlement was also a *Project* priority since undeveloped land containing likely sites continues to be threatened by destruction and development (Boissevain & Selwyn 2004; Conrad & Cassar 2012; Short 2019). By investigating settlements the *Project* also had an opportunity to examine new forms of evidence. Whilst Maltese Neolithic Temples exemplify the architecture, culture and ritual-ceremony of prehistory, little archaeological work had been conducted to link the monumental evidence with its wider landscape or community. Settlements, however, comprise houses and rubbish, and are likely to contain the material traces of subsistence strategies and the domestic life of the culture that gave rise to the monuments. Indeed, it was understanding this relationship that formed one of the objectives of the *FRAGSUS Project*.

The ERC grant offered sufficient resources in terms of finance, research infrastructure, staffing, time and technology to enable a world-class assessment of the Taċ-Ċawla site and its buried materials. Therefore, as part of the investigations of 2014, the focus of archaeological field research was the site of Taċ-Ċawla. Some 16 weeks of continuous survey and excavation took place, aided by a team of specialist archaeologists, scientists and student assistants. A limited area was opened by machine to establish the former excavation areas, and extended to a large open area excavation, sub-sampled through selected trenches. In 1993 and 1994, a 10 m square quadrant had been investigated to the base of ploughsoil. In 1995, one edge of this quadrant was extended and excavated to bedrock in a 1–2 m wide trench. In 2014, the original quadrant was identified, cleared of topsoil and extended as shown in the plans below (see Figs. 3.3 & 3.6). Excavation completed the investigation of superficial features and extended to bedrock to obtain dating, palaeoeconomic and environmental samples from the early stratigraphy.



Figure 3.1. Site location map.

3.1.1. Location and physical setting

The site of Taċ-Ċawla is located on the southern fringes of Victoria-Rabat in Gozo (Fig. 3.1), on the southern edge of the Rabat Plateau that defines the built zone of the expanded urban area of central Gozo. The site is located on fairly level ground, on a layer of gently dipping Upper Coralline bedrock. This lies close to the Blue Clay layers beneath and is therefore located just above the potential spring-line. The soil cover depth reflects the dip of the underlying Coralline rock, with shallow soils in the higher eastern area and deeper well-preserved soils in the western parts. The archaeological area of Taċ-Ċawla is an expanse of land identified between the Sannat road (It Tabib Anton Tabone) and the parallel Triq Għajn Qatet. Taċ-Ċawla means ‘black bird’ or crow, and alternative names for the area include Tas-Salib (Grima & Azzopardi pers. comm). Formerly, this was arable land of high quality, which was used for many decades for tomato cultivation and other horticultural products. The plot was Church land (an ecclesiastical benefice) and was never intensively or mechanically cultivated until it was sold to private owners in the 1960s or 1970s. This conservative agricultural use resulted in rare pockets of well-preserved and stratified soil that contained a variety of archaeological deposits (Fig. 3.2).

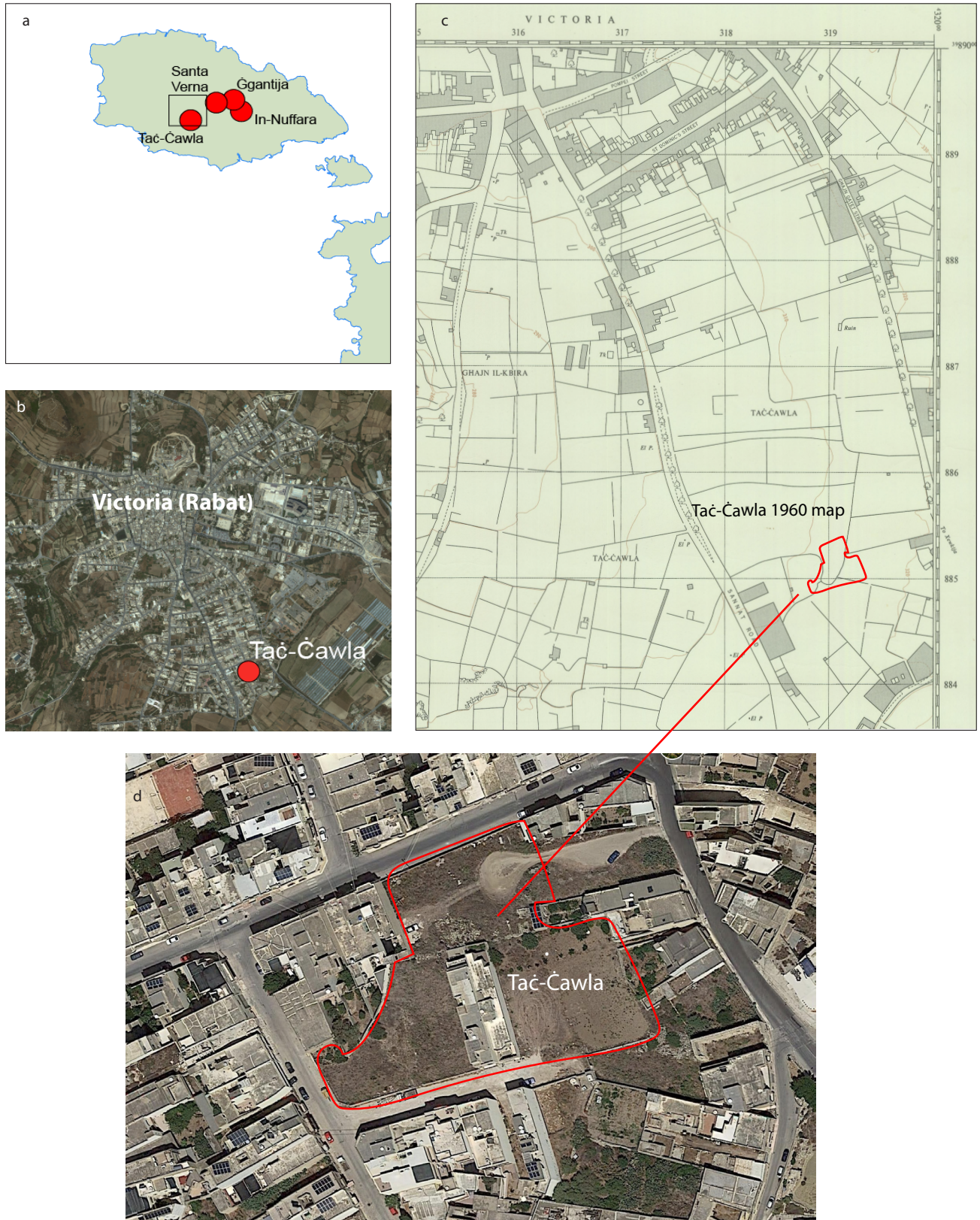


Figure 3.2. Site location details: a) Gozo; b) Google Earth imagery showing Taċ-Ċawla, location (2020); c) 1960s map of Taċ-Ċawla, area; d) Google Earth close-up (2020).

3.1.2. History of the site

Archaeological deposits at Taċ-Ċawla were noted in the 'Temporary Gozo Planning Scheme 10' watching briefs between the 1970s and 1990s, during episodes of urban expansion. The archaeological significance of the area was, however, first identified through surface finds of ceramics and lithics revealed in disturbed areas of cultivation and building works. In particular, map grid square 318 884 was reported in the Museum Annual Report 1960 (Fig. 3.2c). Local antiquarian, Joseph Attard Tabone FSA, and American student, Martha Molitor, maintained a watching brief during the mid-1980s; and later, Adrian Van der Blom and Veronica Veen undertook watching briefs (in association with the Museums Department) between 1991 and 1993. According to local observers, a series of megaliths had once existed within the surrounding field walls of the area, although no photographs or plans of these survive. Significantly the nearby megalithic site of Ta' Marżiena, also located on the edge of the Coralline plateau at the boundary with the clay geology, confirms that the area was favoured in the Neolithic with its good soils and available spring water. During the early 1990s, the Taċ-Ċawla area was subject to extensive urban construction as the southern fringes of Victoria-Rabat spread to the limits of the plateau, and a series of archaeological interventions were made to establish the nature of the site. These are summarized below.

3.2. The Van der Blom and Veen watching brief

From 1986 onwards, Adrian Van der Blom and Veronica Veen spent considerable time in Gozo, researching prehistory and landscape (Veen & Van der Blom 1992). Their attention was drawn to the Taċ-Ċawla area in 1991 when building work disturbed ploughsoil, revealing prehistoric pottery. In particular, the researchers noted impressed Għar Dalam and Skorba phase pottery, and focused their attention and interpretation on those particular ceramics. In doing so, they did not consider fully the stratigraphy, structures or other data, including the more common Temple Period pottery. Issued with a fieldwalking licence by the Museum Department in June 1991, the watching brief identified a number of areas within the Taċ-Ċawla zone that were disturbed by road works and public utility trenches. The work noted the visible pottery types and, in some cases, the nature of the deposits that contained the pottery. These observations were published in several newspaper articles in 1993 and 1994, which made extravagant claims about the extent and significance of the site. In 1992, one interpretation was also published in a popular format as *The First Maltese – origins, character and symbolism of the Għar Dalam Culture*. An unauthorized excavation

trench was cut into deep soil close to both the cut of what later became an illegal building plot, and a developer's roadway (now known as the Triq Neolitici). There, Van der Blom claimed to have found soil depth of about 93 cm above bedrock, with Għar Dalam levels situated directly on the rock surface, and additional pottery 22 and 32 cm below the surface. He argued that these apparent levels represented distinct phases within the earlier Neolithic (Van der Blom 1992, 20), and pointed out that the ceramics were evenly distributed between fine and coarseware types. Chert and obsidian were also retrieved along with animal bone, but this material was not recorded systematically. The salvage work suggested that the concentration of Neolithic material extended over a prehistoric site of about 100 m square (1992, 26). A sketch map (Fig. 3.4b), produced subsequently, indicated the location of various trenches and surface pickups of this initial work. Unfortunately, a final report was not produced, and no scientific analyses were undertaken of the animal bone or lithics. The finds were retained by the Superintendence of Cultural Heritage (SCH), and this material awaits further analysis. Provided this material can be linked to the precise location suggested, it could yet provide additional useful information about the site and its extent.

The outcome of the public assertions and publications (many of which had not been undertaken with proper authority) led to the confiscation of much of the gathered material, and a general public interest in the area of Taċ-Ċawla. A public outcry about the building work at the site led to an initial Museum Department (MD) evaluation in 1993–4, and subsequent re-evaluation in 1995. Essentially, all building work was halted in 1992 following discussion of the site's archaeological significance. A portion of the site, the westerly extent between Triq Anici and Triq Neolitici, was later purchased by the government (Ministry of Gozo), in whose ownership it still remains as a protected site.

3.2.1. The initial evaluation 1993–4

The evaluation work of 1993–4 is summarized in detail in the unpublished interim MD 1994 report authored by Nathaniel Cutajar (Cutajar 1994). In October 1992, the MD personnel inspected the Taċ-Ċawla area in zones of undeveloped land within the general area of the site (grid 3190 8854) following the Veen and Van der Blom watching brief work. This identified the general surface scatters of prehistoric and Roman period materials, but it could not identify significant stratigraphy or archaeological features from the newly damaged construction areas. Following an episode of unauthorized building work, an archaeological investigation was undertaken in 1993 to establish the nature of the site. The programme was tasked to:

1. Investigate whether the Taċ-Ċawla fields within grid points 3190 8854 contained significant archaeological stratified remains.
2. Carry out archaeological evaluations of the nature, extent, state of preservation and date of any stratigraphic remains that were located.

An evaluation was therefore undertaken over the course of several weeks in 1993 by the MD, under the supervision of Cutajar and other museum staff. This established the existence of extensive agricultural

features of Roman and later periods (Fig. 3.4). Five large shallow trenches were opened (Fig. 3.3b) to establish the extent of the prehistoric site. Documentation and recording of the trenches was undertaken, followed by detailed recording of smaller trenches in specific areas. In general, the work did not penetrate deposits to bedrock, and consequently could not investigate the buried prehistoric levels. Instead, the agricultural features were recorded (Figs. 3.3a, b), and then the trenches were largely covered over and the site was backfilled.

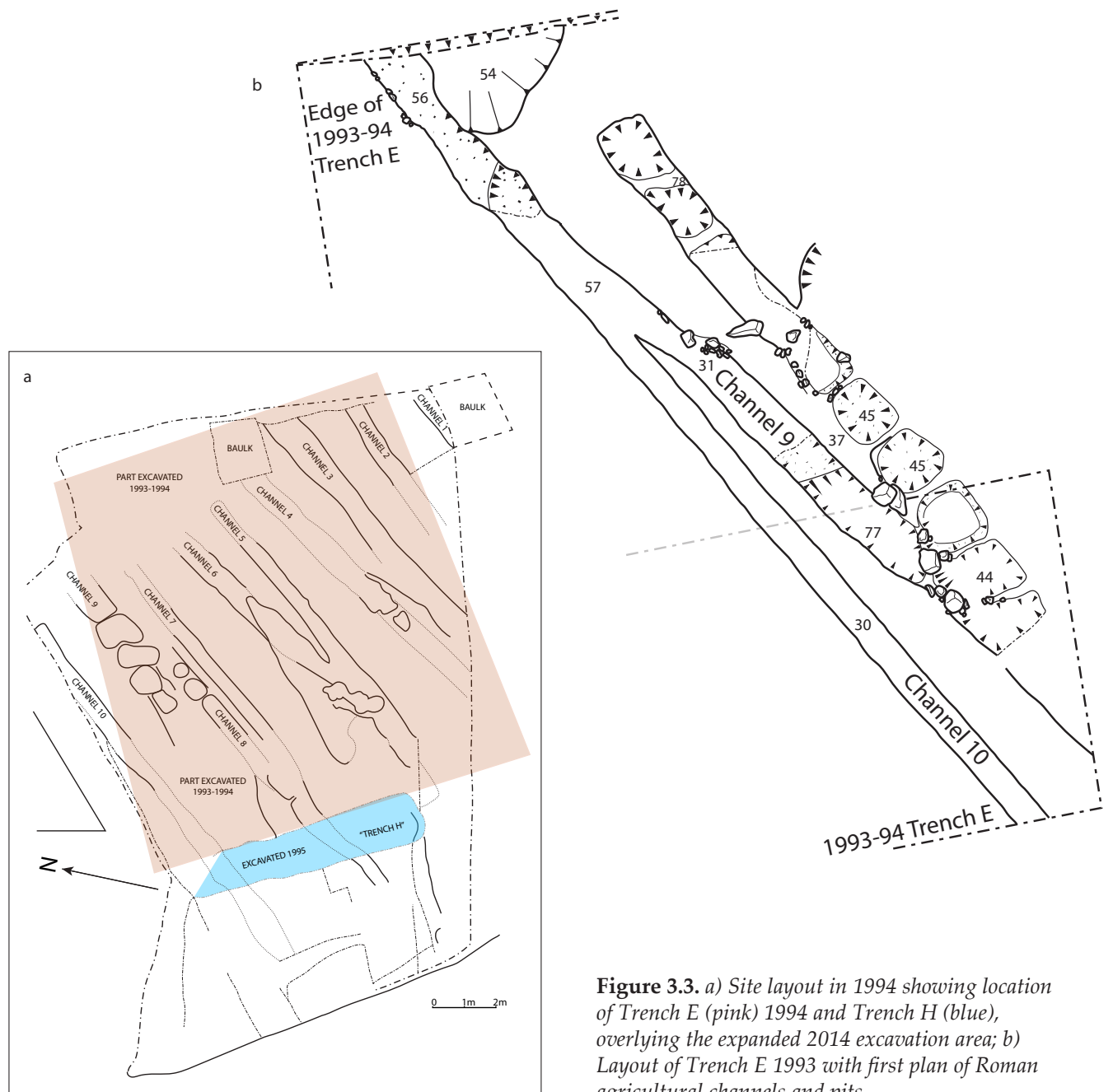


Figure 3.3. a) Site layout in 1994 showing location of Trench E (pink) 1994 and Trench H (blue), overlying the expanded 2014 excavation area; b) Layout of Trench E 1993 with first plan of Roman agricultural channels and pits.

3.2.2. The archaeological investigation 1993–4

Five trenches, A, B, C, D, and E were positioned across the Taċ-Ċawla Archaeological Area each measuring 10 × 10 m (Fig. 3.4b). Three of these in the western part of the area (A, D, E) were excavated extensively, and work continued on them throughout 1993. The two trenches in the eastern area (B, C) were then sampled as linear cuts across the respective areas. Excavations in the western zone were limited by landowners' objections. In total about 555 sq. m of the site was opened and examined. The whole area was cut through by the Triq Neolitici roadway, with trenches A and B on the south side of the road, and the others on the north.

Another roadway, Triq Anici, formed the western edge of the area. Today the area to the south is entirely built over, whilst the areas to the north and east remain open land, with just a small built area between former trenches C and D.

The 1993 Trench A (Fig. 3.4b) was located on the south side of the area. Following the removal of ploughsoil, bedrock was encountered in the southeast corner whilst grey soil covered the western area. Excavation of the site again in 1994 removed more soil cover from the shallow northeastern part of the trench, which became deeper and more complex as the work progressed westwards. Therefore, a 5 × 10 m



Figure 3.4. a) Location of the Taċ-Ċawla, survey scatters reported in 1960s and survey areas of 1993–4. Taċ-Ċawla, settlement is marked in red, adapted from *Interim Report, Museums Department, Cutajar 1994–5*; b) Sketch plan of survey areas and trial trenches. Trench E and its 1995 extension (grey) formed the focus of FRAGSUS investigation in 2014.

extension was opened on the western side of the trench to examine these more promising deposits. Three main phases were noted from the base up:

- Phase 1: Red earth above bedrock and filling cavities within the surface
- Phase 2: Deposits of earth and stones covering the rock and red earth
- Phase 3: Agricultural topsoil

Excavation of Trench B commenced in 1994. It was designed to sample the eastern zone with a linear trench 4 × 23.5 m cut north–south across the breadth of the site. The deposits were very shallow, with bedrock encountered in the northern and southern ends, whilst the central area revealed a filled depression in the rock. A sondage was cut through this and showed three phases of deposition.

- Phase 1: Red earth above bedrock
- Phase 2: Grey silt and packed medium-sized stones across the depression covered by a fine light brown silt at the interface with topsoil
- Phase 3: Agricultural topsoil

The excavation of Trench C commenced in 1994, and measured 2.5 × 32.5 m. Like Trench B, it was designed to sample the deposits across the eastern half of the site, and also followed a north–south axis. Bedrock was encountered immediately across the length of the area, and a two-phase stratigraphy was interpreted as:

- Phase 1: Red earth over bedrock and filling natural hollows
- Phase 2: Overlying brown agricultural topsoil

The excavation of Trench D commenced in 1993 in the area claimed by Van der Blom to be rich in Għar Dalam pottery. On removal of the topsoil, thicker soils were revealed in a series of ditches and channels indicating agricultural use. These pre-dated the later arable farming in this area. Excavation investigated the numerous channels, which roughly aligned on a northeast–southwest axis in a regular pattern. In 1994, the southeast corner of Trench D was studied intensively to clarify the stratigraphic sequence. As in other trenches, three main phases were identified.

- Phase 1: Silty red earth overlying bedrock with a marked slope on the upper surface dipping from east to west. Bedrock irregularities were filled with this red deposit
- Phase 2i: Extensive compacted dark grey silt, upper layer level with scatter of small angular

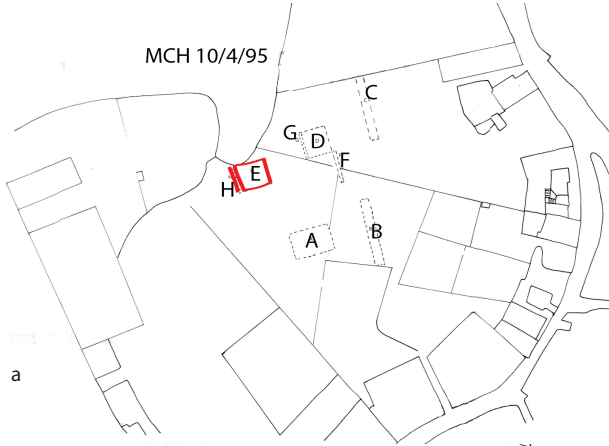
stones, and appears to be a made soil for agriculture

- Phase 2ii: Agricultural ditches cut into grey silt, formed into a parallel ‘U’-shaped network, some of which have hardened ‘linings’ of calcreted soil (interpreted as mortar)
- Phase 2iii: Silty soil and small stones covering the ditches and subsoil and interpreted as the abandonment of the channel system
- Phase 3: Agricultural topsoil dark brown and clayish including modern wall and disturbance

The excavation of Trench E commenced in 1993, but only reached a depth of 30 cm before work resumed in 1994. As in Trench D, the removal of topsoil revealed a complex system of agricultural ditches and channels, which also appeared to be mortar-lined (Fig. 3.3b; see also Figs. 3.47 & 3.49). The stratigraphy in this trench was deeper and more complex. Consequently, work concentrated on this trench, which was extended by 3 m westwards in an attempt to comprehend the nature of the site. Three main phases were identified:

- Phase 1: Red soil on bedrock was noted at the base of the trench, but not investigated as the agricultural ditches were seen as too significant to disturb. The depth of the deposit, however, was recorded in recent building sondages
- Phase 2: Similar to Trench D with four main subgroups
- Phase 2i: Silty earth overlying rocks and boulders and forming a level surface. This was possibly intentional levelling to bring the sloping bedrock to a more level surface
- Phase 2ii: Three features cut into silt/stone layers and largely concealed beneath later cuts. These features were linear cuts aligned northeast–southwest, and in one instance a lining of land-snails was identified. Other features included shallow sub-circular depressions, lined in hardened mortar-like material, which were also aligned on the main channel pattern. Ashy traces formed yet another feature and may have been part of a later kiln
- Phase 2iii: Further channel systems obscured or cut those of earlier phases and were partly filled with rocks, stones, mortar-like substances and fills. Further kiln features included a combustion chamber and were surrounded by burnt materials, domestic materials and pottery

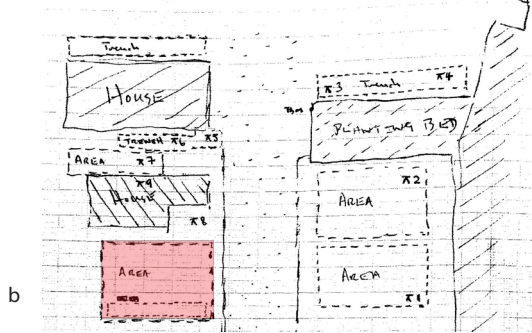
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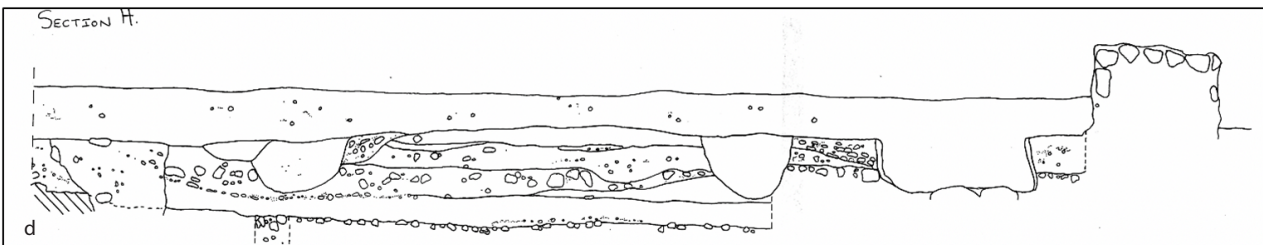
a



c



b



d



e



f



- Phase 2iv: The backfill silts that covered the abandoned channel system appeared to be intentionally placed deposits with small stones and brown earth. Some areas of darker earth fills covered/filled the ditches
- Phase 3. Agricultural topsoil

The report provided an interpretation of the stratigraphic history of the site and suggested original red soils represented the natural soil formation. Later agricultural use of the land here was interpreted as intentional dumps that levelled the surface for more intensive agriculture. These also formed the soil base into which the complex of ditches was then cut. No scientific soil study, however, was undertaken. Nor were dating samples submitted for analysis. Instead, the stray sherds within the upper soil horizons were used to phase the site. The final phases of use were seen as part of artisan workshops and interest was paid particularly to the Medieval and Post-Medieval material in the upper levels. Neither the prehistoric nor the Roman material received much attention. The various trenches were opened across extensive areas, but rarely explored to their full depth, and thus the full sequence was not established. Within the remit of the evaluation, however, sufficient understanding of the value of the site was proved, which led to its partial conservation. This involved recommendation that the areas surrounding Trenches D and E should be maintained intact, whilst the other areas were given less value on the basis of the stratigraphic findings.

3.2.3. *The Horton-Trump 1995 investigation*

Following the 1993–4 work by the MD, local interventions and discussion provoked a demand for further assessment, this time by an independent team (led by Dr Mark Horton of Bristol University and Dr David Trump of Cambridge University) on the request of the Minister for Youth and the Arts, Dr Michael Refalo.

The work was commissioned to establish whether the areas recommended for preservation warranted such protection, and whether other areas could be developed for housing. Assessment was made of the five separate trenches cut in 1993 and 1994, and the decision was made to investigate further the site in the area claimed by Veen and Van der Blom to have produced much of the material they had identified in 1991. Extensions were added to the previous trenches and laid out as follows: Trench D was extended on the west side by slit Trench G, and on the south side by slit Trench F. Trench E was extended on the west side by Trench H. Work commenced on 8 April, 1995 and a 1 m wide × 10 m long trench was partly cut by a mini-digger to remove the top-soil. The previous excavation trenches were still sufficiently open and visible to enable the evaluation of earlier sections to assess the stratigraphy, which had not been recorded fully during previous work. The new excavations identified a complex sequence of deposits around a stone-built structure that was associated with floors, occupation debris and domestic materials. Horton and Trump identified this complex as part of a Neolithic house, dating from the Tarxien phase (Horton 1995). They also located a single carved stone object (a simple anthropomorphic stick figure) that likely dates to the Żebbuġ phase (Fig. 3.5f). The two areas were combined in the overall interpretation, and David Trump analysed briefly the pottery from all three phases of study: the Van der Blom work, the Museum investigation and the 1995 study. On completion of the work, the area was covered and backfilled. The impact of these discoveries resulted (as noted above) in the eventual purchase of the site from the developers by the government (Ministry for Gozo), and it was set aside as an archaeological resource. The area was partially enclosed by a wall, but over the intervening years, local dumping has resulted in the aggradation of additional levels of deposit covering the archaeological stratigraphy.

3.2.4. *Pottery phases Għar Dalam (c. 5500 BC)*

Trench F/G produced impressed and incised Neolithic pottery associated with a hearth, three postholes and a spread of stones. Trump suggested they related to a hut floor, later damaged by disturbance and erosion. The location is likely to be close to the area identified by Veen and Van der Blom, since the location of the excavation hole was noted. Yet, contrary to the earlier assertion of ‘thousands’ of sherds, only 14 sherds of Għar Dalam type pottery were retrieved. Trump’s interpretation contradicted the Van der Blom notion of an entire Għar Dalam village, since the very limited nature of the excavated deposits could not prove that assertion.

Figure 3.5 (opposite). a) General trench layout 1995 (Trenches E and H in red); b) sketch of trenches in the 1995 campaign, (E/H in red); c) photograph of Trench H showing emerging megalithic stones; d) section of Trench H (MCH site notebook); e) plan of Trench H (MCH site notebook); f) carved limestone figurine from the base of Trench H.

3.2.5. *Tarxien Phase c. 2800 to 2400 BC*

No mention was made by Trump of Skorba or Żebbuġ phase pottery sherds, but later Tarxien pottery was abundant. Trench G revealed ashy deposits and clay floors, whilst Trench H (Fig. 3.5d, e) included a large stone-built structure (house) of the Tarxien phase. This was formed from megalithic (or at least large) stones, and packed stratified *torba* floors measuring 70 cm thick. The plan of the structure was thought to be oval in shape and estimated to extend 11 × 9 m in size. Below some of the floors, the existence of Tarxien pottery confirmed a likely Temple Period date. Trump noted that the 'house structure' was potentially of huge significance for understanding the socio-economic profile of the Temple Period.

3.2.6. *Later levels of Punic, Roman and Medieval material c. 800 BC to AD 1500*

Later phases were noted, as were the former rubble boundary walls that may have related to those phases of occupation.

3.2.7. *Post Medieval*

Trump and Horton speculated that the agricultural channels were of late date, and that some might be vine trenches dating perhaps to the eighteenth century. Overall, the work specifically noted the significance of the site for future research, and the urgent need to take it into safe keeping to preserve the deposits until such time as they could be properly investigated. Backfilling or further excavation was recommended, and the former was done, with mesh and plastic sheet laid over significant deposits before the replacement of soil over the site. Finds were delivered to the SCH, where they remain. The impact of the work was sufficient to ensure that parts of the area were purchased and preserved.

3.2.8. *The 2014 excavations – methods*

The records of the previous interventions were assessed with a new programme of research devised to ensure the Neolithic phases of occupation at Taċ-Ċawla were investigated effectively. Given the uncertainties surrounding the underlying deposits, it was recognized that this investigation required a large-scale intervention. Permission was granted for the excavation of an extensive trench that incorporated the most promising areas and their immediate surroundings. The excavations, directed by Prof. Caroline Malone, took place between 27 March and 17 July 2014. Surrounding areas such as Trench D with its likely Għar Dalam deposits were considered for additional excavation and briefly surveyed. Yet, issues of recent soil-rubbish dumping, scalped topsoil and the limited time frame prevented investigation.

3.3. Results of the 1995 work and the 2014 work

The methodology involved standard excavation procedures, using a single context recording system, and incorporated an intensive programme of sampling, structural study and retrieval of materials. The site was fully surveyed with a Total Station, and a range of remote sensing techniques (GPR, Resistivity), to establish if features were identifiable. The remote sensing was not particularly fruitful, and open excavation proved to be the best means of understanding the heavily reworked site and its sequence. The entire site was also digitally scanned by John Meneely using a Faro scanner both during and at the end of excavation. This enabled the 3-D reconstruction of the trenches and the stone structure (Fig. 3.11b). The goal of the 2014 work was to establish the nature of the structure, the occupation history of the site and to extract a representative sample of economic and environmental material. Therefore, not all areas opened were intended to be fully excavated beyond surface recording.

The area of the site was divided into 5 × 5 m squares and the trench was broadly aligned on this grid for excavation purposes. Excavation was undertaken initially with a small mechanical digger that removed large and distinct levels of unstratified backfill from previous interventions that had been separated from undisturbed deposit by geofabric materials in 1994/95. Thereafter, all excavation was by hand, with the precise recording of individual stratigraphic units (here called contexts), which are referred to throughout the following descriptions (context number in brackets) and identified as fills, layers, structures and cuts as appropriate. The cleared site was cleaned to reveal the top of unexcavated features, which, for the most-part, were a series of parallel pits and deep channels (Fig. 3.3a) cut through older compacted deposits that contained prehistoric material. The channels (see below) effectively sliced the site deposits into narrow parallel sections of preserved archaeological deposits, and made recording of the site complex. Box trenches (see Fig. 3.6) were cut through the channels (many of which reached bedrock) to assess their depth and width. Yet, these also provided useful records of the varied deposits across the site. Sampling of all intact deposits involved soil sampling for flotation, whilst additional sieving on site ensured retrieval of small artefacts and bones.¹

The 1993 Trench E, and the 1995 Trench H excavation areas were reopened. Excavation here comprised the 1 × 8 m long sondage (Trench H), two small side trenches and the more extensive 10 × 13 m Trench E. Trenches E and H had both cut through the centre and eastern part of what later emerged as a roughly circular stone structure. This was possibly the walls of

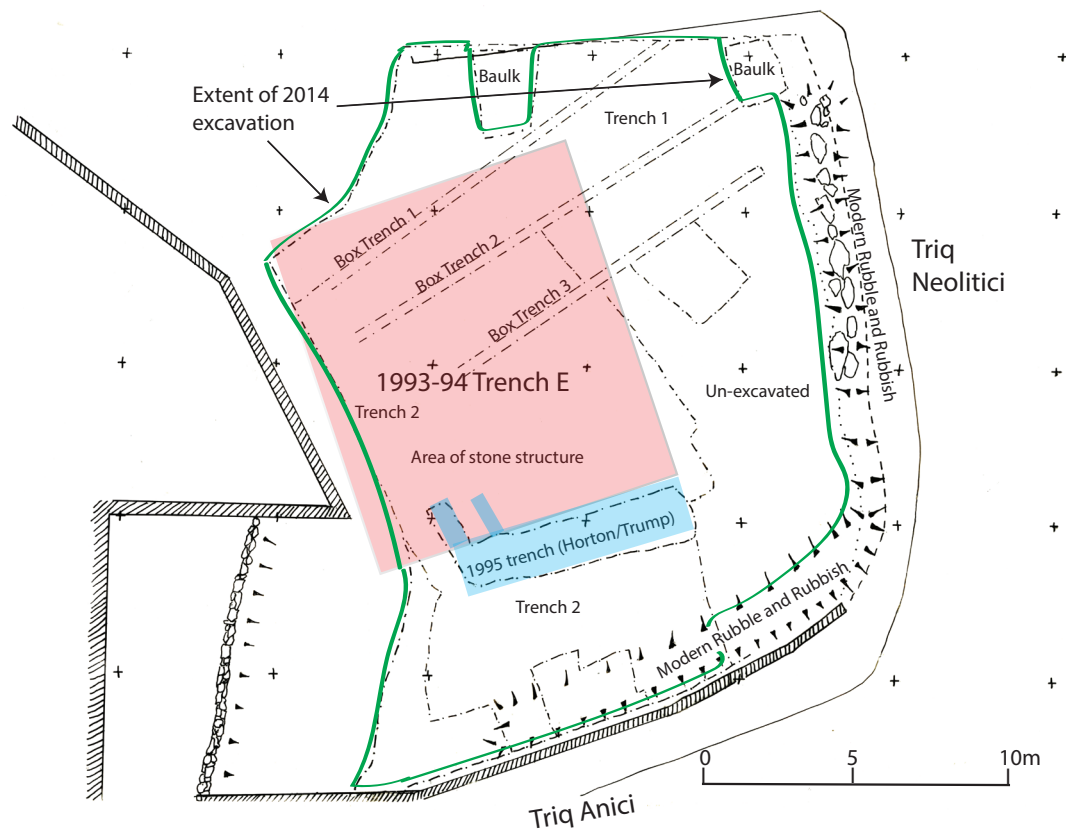


Figure 3.6. Site layout in 2014.

a domestic house, or another form of stone enclosure. The previous excavation areas were extended to the west and south of the 1993 and 1995 trenches, namely in small Box Trenches (hereafter BT) 4, 5 and 6 (Fig. 3.11a); and in superficial exploratory excavation, which provided stratigraphic understanding of the structure. The 1995 east- and west-facing trench sections provided a reasonable view of the stratigraphic layers of deposit, floors and the later cuts and fills. The 1995 small exploratory trenches left an unexcavated baulk, the North Baulk, defined between Channel 10 [52] on the north, and the 1995 sondage. The southern area was defined as the Main Quadrant (MQ) of the structure and was excavated on both sides of Channel 7, which cut through the area. In all, 22 m² of unexcavated deposit was opened and recorded to depth on either side of the 1995 trench. Initially, a much larger area between the 1995 trench and the western boundary wall was cleared by machine of overlying deposit to identify the level of preservation (Fig. 3.6). This showed that some of the area was disturbed by modern overburden, but it also enabled the identification of the wall line of the stone structure, and indicated the most promising areas for deeper investigation. New excavation

included BT4, a 0.9 × 1 m box cut, abutting the line of Channel [80], which opened directly from the cutting edge to explore anomalies in the stratigraphy. The sequence was truncated by previous excavation; but it demonstrated how complex, mixed and long-lasting the use of the structure's interior was, with a sizeable Early Bronze Age (Thermi phase) assemblage found in the upper deposits. BT5 measured 1.5 × 5.5 m and exposed the northwestern corner of the excavation area, and extended west from the northern end of the 1995 sondage to the boundary wall. It was focused on the internal part of the Temple Period structure. This included two large megaliths (287), which were considered part of the return of the wall of the structure. The sondage reached, but did not excavate, a cobbled surface, Context (296), which was equivalent to (211) discussed below. A possible wall (212) was also uncovered, although this appeared more like a concentration of stones than a clearly multi-coursed wall. As in BT4, the deposits in BT5 were complex and somewhat disturbed. Yet, they nevertheless revealed the floor sequences identified in the main cutting, as well as the later semi-destruction of the stone structure and the area's reuse. BT6 extended from the southwest end

of the 1995 trench. Measuring 4.2×2.2 m, it explored the line of the structure wall. It was excavated initially as a small exploratory trench, and then enlarged west to the boundary wall. This area presented the deepest stratigraphy on the site, as it filled a natural limestone depression, possibly associated with a nearby spring source. This trench demonstrated clearly the succession of lower floors, as well as the alignment of the structure's wall, which was built precariously along a natural limestone edge. Detailed micromorphological analysis was undertaken of the deposits in BT6 (see Appendix Table A3.7.1). This revealed the changing water levels in the limestone depression and the nature of the deposits. The work showed that this part of the site was originally a 'waterhole' of sorts, which dried-up during the Tarxien phase and was then filled with accumulated debris from the surrounding settlement, some of which was already centuries-old. The sequence continued into a Bronze Age context (269) with dumps and unstructured deposits. The following description commences with an account of the surviving components within the stone structure, and then discusses the areas immediately around it.

3.3.1. Wall (172)

The wall of the Temple Period building discovered by Trump and Horton was revealed when superficial deposits and backfill had been removed and assigned context number (172). The dry-stone wall enclosed a large area and comprised medium-sized stones around 0.3 m in length, with occasional larger (0.55–0.8 m long) stones arranged in three to five vertical courses. The width of the wall varied between 0.4 and 0.8 m, with some sections collapsed or displaced because of the later agricultural disturbance. The wall survived to a maximum height of about 0.9 m, with several lengths of walls only 0.4 m high (Fig. 3.7). In some areas, construction appeared to form a double line of stones with a void between. This 'sandwich' effect suggests that timber uprights may have been set within the wall thickness (Fig. 3.8a, b). The wall followed a curved plan (Fig. 3.9), with a slight concave area on the northeast edge, suggesting a possible entrance, adjacent to Context (244) and its covering Context (209) discussed below. Much of the wall was discontinuous in the northwest, where it disappeared under the northwest baulk or had been destroyed by deep agricultural channels,



Figure 3.7. *The excavated stone structures and the remnant vine channels and pits, looking west.*



Figure 3.8. *a) The double sided wall; b) Post and stake holes around outer edge of structure wall.*

road and modern construction. Traces emerged as a straighter length of wall on the southeast side of the baulk. Much of the western edge was destroyed by the construction of the road and surrounding wall. Occasional isolated stones were located on the northwest edge. The soft fill present between the stones of the wall was Context (171). This comprised the same yellowish-brown loam that was found in various shades and textures throughout the site, and it contained pottery dating to the Tarxien and earlier phase, with one small and likely intrusive Early Bronze Age sherd. Projecting from the northeast side of (172), a discontinuous

linear stretch of stone wall, Structure (207), extended northeast as a single/double course of large and small stones. This wall overlay deposit (233) close to the main (172) structure. It was associated with a series of post/stake holes (223) and larger postholes outside the possible entrance (see Table 3.3, which describes these features). These features may have formed either a structural extension or an entrance into the structure. Their relationship, however, was unclear, since both sides of the wall had been disturbed by deep Roman period agricultural channels penetrating the subsoil. Wall (207) was covered by later layers (26), (147) and

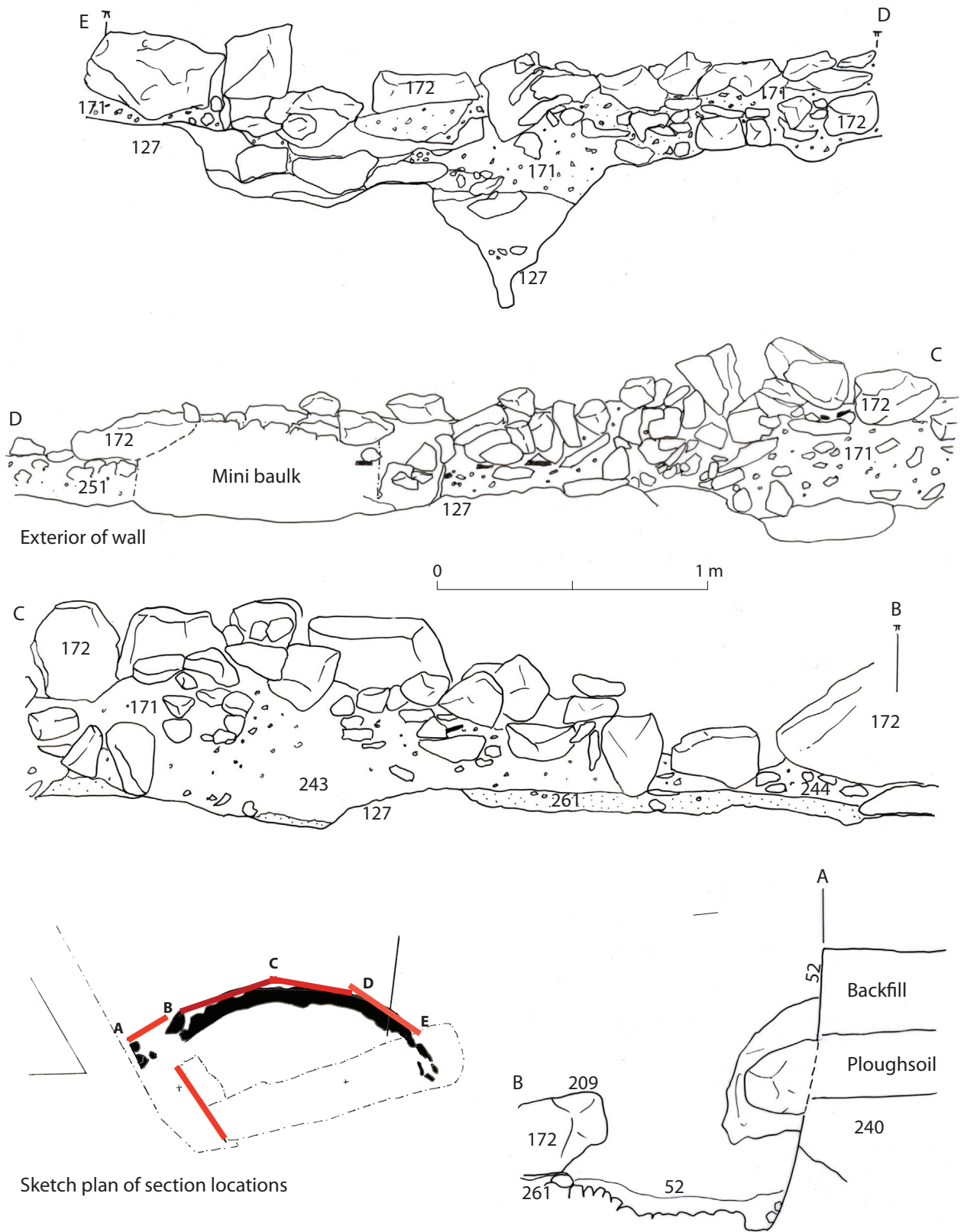


Figure 3.9. The exterior face of the wall (172) in the eastern zone.



Figure 3.10. *The relationship of wall (287) in BT5 to extramural and internal levels. Cobbles in Context (283) Level 4.*

(148). A wet-sieved soil sample from (207) produced five cereal grains and one pulse. The fabric of the wall was not disturbed or moved from position during the 2014 excavations, and it was carefully recovered for future conservation and reference.

Figure 3.11a shows the context numbering of the wall sections, identified as (172) on the north, southeast and east, and as (212), (183), (218) and (287) in BT5 and adjacent areas. Wall structure (212), located in BT5, comprised a rough line of stones that was covered by (87), closely bedded against the bedrock (127) and butted by a prehistoric floor (186) (Figs. 3.10 & 3.12). This floor, in turn, was bonded to a stone-rich deposit (183) of very large stones that may have also derived from the wall. The stones were close to floor Context (155) suggesting they were largely *in situ*. There was, however, an indication that part of (183) was cut bedrock. The excavators noted that it seemed to have structure to it, although it is possible that the large stones were from elsewhere. The exterior face of (183) revealed many different layers. Stones (218), also in BT5, were large rocks interpreted as redeposited wall material, dug out from Pit [234]. South of (218), Megaliths (287) comprised two substantial limestone megaliths, covered by floor (186). They were interpreted as part of the wall return, truncated by Cut [234] and moved slightly from their original sockets. The southwest portion of the

wall was destroyed or buried by road and boundary wall building, but the eastern return was located as a much straighter length in BT6 (see Fig. 3.20a). This sondage showed how the wall was associated with distinct floor makeup deposits and spreads of stones (241), as well as with intact floor fragment (213) and a prehistoric dump (246). The straight run of the wall extended almost 4 m, and was placed directly above a sharply cut natural limestone edge, above what may have been a waterhole accessed via the cleaned bedrock that slopes towards a known spring to the west of the site (Fig. 3.17). The infill of the walled structure comprised looser soil fills that contained a wide mix of small pottery sherds. These date to all Neolithic periods, but there were very few Thermi (or earliest Bronze Age) sherds, and almost no material from the later Bronze Age. This ceramic evidences points to the likelihood that the wall was indeed a Late Neolithic ‘Temple Period’ structure, albeit one that was modified at the end of the Tarxien phase (§3.10).

3.3.2. *Internal floors and features within the structure: house layers*

Nine distinct floor levels, lenses and make up deposit were identified in the extant sections, of the oval structure and although these were recorded as separate contexts, because they represented isolated upstanding

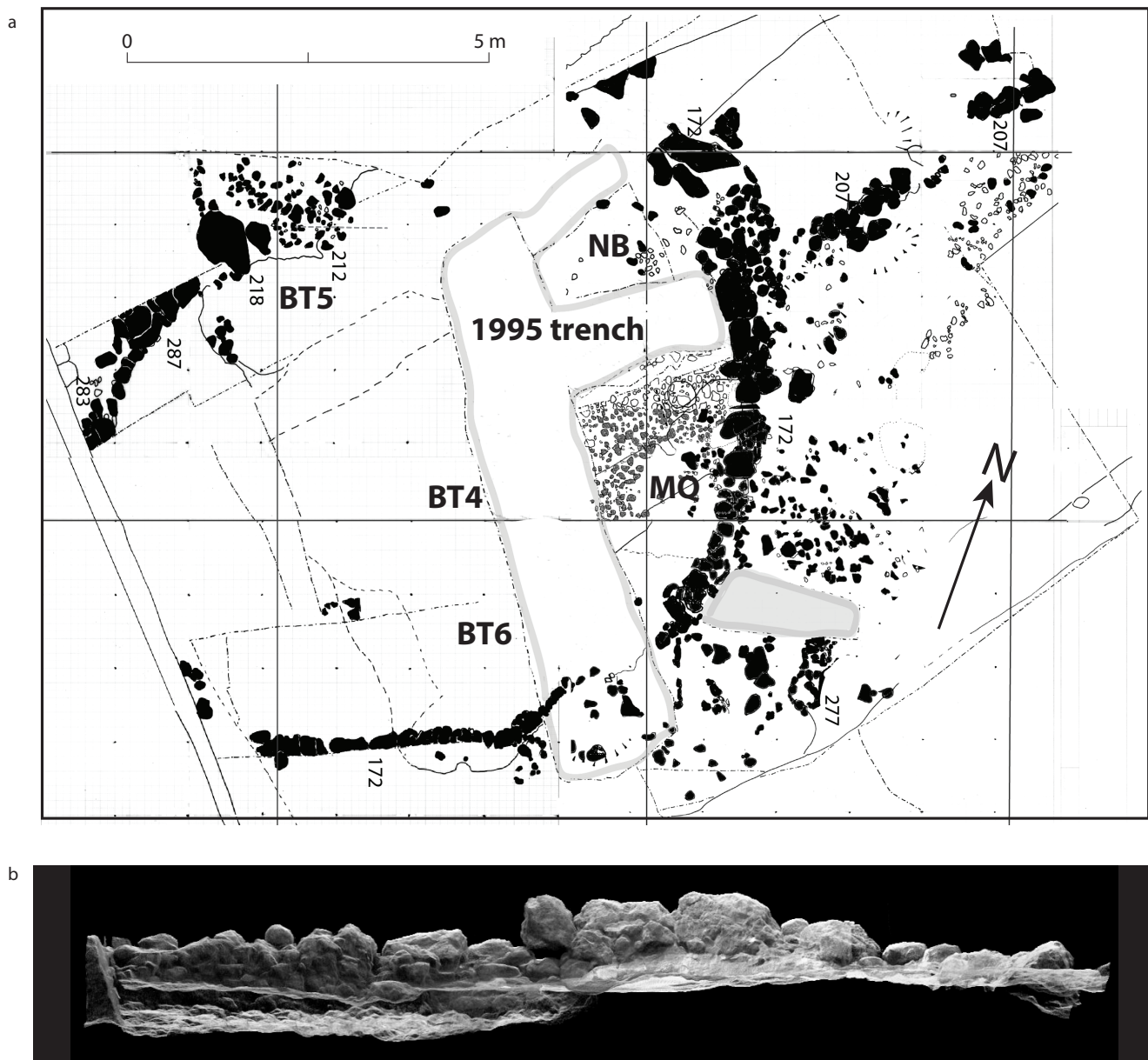


Figure 3.11. a) Wall contexts of the Neolithic structure; b) digital scan of stone walls (John Meneely).

remains or separate box trenches, they can be equated as similar or the same, and are described below, level by level. The interior was cut through by Channels 8, 9 and 10 (Cuts [161], [70] [52]), which exposed the floor levels, but also resulted in much disturbance of deposits in all levels. In essence, the half-circle arc of the eastern zone of the structure formed two surviving segments: the North Baulk (NB), and the Main Quadrant (MQ). Each of these was demarcated by separate contexts, whilst associated lenses and layers were broadly linked and incorporated into distinct levels. In the west, the three sondages (BT4, 5, and 6) were excavated to identify the

sequence noted in the 1995 trench. These collectively provide the sequence in Table 3.1.

At the base of the sequence, bedrock assigned as Context (127) underlay the entire stone structure, on which several of the larger stones of the wall (172) were placed. Other stones were bedded into the fill sediment, mainly the lower levels of (171). Context (127) was sometimes smooth, laminated and sloping to the southwest, as at the base of BT6. Elsewhere, bedrock was pitted and fractured, and was infilled with either natural *terra rossa* soil (126) and small stones, or, in some cases, intentionally filled and levelled.



Figure 3.12. BT5 looking southeast with wall (183) exposed, and the cobble layer within (283) overlain by floors and floor makeup deposits.



Figure 3.13. Wall (172) in the southwest corner of BT6.



Figure 3.14. Recording and excavation of the North Baulk inside the structure (see also Fig. 3.27).

Table 3.1. Layers recorded within the stone structure, stone elements in italics.

Floor layer related to stone structure	North Baulk	Main Quadrant	General west side	BT4 and 1995 trench	BT5	BT6	Approx. date
Topsoil backfill		1, 94, 167	1, 15, 86		1, 88, 89	1	Recent
Disturbed surface	44, 193, 213	132, 162, 199, 297	30, 84, 86, 151, 167, 226, 246	86, 96, 97	87, 101, 188, 201, 217, 226, 246	215, 216	Modern
Roman and later surfaces	168	161	168, 169, 185	168	168, 169, 185, 189, 190, 218, 221, 235, 236, 263	87, 246, 257, 258, 260	Roman and later
9 Dark greyish brown ploughsoil levels	3	240	214	201, 264	214, 227, 234, 237, 292		Roman
8 Cream brown floors	3, 154	193, 194	213	265	245	241, 246	c. 2400 BC (Tarxien Cemetery)
7 Dark lenses within floors of Level 6	17, 159, 160, 169, 170, 177	195	241, 245, 246	267	254, 255, 288	269	Tarxien Cemetery
6 Yellow brown floors	17, 155			155, 166, 270	186, 187, 245, 275, 292	276, 280	Tarxien / Thermi
5 Stony cobbles	7, 156	177, 196	133	279	262	281	Tarxien / Thermi
4 Stony cobbles	7, 157, 209	173, 197, 209		157	271, 289, 290	283	Tarxien / Thermi
3 Ashy grey brown	7, 158, 254	198, 202, 203		279	242, 272	286	Tarxien / Thermi
2 Foundation/structures Cobbles	172, 207, 211, 244	172, 200, 207, 211			183, 212, 218, 287, 296	299, 301	Tarxien
1 <i>Terra rossa</i>	256, 274, 282	274, 282, 303	126			302, 304	c. 2700 BC (Tarxien)
Bedrock	127						

3.3.3. Level 1 deposits

The deposit at the base of the sequence was a primary *terra rossa* mineral soil (see Fig. 3.20). The contexts from within the walls included (282) (274), (256), (304) (the fill of posthole [303]) in the main quadrant, and Context (302). These deposits were similar and equivalent to the natural *terra rossa*, Context (126). In the NB, Context (256) lay immediately above bedrock (127), sandwiched below (211) in the MQ, but it was distinguished from (211) by the presence of fewer stones. Flotation produced one pulse from the sediment.

The pottery finds consisted of an assemblage of mixed prehistoric pottery mainly from the Ġgantija phase but also including a Tarxien-phase sherd, suggesting the fill was sealed early in the Tarxien phase. This chronology was confirmed by a radiocarbon date of 2890–2685 cal. BC (UBA-29836, 4182±37 BP) obtained from a pig tooth found in the layer. One chip of chert (SF507) was recorded. Within the quadrant, set into bedrock, Fill (304) was the fill of a possible posthole [303] which contained no cultural material and was *terra rossa* in colour and texture. The Cut [303] may have exploited a natural bedrock feature, and was perhaps used to hold a supporting roof timber, positioned as it was, close to the (172) wall. These features were all covered by Context (203).

In BT6, primary *terra rossa* (302) (see Fig. 3.20a, b) covered bedrock (127) and was covered by Context (301). The pottery assemblage contained sherds dating to the Ġgantija, Tarxien, Temple Period, and Żebbuġ phases. Laboratory micromorphological analysis of a block sample of this deposit revealed that it was comprised of laminated water-laid crusts, indicative of standing water, but also with vertical cracks present, representing dry periods. This microstratigraphy was interrupted with at least one episode of disturbance (see detailed geoarchaeological report in Appendix A3.7). The overlying cobble context (299) consisted of medium-sized stones interspersed with fine-grained deposits, 14 large sherds of Tarxien-phase pottery and 135 other sherds from earlier phases. These were much more fragmented than the Tarxien sherds, but still relatively intact compared to those found in other layers. The cobbles were overlain by Context (286), a firm brown earth containing frequent small-medium sized stones, animal bones and two chert artefacts. The micromorphology of this layer strongly contrasted with (301), revealing a redeposited clay mixed with a significant quantity of settlement waste, such as coprolites, shell, ceramic material and bones, some of which had been burnt (see Appendix A3.7). The pottery assemblage from this layer contained nine Tarxien phase sherds among many others from

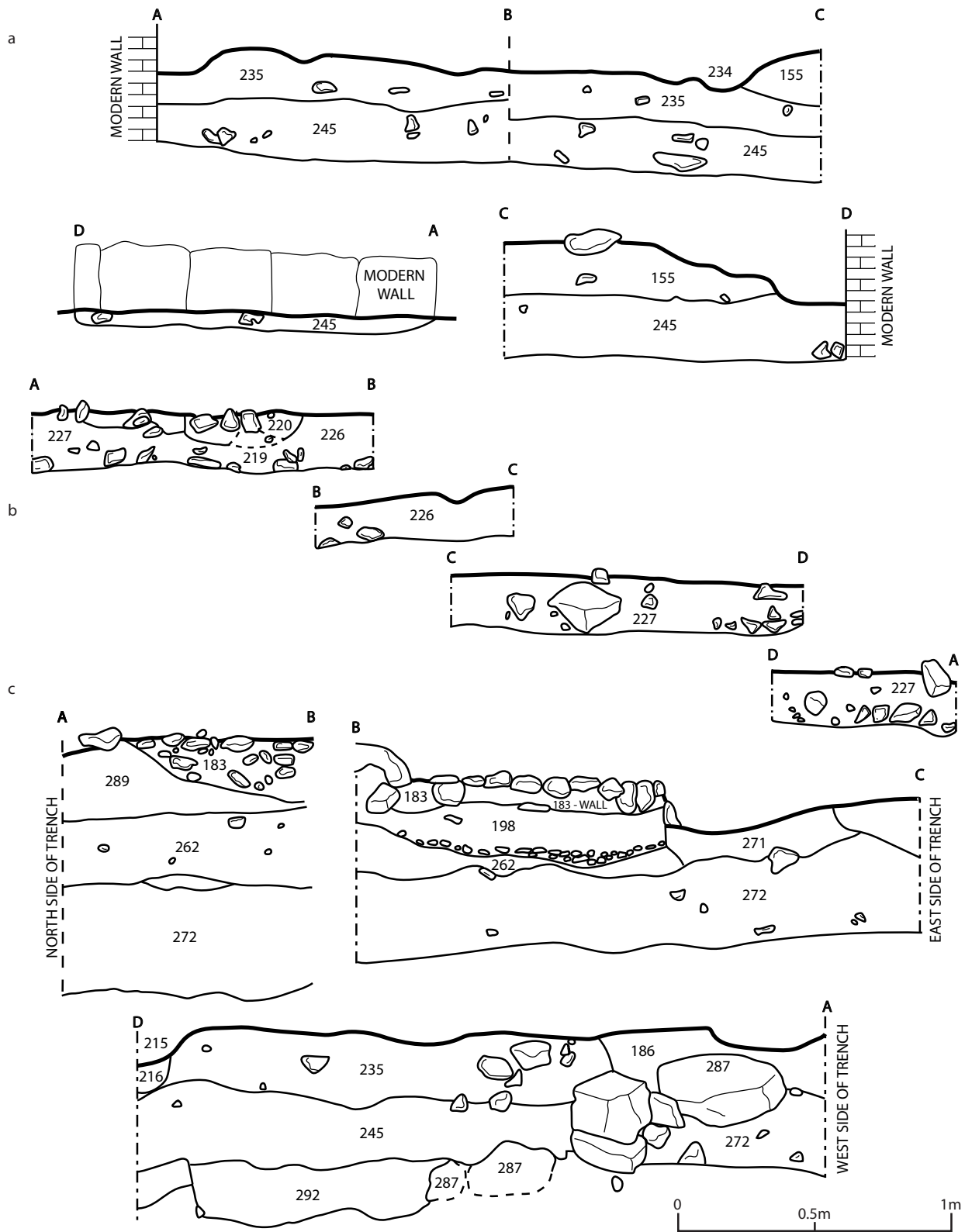


Figure 3.15. Section drawings of intermediate cuttings in Box Trench 5, showing the floor make-up deposits within the structure.

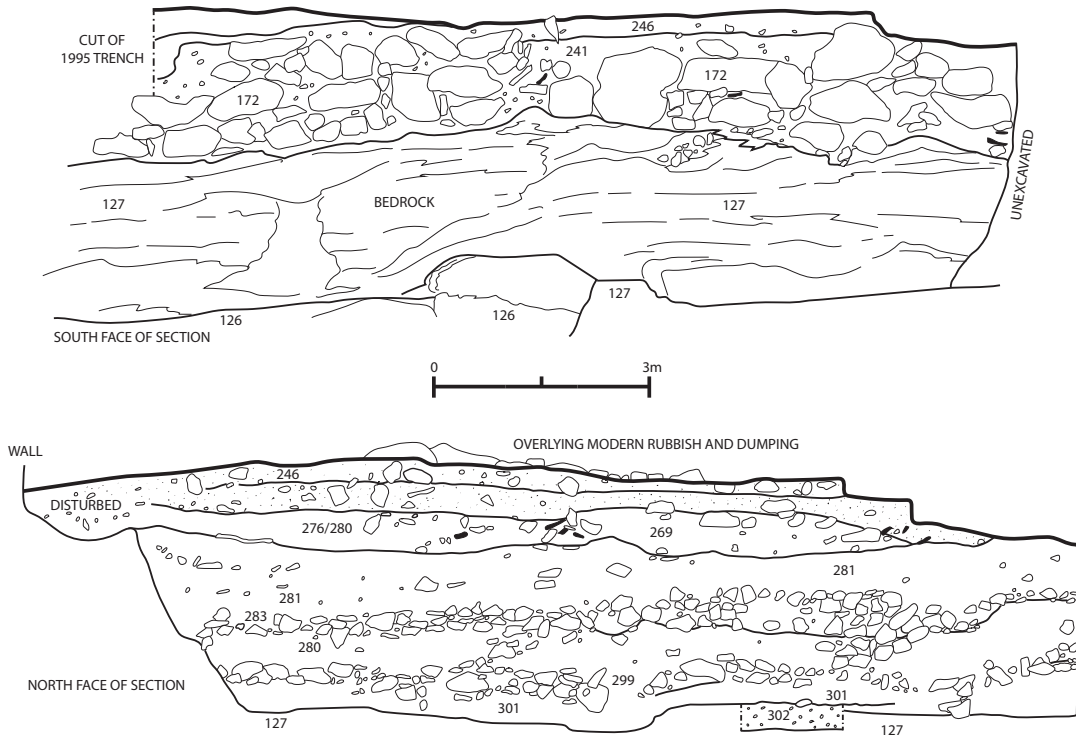


Figure 3.16. Section drawings of Box Trench 6 and exploratory trench.

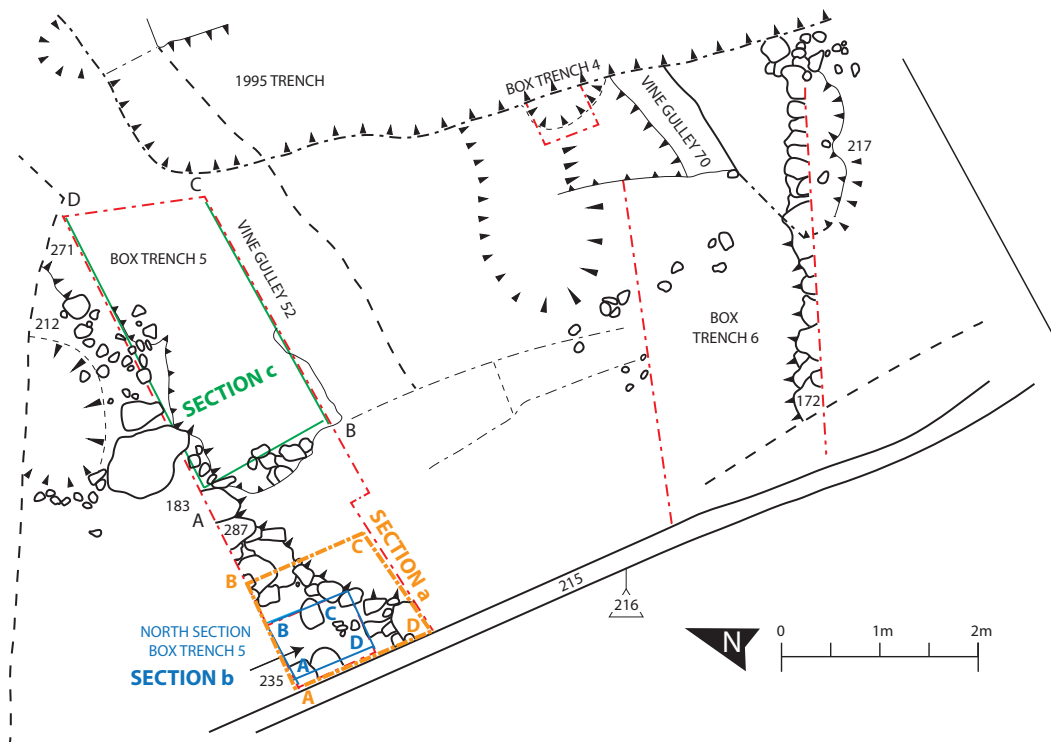


Figure 3.17. Location of the main exploratory box trenches in the western half of the stone structure.

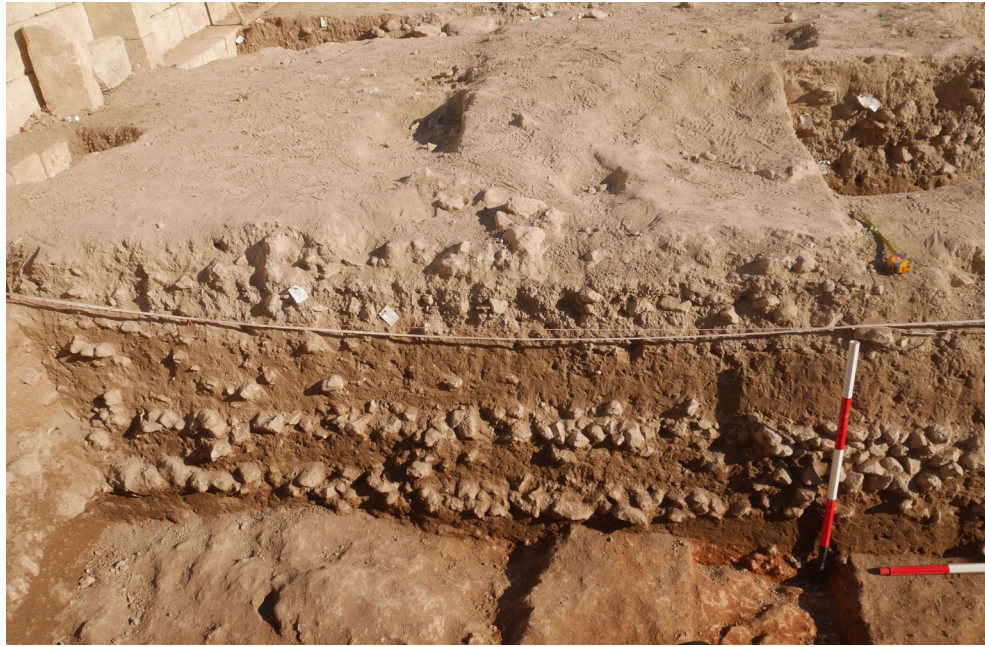


Figure 3.18. The lower cobble layers and underlying terra rossa filling karstic depression in BT6.

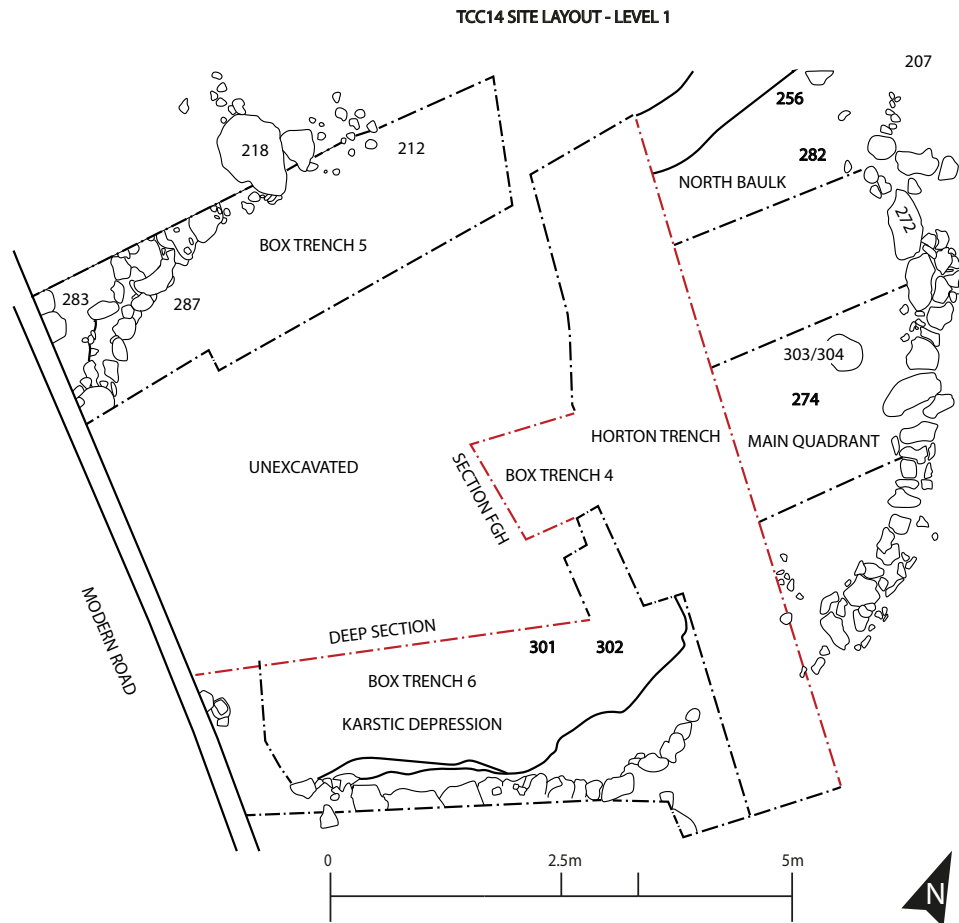


Figure 3.19. Plan showing locations of principal contexts in Level 1.

the Temple Period, but nothing later. The other Level 1 deposits were mostly devoid of cultural material. This was especially true of (274), which was covered by (256), a browner deposit, that yielded a wet-sieved sample containing one charred pulse.

3.3.4. Level 2 deposits

The deposits in Level 2 were broadly described as a layer of cobbles and stony floor make-up, which was considerably more stony than the underlying deposit. Context (211) in the MQ had the appearance of a stony

surface forming a foundation, perhaps to level out uneven ground (see Fig. 3.21a, b). It contained Żebbuġ, Ġgantija and Tarxien-phase pottery, six small chips of obsidian from both Lipari and Pantelleria, a worked stone and seven chert flakes. Close to what would have been the east wall of the building, the deposit was seemingly cut by a posthole [303], but its fill (304) was similar to *terra rossa*. Indeed, upon excavation it was found that the underlying bedrock contained a natural (albeit steep-sided and circular) depression. Therefore, the 'posthole' was more likely to have been a slump



Figure 3.20. a) Box Trench 6 with overhanging bedrock surmounted by wall (172) and revealing bedrock at base with successive floor levels (including (302) and cobble foundation layers (299), soil Context (280) and second cobble layer; b) The base layer (1) in BT6 where microstratigraphy was demonstrated (see Appendix A3.7).



Figure 3.21. View of the excavations in the western extent of the site (from Left to Right, BT6, BT4 and BT5).



Figure 3.22. a) Cobble and bedrock in Level 2 of the 'house' structure, eastern quadrant (211) with possible postholes and levelling features; b) with Level 3 deposit part removed to expose cobbles.

TCC14 SITE LAYOUT - LEVEL 2: COBBLE LEVELLING FOUNDATIONS

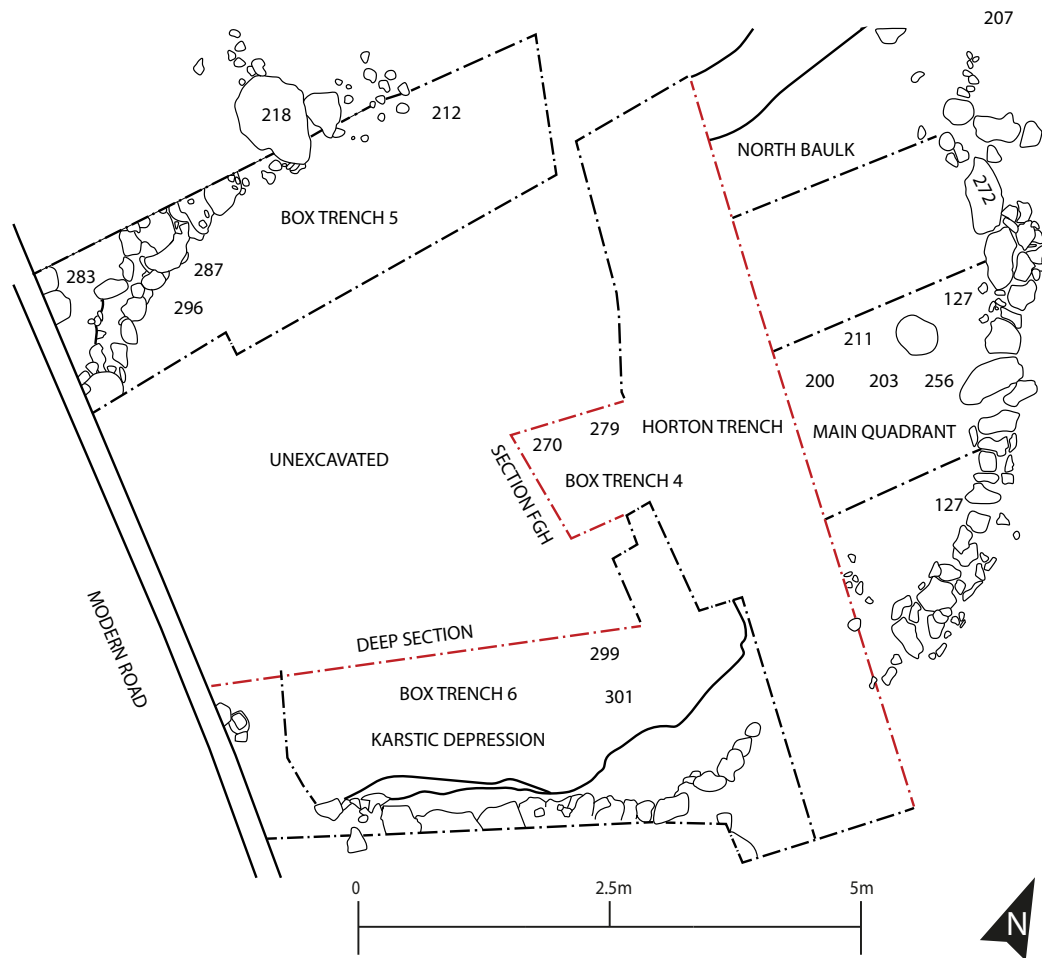


Figure 3.23. Plan showing location of principal contexts in Level 2.

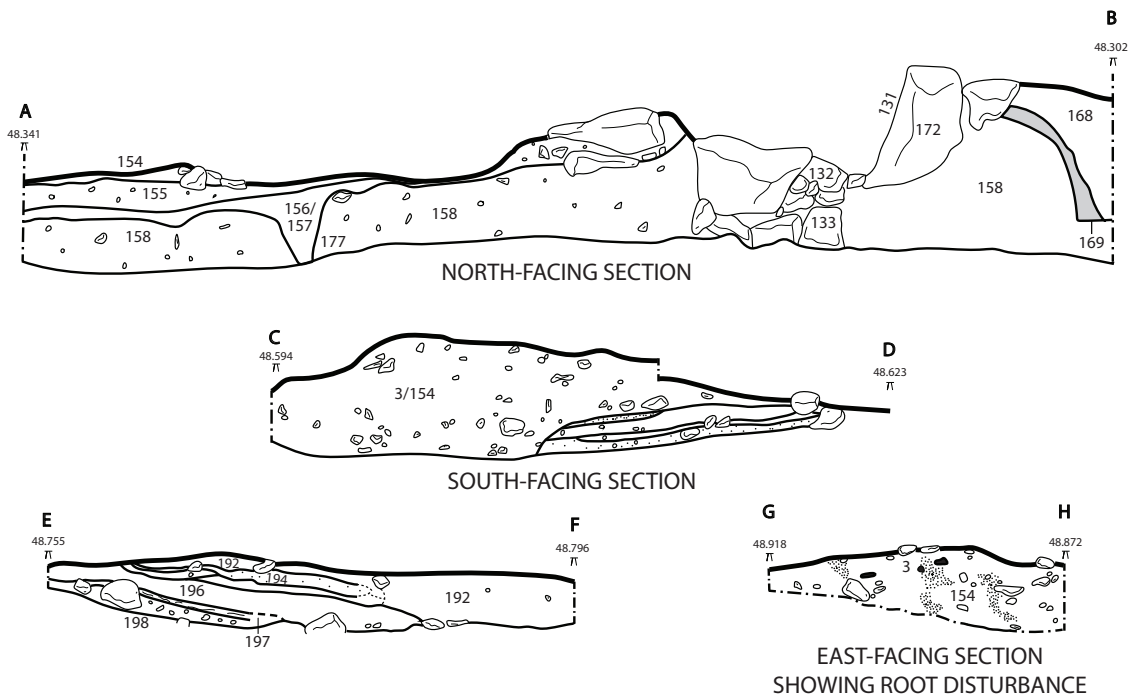


Figure 3.24. Sections cut through the 'house' structure floors recorded on the remaining North Baulk and north side of the 1995 excavation trench.

of deposits into this natural feature. Other surfaces in the quadrant included Context (200) which lay above (256) at the same level as (211) and (203), and formed a similar floor make-up layer, directly below (198), within the eastern side of the structure interior. This context was loose and disturbed at the top but more compact lower down. Context (200) contained shells, grits, and six lithic objects, three of obsidian (of which two were from Lipari). Context (203) formed a firm, brown (10YR 4/3), sandy loam lens with small white stone inclusions, and was covered by layer (196) and lens (202), and overlay (211). The assemblage from this lens contained pottery dating to the Roman, Ġgantija, Tarxien, Temple Period, Żebbug and Red Skorba phases, and four lithics. To the west, similar deposits were identified at the base of the box trenches, but these were cut by a Roman period vine channel, Cut [297] and its Fill (199). This channel, however, did not contain any Roman pottery, although some Roman sherds did make their way into Context (203) probably through the disturbances to prehistoric strata caused when [297] was dug. Structural elements and the foundation stones of the main surrounding wall were bedded into this level, and included the units described above, (172), (287), (212), (218) and (183). A similar cobble surface, Context (296), was identified in BT5, and was the lowest level explored in the trench. (296), interpreted as equivalent to (211), formed a

levelling surface over bedrock. It contained stones from the wall (212); although they took the form of a concentration of unset stones, it was not clear how they were set originally. The level was associated with a stony Fill (242), which contained a mixed prehistoric pottery assemblage, including one sherd tentatively identified as Tarxien (Fig. 3.21a, b).

In BT6, Context (301) overlay bedrock (127) and (302) as a silty sandy loam that was firm, and dark brown with a few medium-sized stones (7.5YR 3/4). It supported the lower cobbled surface (299) above (Fig. 3.20a, b). The pottery assemblage from this layer contained Tarxien phase sherds and numerous lithics (16). Context (299) above formed a distinct floor foundation of medium-sized cobble stones interspersed with fine-grained deposits. This yielded 14 large sherds of Tarxien-phase pottery and 135 other sherds from earlier phases. Many of these sherds were fragmented, if still relatively intact (compared with those found in other layers) sherds of Żebbug phase.

3.3.5. Level 3 deposits

Level 3 overlying the stony cobble foundation layers presented a yellowish-grey ashy and friable deposit. In the NB, Context (7) was the lowest floor surface exposed in 1995. It was later equated with layers (158), (198), (202), (242), (286), and a redder deposit (265). These comprised an intermediate layer of remnant

patches of flooring and contained mixed Temple Period pottery in a highly fragmented state. Context (158) in the NB was a red/brown layer, which was compact and clayey and formed the visible base of the baulk remaining from the 1995 excavation. It contained a large quantity of small stones, which spread in an arc across the small trench, identified as part of Context (7). The floor equated with Context (198) in the quadrant area which was overlain by (203), and (198) formed a surface/layer within the east side of the structure. This surface was associated with a rising remnant surface surviving close to the wall and adhering to it. Context (198) disappeared to the west as a result of root disturbance; which, given the low level of the deposit, explained the intrusion of some quite late phase prehistoric pottery. Lens (202) formed a firm, white floor surface within the Neolithic floor, and was covered by (196) and overlay (203) (see Fig. 3.21b).

At the base of BT 5, Context (272) was a very compact, dark brown (10YR 3/3), sandy clay loam. Its inclusions were pottery, animal bone and frequent sub-angular stones (10×5 cm). It was located beneath (262) and (271), abutted (287) and was above Context (296). The excavators noted splintered bone and pot, and the deposit was based on a cobbled surface that may have been a floor-base. Context (272) was bagged separately towards wall (287) to avoid contamination from other disturbance. The artefacts found within (272) included pottery sherds dating to the Żebbuġ, Tarxien, Ġgantija, Għar Dalam and Red Skorba phases, and some 35 lithic objects (including 10 tiny obsidian chips). The adjacent Context (242) was a stony deposit associated with wall (212) and beneath Context (221). The pottery assemblage from this layer belonged to the Żebbuġ, Ġgantija and Red Skorba phases. The context also produced one pulse seed and one lithic.

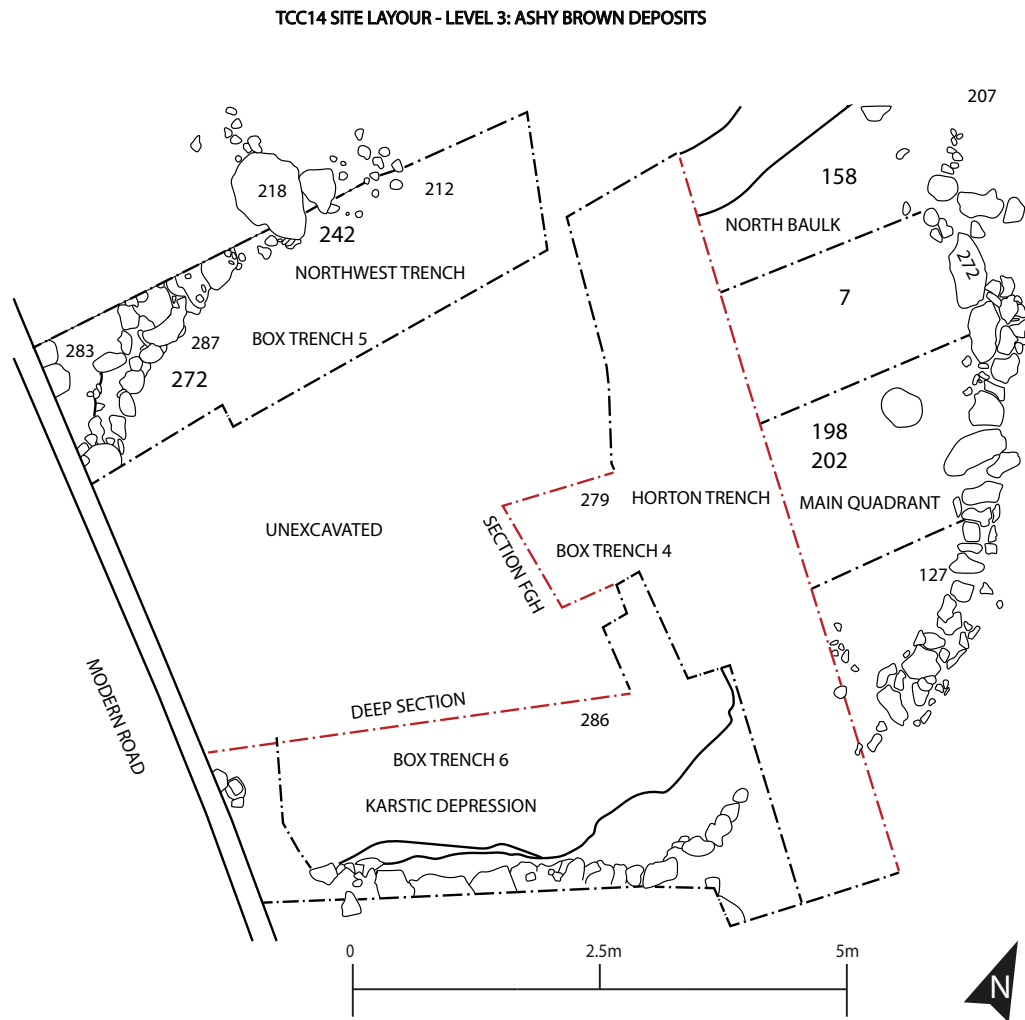


Figure 3.25. Level 3 deposits within the 'house' structure.



Figure 3.26. The re-opened west baulk of the 1995 trench, showing the area of re-cuts, later examined as Box Trench 4 (beneath the board) which yielded Thermi period pottery.



Figure 3.27. Layers revealed in Box Trench 4.

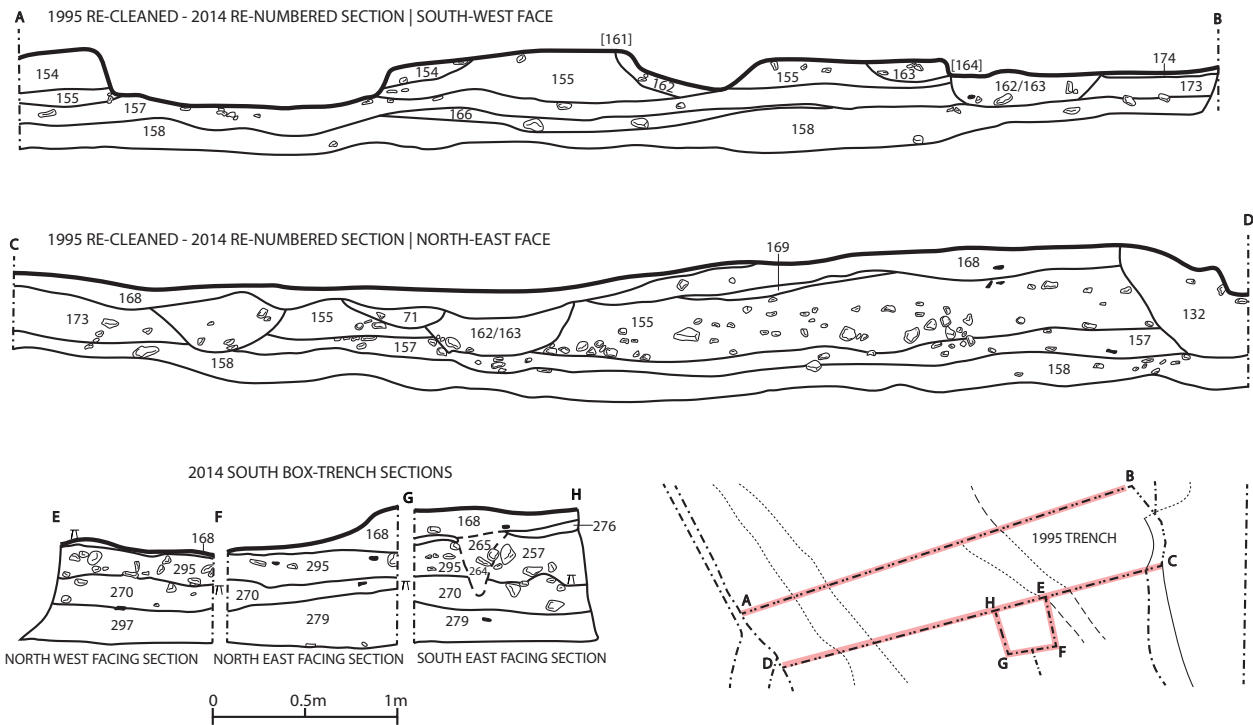


Figure 3.28. The 1995 Horton-Trump Trench, recorded again in 2014 and re-interpreted. Note: the deposits in Box Trench 4 show the pit cuts on the southeast face which contained Thermi pottery.

In BT6, Context (286) was a firm brown earth deposit containing frequent small-medium sized stones and animal bones. It was stratified between cobble layers (283) and (299) (see Fig. 3.20b). The micromorphology of (286) strongly contrasted with the underlying (301). It revealed a redeposited clay, mixed with a significant quantity of settlement waste such as coprolites, shell, a broken shell bead, ceramic material, three pieces of worked stone, twelve lithics (including one Lipari obsidian flake) and bones, some of which had been burnt (Appendix A3.7). The pottery assemblage from this layer contained sherds dating to the Żebbuġ and Ġgantija phases.

In BT4, Context (279) was the lowest level excavated and seemed to be equal to (198) on the east side of the 1995 trench. Context (279) formed a compact, dark greyish brown (10YR 4/3), loamy sand and contained sub-angular stones (4–7 cm). The quantity of pottery within it decreased in conjunction with an increasing depth. The pottery assemblage from this layer contained sherds dating to the Ġgantija, Tarxien, Bronze Age, and Tarxien Cemetery phases (see Figs. 3.26 & 3.27).

3.3.6. Level 4 deposits

Level 4 was a second stone cobble layer identified in all trenches. It was especially apparent in BT6, particularly

where Context (173) connected across the 1995 trench section with the east side baulk. In the NB, Context (157) was a compacted, brown (10YR 4/3), sandy loam interpreted as lens and deposits in the Neolithic structure floor. Context (157) was covered by (156) and overlay (158) and (198). The adjacent Context (197) in the MQ was a firm, dark brown (10YR 3/3), clay loam covered by (178) and was extensive. A wet-sieved soil sample from it produced four cereal grains and four pulses. Context (197) also contained four lithics. The pottery assemblage from both (157) and (197) comprised mixed prehistoric fragments, with (197) containing one sherd of (presumably intrusive) Borg in-Nadur phase pottery. Context (209) was located adjacent to floor deposits (157) and its covering Context (156). Composed of firm, brown (10YR 4/3), sandy clay loam, it formed a distinct stony area that abutted the large wall stones (172), forming a possible entrance area. It contained material no later than Tarxien phase. Finds included pot sherds, shells, animal bone and two pieces of chert.

In BT5, layers (271) and (283) were stony levels, visibly connected with the layers to the east. Context (271) was a firm dark greyish brown (10YR 4/2), sandy clay, beneath (262) and above (272). It was estimated to comprise of 20% stone, mostly sub-rounded blocks (20 × 15 cm) together with one obsidian and three chert

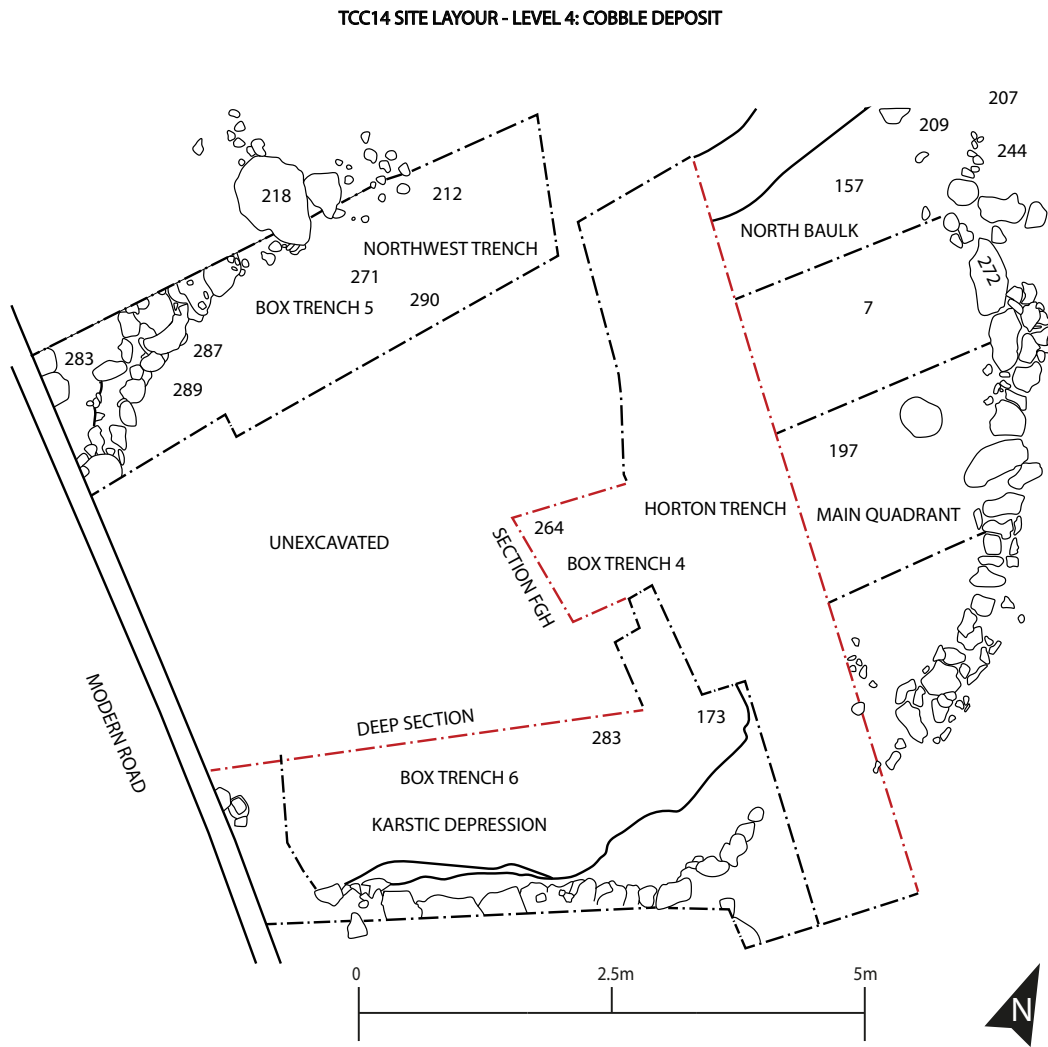


Figure 3.29. Level 4 showing main cobble deposits.



Figure 3.30. View of the trenches through the eastern half of the structure.

objects. Context (271) had a similarly mixed ceramic assemblage, including two Tarxien Cemetery phase sherds. Cut (289) was excavated as (262) (Level 5), but was later identified in section as a possible posthole cut below (262); its Fill (290) was a reddish colour and contained no cultural material.

In BT6, Context (283) formed a second cobbled surface, equivalent to (203), which was covered by (281) and overlay (286). Context (283) contained a mixture of Temple Period and Neolithic pottery, a charred barley grain and a small amount of animal bone. Context (281), above (283), comprised a mixture of stone rubble, sediment, mixed prehistoric pottery and a single chert flake.

3.3.7. Level 5 deposits

Level 5 was another stony, often cobbled, layer forming the foundation for floors above in Levels 6-7-8. In the NB,

this was also recognized as the upper part of Context (7). Upon examination, however, it was subdivided as (156), and a possible dark coloured posthole Fill (177). Context (156) was not a cobble layer, but formed a firm, thin, brown lens in the NB, containing flecks of charcoal, with lenses and patches in the southern extent that equated to (196). Context (196) in the MQ, was a brown grey, compact deposit, containing an occasional dark lens (195) and a few, small-sized stones. The excavators reported that it sounded hollow when knocked. Context (196) became looser and browner in the west, towards the 1995 trench, and was equivalent to (156) in the facing section. These layers were interpreted as a compact deposit that contained dark, sooty lenses. The pottery assemblage from this layer contained Ġgantija and Żebbuġ phase material, two obsidian flakes (one identified as Lipari) and seven chert objects. Context

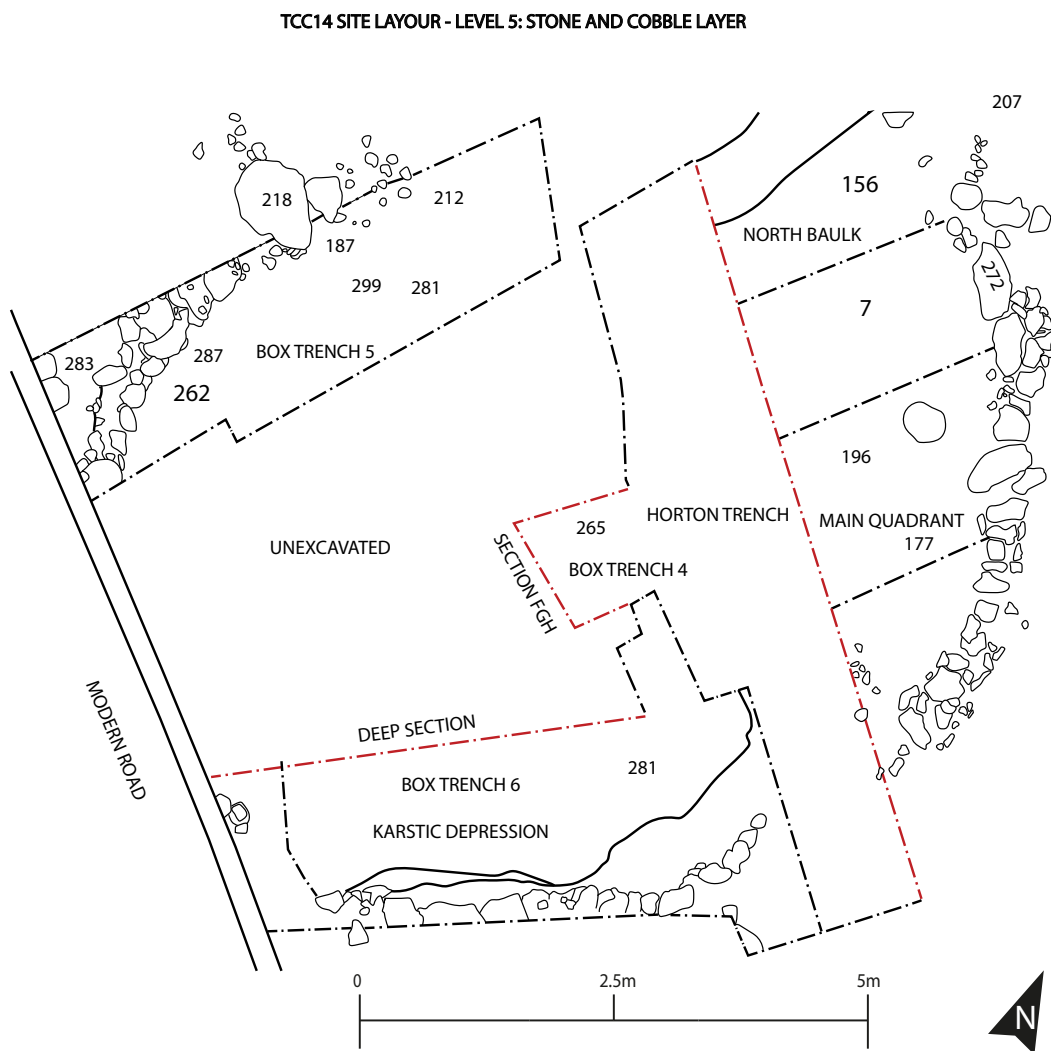


Figure 3.31. Level 5 showing main cobble deposits.

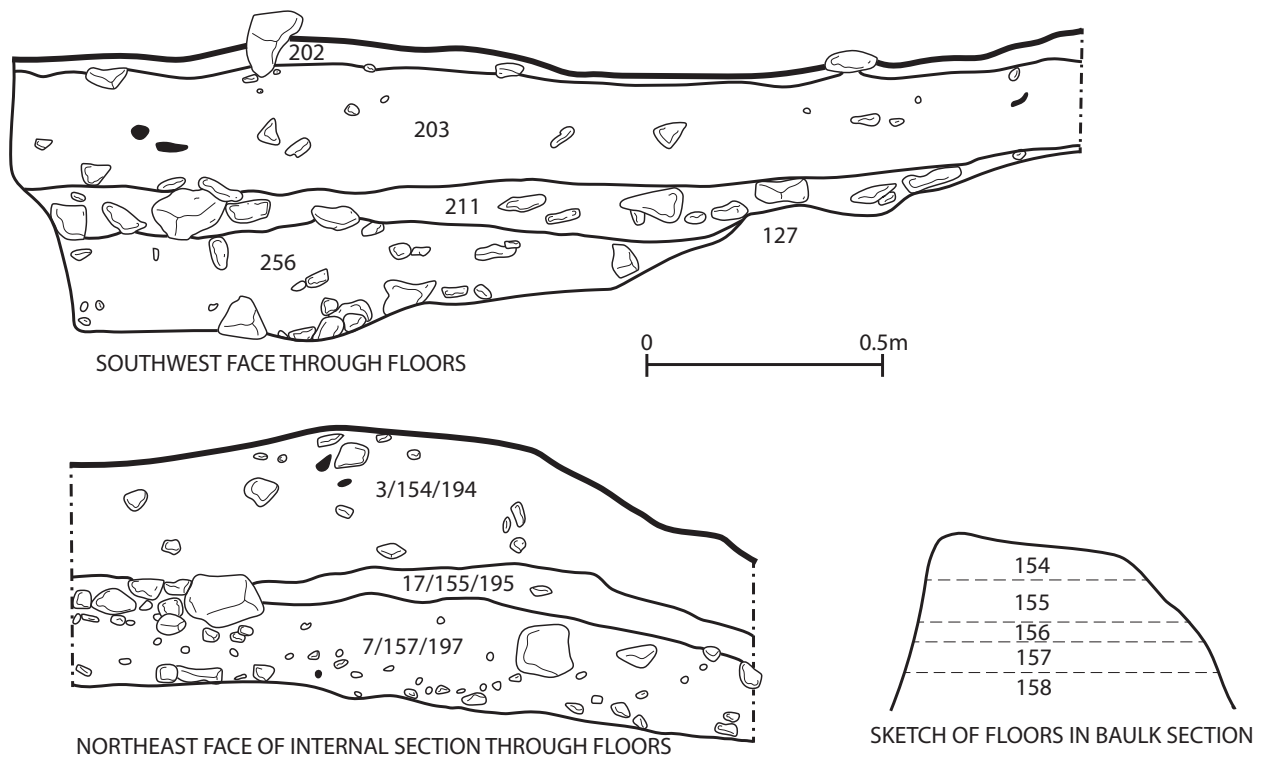


Figure 3.32. Section record of the North Baulk in the Northeast Quadrant, left from the 1995 excavations.



Figure 3.33. Photograph of baulk in North West Quadrant showing the cleaned level 3 deposits.

(196) produced three cereal grains. A potential truncated posthole cut through (156). During excavation, this showed as a Lens (177) that was sub-circular in shape and very thin in depth. Its position close to a megalith may support the interpretation of an internal post. In a small isolated area, context (177) overlay (157), and was identified as a friable, dark yellowish brown (10YR 3/4), silty clay loam, which appeared greyish-brown when dry and was devoid of finds.

In BT5, Layers (187) (162), (299) and (281) also appeared to be part of this general level of floor makeup and deposit, although the difference between these layers and those above and below was sometimes subtle. Context (262) was a compact, brown (10YR 4/3), deposit located beneath floor (186). It contained sub angular stones (15 × 10 cm) and was interpreted as a possible extension of (156) and (196) in the NB and MQ. The pottery assemblage from this layer contained sherds dating to the Ġgantija, Tarxien and Temple Period phases, as well as a small quantity of obsidian (five pieces from both Lipari and Pantelleria) and one chert artefact.

In BT6, Context (281) was a stony layer, beneath (280) and above (283), a mixture of stone rubble, sediment and mixed prehistoric pottery assemblage composed of mainly Żebbuġ and Ġgantija phase sherds and one lithic.

3.3.8. Level 6 deposits

Level 6 deposits comprised a series of yellow-white-brown floor deposits that overlay the stone and cobbled layers of Levels 4 and 5 with dark lenses. Level 6 was identified across much of the structure's interior, and provides a relative point of reference across the trenches. In the NB, Context (17) exposed in the 1995 excavation was noted to be equivalent to Level 6. This deposit was expanded to three sub-layers in the NB: Context (155); dark lenses defined as Context (166) that occurred below Floor (155) and above (157); and Lens (159). Context (155) was a firm, greyish brown (10YR 5/2), sandy clay loam that included Bronze Age pottery and three chert artefacts. Within (155), Context (166) was rich in pottery finds and interpreted as a levelling deposit. In the MQ, a dark-ephemeral lens (195) was sandwiched between (194) and (196), and was formed close to the structure's wall on the northeast side. Context (195) was a friable, dark brown (10YR 3/3), sandy loam. It contained voids indicative of root action that extended over much of the quadrant and formed a dark-powder within the harder yellow-grey and darkish soil matrix of Context (196). This context contained one obsidian and one chert artefact.

In BT5, Context (187) formed a stony floor below (186), which overlay (155) and abutted the possible

wall (183). It was interpreted as a spread of stones that formed a levelling layer beneath (186). Context (187) was heavily truncated to the east, probably because of stone robbing. Context (186) was a compacted, brown (10YR 4/3), sandy clay with many ashy lenses present on the surface. This context was heavily truncated to the east and west, which probably occurred in the Bronze Age. Context (186) abutted wall (183) and was covered by rather disturbed layers (168) and (185). It produced a single cereal grain. Context (292) was at the base of the trench excavation, which was not extended to bedrock, and formed a yellow-brown clay loam. This context contained mostly Temple Period pottery, two lithics, and two sherds that most likely date to the Borg in-Nadur phase. It abutted (287) and appeared to fill a cut against the heaped stone structure that was then covered by Context (245). Just outside the stone structure, Context (275) was a compacted, dark yellowish brown (10YR 3/4), sandy clay loam, below and abutting (262) and (97). Context (275) appeared to be part of a floor with a pottery assemblage that contained Ġgantija, Tarxien and Żebbuġ phase sherds and a single lithic.

BT4 revealed the same floor sequence as the area in the MQ (195) (155). Yet, the sequence had been disturbed in Level 6 and above by Cut [264], which cut into Context (267), and was filled by (168), (265) and (264) (see Fig. 3.27). In BT4, the exploratory excavation identified several layers and cuts. Context (270) overlay (279) in the cobble layer below, and was a sandy stone-rich deposit, which contained pottery and infrequent animal bones. These had been cut into by [264] and were sealed below (267), and the Fill (265) of Cut [264]. The pottery assemblage from this layer contained Tarxien, Bronze Age, and Thermi-style sherds. In a separate exploratory trench, Context (246) was a firm, mottled, brown (10YR 4/3), silty clay loam, flecked with occasional small red stones. It overlay (241) and was beneath layers (184), (213) and (214), and was interpreted as an occupation deposit, or prehistoric dump of material. The pottery assemblage from this context contained Tarxien and Temple Period material. Context (246) also produced a single cereal grain and two pulses, one chert and two obsidian fragments.

In BT6, a number of deposits were probably part of Level 6 and included Context (280), which was identified as a firm, dark brown (10YR 3/3), clay loam. This occurred beneath (276) and (269), and above (281). The quantity of pottery from (280) was less than that found in the overlying (276); but the layer was rich in Tarxien phase pottery and also contained one pulse. Context (276) was next in the sequence and comprised a firm, brown (10YR 4/3), silt loam, similar to contexts (203) and (157) in the MQ/NB. The pottery assemblage from this layer contained Żebbuġ, Ġgantija and Tarxien phase



Figure 3.34. The cleaning and recording of the North Baulk (NB) and clearance of channel 10.

sherds, as well as two that appear to date to the Bronze Age Borg in-Nadur phase. Laboratory micro-morphological analysis revealed that the deposit was similar in composition to Context (286), but with even more coprolite mass and highly degraded faunal remains (see Appendix A3.7). A wet-sieved flotation sample of soil from (276) contained a charred lentil (*Lens* sp.), which was AMS radiocarbon dated to between 2465 and 2210 cal. BC (UBA-30423, 3858±36 BP). The faunal assemblage consisted of two cattle and two sheep/goat bones, and many other unidentifiable fragments; a cattle tooth was AMS radiocarbon dated to between 2830 and 2470 cal. BC (UBA-29835, 4032±34 BP). It is unlikely that the two radiocarbon dates from (276) derive from the same phase; they fail the χ^2 test when calibrated using the R combine function in OxCal (Bronk Ramsey, 2009). Instead, it is reasonable to interpret Context (276) as an accumulation of material brought into the site during several centuries of occupation spanning at least the Tarxien phase of the Temple Period.

Figure 3.35. The cleaned floor (155) in Level 7 in the east of the structure exposing floor layers (156) below in Level 6.



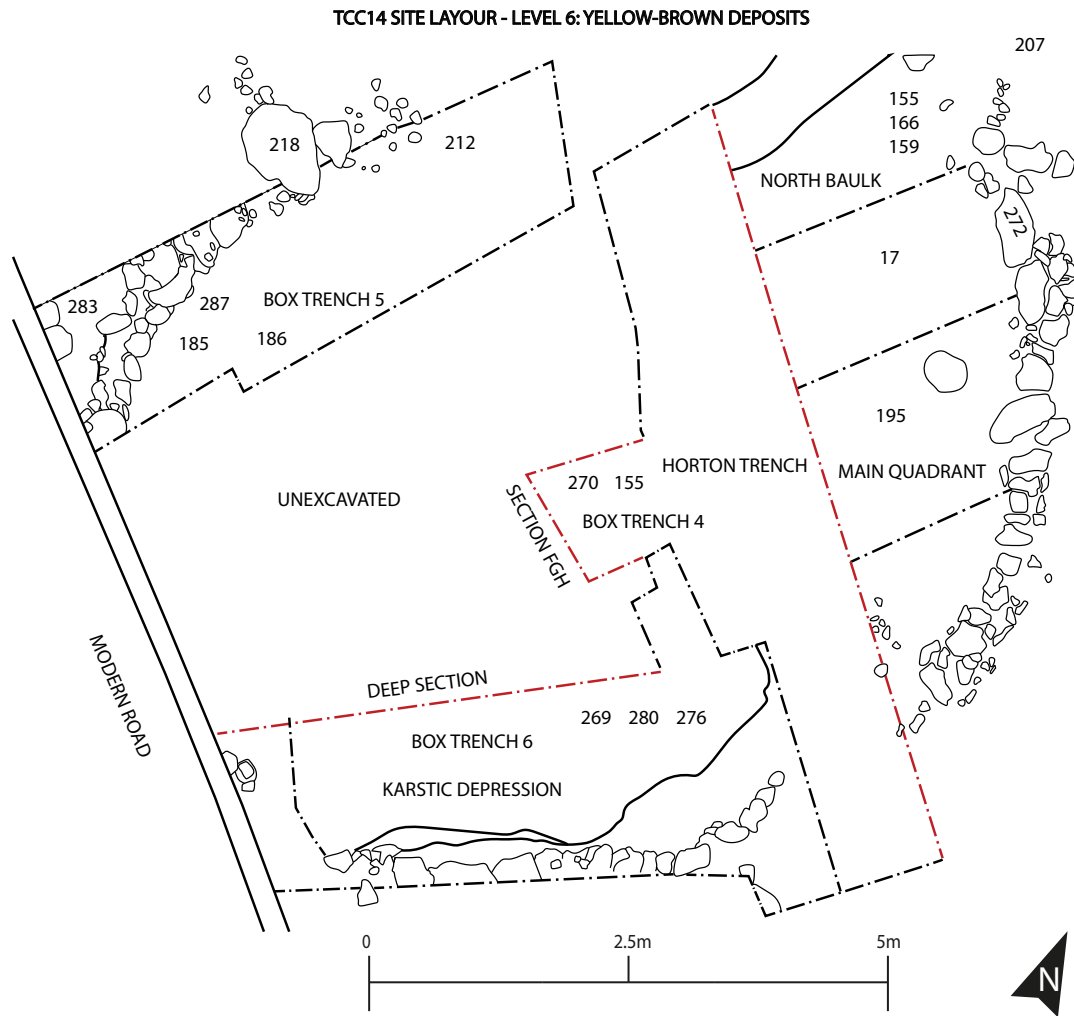


Figure 3.36. Level 6 yellow brown deposits.

3.3.9. Level 7 deposits

Level 7 was not stratigraphically above Level 6, but was represented by thin, sometimes ephemeral, ashy sooty layers sandwiched within or on the surface of Level 6. These were confined mostly to the eastern side of the structure. Context (17) in the NB was identified in the 1995 cut, and formed a thin lens over (7) that was interpreted as exposed ash lenses (see Fig. 3.5d). Its lower levels equated to Context (155). Finds from (155) included Bronze Age pottery and chert. Lens (159) was a dark grey/black lens of thin material within (155). The pottery assemblage from this layer contained Ġgantija and Tarxien phase sherds, and this context also produced a single cereal grain. Lens (160) was another dark grey/black thin lens of material in Level 7 within the NB. These root-disturbed occupation deposits in Levels 7/6 overlay Levels 5/4 and were sealed below Level 9. Context (170), exposed in isolated patches not

visible in the western baulk long section, lay below Context (154) and above Context (155). It was a friable, dark yellowish brown (10YR 4/4), silty clay loam, and was interpreted as a layer of dump material, possibly slumping from the central part of the structure's floors. Finds from (170) included pottery and one piece of obsidian. Lens (169) was a shallow lens of dark grey material between (168) and (155).

BT5 Level 7 deposits were quite mixed and intermingled. They were recorded in section, with some layers occurring just outside the 'wall' line of the structure. Context (288) was a dark brown deposit beneath (168) (a deposit found across the west part of the site), and above (262) (Fig. 3.15c). Fill (254) was a compacted, greyish brown (10YR 5/2), silty clay fill of [234], and lay beneath (245). Cut [255] was a cut to the east of floor (186). It was covered by (168) and (169). Context (267) in BT4 above Context (270), was a friable



Figure 3.37 (right). Cleaned floor deposits in Context (195), showing burnt residues and ashy lenses.



Figure 3.38 (left and above). a) Section cut through floors close to stone wall 172, with burnt lenses visible; b) detail of burnt deposits sealed by plaster floors.

LEVEL 7 DARK LAYERS, LENSES AND DEPOSITS

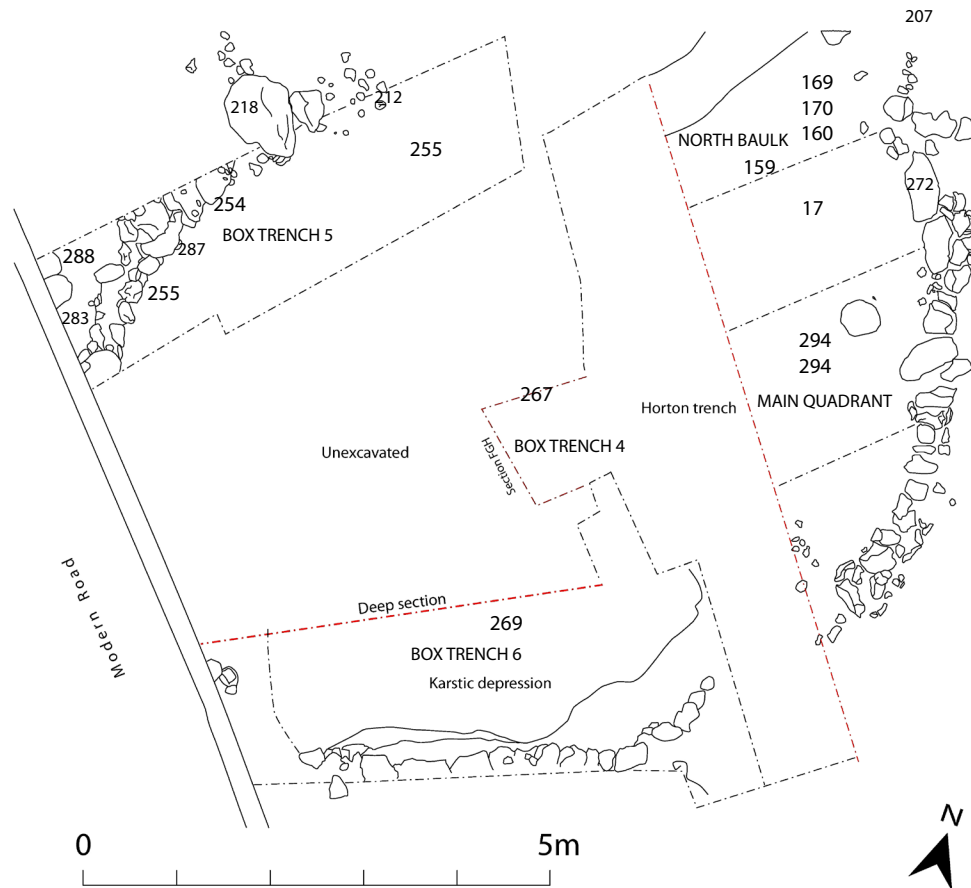


Figure 3.39. Level 7 deposits, showing location of main dark lenses and floors.

dark grey (5YR 4/1), ashy silt, and was covered by (168) and cut by (165). The pottery assemblage from (267) contained Temple Period phase sherds. BT4 presented disturbed deposits in Level 7-8, with a deep Cut [264] that was cut into Context (267) and slightly into (207), and was filled with Context (265) (Fig. 3.27).

In BT6, Context (269) was a firm, greyish brown (10YR 4/2), silty sand that overlay (276). This was not a structured deposit, but rather a 'dump' of material made inside the decaying stone structure. The assemblage from this context included pottery dating to the Temple Period, the end of the Temple Period/earliest Bronze Age (Thermi phase), and the Borg in-Nadur phase of the Bronze Age. The latter were probably intrusive. Yet, the presence of pottery from so many phases suggests a considerable time-depth to the makeup of this context's constituent parts. Context (269) was covered by (241) (Fig. 3.16).

3.3.10. Level 8 deposits

Level 8 comprised levels of cream-brown deposits that may have derived from earlier plaster and beaten earth floors. This level and all those above were increasingly mixed and disturbed by later cultivation, demonstrated by Roman period pottery. Context (3) was a compact pale silty loam that appeared to be a disturbed floor deposit incorporated into plough-soil. This had already been explored in 1995, and upon further excavation it was sub-divided into several more layers in the southern part of the MQ. Context (193) formed the upper floor level, and this equated to (154) in the NB where it was stratified beneath (2). It was a friable, dark yellowish brown (10YR 4/4), sandy clay loam comprising a mixed deposit with numerous finds (pottery, four chert artefacts and bone). Several of these layers contained Bronze Age pottery, indicating a relatively late reuse, or heavy disturbance of the upper levels of the stone

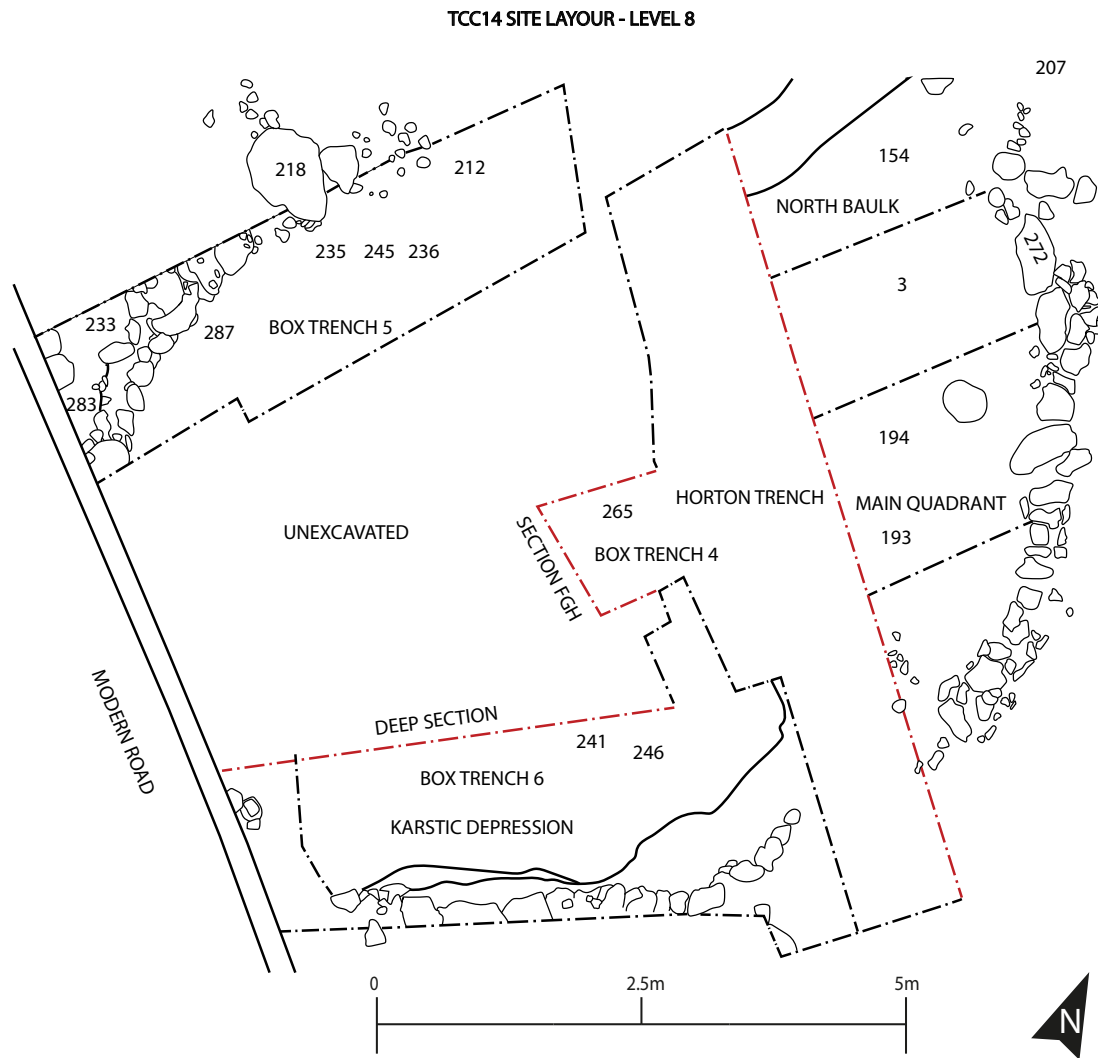


Figure 3.40. Location of the main Level 8 deposits.



Figure 3.41. General view looking south of excavation beyond the 1995 trench, which has been labelled with new context identifications.

structure into the early second millennium BC. In BT4, Context (265) was a friable, reddish brown (5YR 4/2) sandy loam, which contained pottery that appeared to date to no later than Temple Period, but must also date to the Bronze Age on the basis of its stratigraphic position. In BT5, Context (245) overlay (292) as a compact, dark brown (10YR 4/3), silty clay, beneath (235), and was possibly a lower fill of Cut [234], which can be distinguished in section (Figure 3.41) where it is cut against the stone heap of (287). The assemblage from (245) contained pottery dating to the Roman, Tarxien and Żebbuġ phases, three obsidian objects (from both Lipari and Pantelleria) and three chert objects.

Context (241) in BT6 extended unevenly over much of the trench as a compact, brown (10YR 4/3), sandy silt loam. It was interpreted as a possible trampled surface, rich in animal bone and pot sherds dating to the Early Bronze Age and Thermi phase. Above (241), Context (246) formed a firm, mottled, brown (10YR 4/3), silty clay loam, flecked with occasional small red stones, and covered by layers (184), (213) and (214). Context (246) was interpreted as an occupation deposit, or a prehistoric dump. The assemblage from this context contained pottery dating to the Tarxien, and Temple Period phases, two pieces of obsidian, a chert flake, a single cereal grain and two pulses.

3.4. Superficial levels and the Roman vine channels

The layers above Level 8, described collectively here as Level 9, comprised a dark greyish-brown ploughsoil and various modern/recent fills, but they did not represent a reliable stratigraphy. Only Layers (3) and (154) in the NB area provided a reference to other similar layers ((185), (193) (201), (214), (227), (87), (212)), which were located within and over the stone structure. Many of these deposits actually extended over and beyond the line of the buried wall, blending with the disturbed superficial levels of the site. A series of superficial layers and cuts ((267), [264], (265), [263], (189), (212), (213), (237), (218), (183), (184), [180], (181), (86), (87), (217), (221), (88), (101), (89), (148), (147), (26) and (4)) (see Appendix Table A3.1.1) overlay these deposits. A representation of the stratigraphy in this area can be found in a context sequence diagram in Tables 3.1 and 3.2. Pottery was retrieved from all layers, but lithics were scarce, comprising only 20 pieces.

3.4.1. North Baulk and Main Quadrant

The area of the NB and MQ (see Table 3.1; Figs. 3.31 & 3.39) was the best-preserved stratigraphic sequence of the site, and although they were cut at frequent points, the deposits were fairly clear. Context (193) equated to

the upper part of Level 8, and was identified as Level 9. This formed a firm, creamy-brown layer that was particularly dry and firm in the upper, desiccated portion, and was described as friable, very dark greyish brown (10YR 3/2), loamy sand. Context (213) was a compacted, whitish grey deposit in area B to the west of the Horton/Trump trench. It appeared to be similar to (186), which was a *torba*-type floor, and was covered by (167) and overlay (246). Context (213) was interpreted as a small patch of flooring left intact after modern activity. It produced a single cereal grain and one pulse. In the MQ, the Roman vine trenches had disturbed the upper levels of deposit and Cut [297] may have represented the end of a channel that cut across the prehistoric wall (172) into the interior of the structure, through layers (200) and (203). This cut was filled by (199) and was interpreted as a probable Roman vine trench. Its Fill (199) penetrated multiple Neolithic layers, stopping at (198). The pottery assemblage from this fill contained mixed sherds dating to the Roman and Tarxien phases. Context (240) was a compact, grey, fine deposit covering the large stones from wall (172), butting the base of Cut [52]/Channel 10 and lying below (200). Context (240) had been cut into (Cut [19]) by the 1995 excavation. The layer was cleaned in section in preparation for drawings and interpreted as integral with the large base stones from the wall exposed beneath Cut [52]. The long-exposed channel (under polythene covering) was desiccated, which obscured the subtle layering that may once have been visible. The pottery assemblage from this layer contained sherds dating to the Ġgantija and Tarxien phases.

3.4.2. Box Trench 5

BT5 was initially excavated in three small box trenches (Fig. 3.15a, b, c). These were later combined into a single deep trench. From the base up, Context (237) was a stony spread of (221), beneath (185) to the exterior, lying west of the line of the structure wall. This area had been heavily disturbed in modern times, and only the base levels provided useful stratigraphy (Figs. 3.17 & 3.41; Table 3.1). It is recorded here, however, to inform on the samples that were gathered. Context (237) was interpreted as spoil from robbing out (212) when Cut [88] was dug. Context (185) was a firm, brown (10YR 4/3), silty clay loam above floor (186) related to these spreads. Their relationship with (168) and (87) was not entirely clear, but they were all similar dump layers dating from the Bronze Age to the Roman period. The area around the wall limits had many dump layers with similar lenses. It was very likely that Layers (185) and (87) dated from the same phase, post-dating the underlying Context (168). Finds from (185) included a chert and an obsidian flake, whilst pottery included



Figure 3.42. View of the extramural layers, marked and labelled in Box Trench 5.

Bronze Age and Roman material. Context (190) was equivalent to (185). Fill (189) was a firm, brown (10YR 4/3), silty clay, which filled Cut [263]. This seemed to cut around the megaliths (183) and (218), between prehistoric Context (262), which contained Bronze Age and Roman pottery. Context (184) overlay (71) and (155) as a friable, dark grey brown (10YR 4/2), silty clay loam with frequent medium to large stone inclusions. It lay below modern layers (94) and (167), but its relationship to the stone layer beneath (213) was unclear. Context (184) produced four cereal grains and three pulses, as well as Roman pottery and was interpreted as Roman in date. In turn, it overlay Fill (71) of Cut [70] with a pottery assemblage containing Temple Period pottery. Context (201) was a disturbed layer, west of wall (172) and layers (193) to (198). It was a loose brownish soil with stones and root disturbance. Context (221) was a compacted, dark yellowish brown (10YR 4/4), silty clay, which contained some loose stones located within wall (212). Context (221) was covered by (87) which had a similar matrix. This was interpreted as a Roman plough soil. Finds from (221) included pottery, charcoal and obsidian. The pottery assemblage from this layer contained Roman material.

Context (226) was a compact, dark brown deposit, covered by (184), and was similar to (246), which was deeper in the sequence. The assemblage from this layer contained Roman and Żebbuġ phase pottery and one chert object. Context (167) was a firm, brown (7.5YR 4/6), silty clay loam, and lay beneath (94). It had a similar

consistency to (30), which it abutted, but contained modern materials indicating a disturbed plough-soil. Fill (235) in BT5 formed an upper fill of Cut [234] above the lower Fill (245). It was a firm, dark yellowish brown (10YR 4/4), silty clay. Context (235) was covered by layers (236) and (185) and contained five Roman pottery sherds mixed with earlier material, and two Lipari obsidian and two chert artefacts. Context (236) above was a firm, dark brown (10YR 4/3), silty clay, west of [234], beneath (185) and partly overlying (235) where it formed an ephemeral crusted surface on top of (235). Finds included some pottery. The next layers, (214), (185) and (168), were firm, brown soil 'dump' deposits or unstructured accumulations that had formed long after the structure had decayed. Large stones embedded in these BT5 deposits were assigned the context number (218). Cut [88], found when first clearing the area at a very superficial level, was circular in form, burnt on the outside and contained a grey lining (possibly clay) approximately 1 cm wide. An oxidized lip around the cut indicated this was a vessel or drum that was probably used as a kiln (see Fig. 3.79). Its Fill (89) was firm, dark yellow brown (10YR 3/4), sandy loam, and the feature was enclosed by (87) and stratified above (101). Fill (89) contained ash and charcoal, although not as much charcoal as (101). This was evidently the remains of kiln firing. Finds from (89) included chert debitage, animal bones, Roman and mixed pottery (Fig. 3.39). Context (217) was a brown soil which had a similar consistency to (30) and (87), and was covered



Figure 3.43. View of the intermediate stage of excavation of BT6 with the emerging bedrock edge and overlying wall (172).



Figure 3.44. View of the excavation of the internal floors and structure wall, looking north.

by (1) and (30). Cut [188] was a cut into earlier soils (155) and (189), and was defined by a clear orange band in browner soils and its Fill (1) was full of modern material. This was interpreted as a modern cut into earlier soils. The overlying, and extensive superficial Context (87) that occurred beneath the topsoil was a firm silty clay, dark yellowish brown (10YR 4/4), which contained small (1 cm) limestone inclusions. It had probably accumulated over time as a ploughsoil, covering Roman levels and Context (185). The mixed pottery assemblage from this layer contained sherds dating to Roman, Temple Period, Żebbuġ and Bronze Age phases. Above this deposit, Context (1) was a recent levelling topsoil/ previous excavation backfill. It was a mixed stony friable, dark yellowish brown (10YR 3/2) soil. Finds included prehistoric pottery and a wide variety of modern material such as plastic, drainpipe, glass bottles, Kodak film roll, and food wrappers, as well as eight lithic artefacts. The mixed pottery assemblage collected from this context contained sherds dating to the Roman, Ġgantija, Tarxien and Temple Period phases. Context (1) was mostly excavated by machine, and the finds were treated as coming from one layer with no differentiation between topsoil and backfill. This layer was ubiquitous across the entire excavation area.

3.4.3. Box Trench 4 and main (Horton-Trump 'H') trench
A small box trench, approximately 1 sq. m, was cut into the west side of the 1995 Horton Trench ('H') to examine an area of complex stratigraphy (Fig. 3.27).



Figure 3.45. Internal floors and the remnant walls (172) looking south, with the North Bulk removed exposing the lenses at its base. The 1995 trench visible beyond under polythene.



Figure 3.46. The wall structure looking west towards BT6 and the location of BT4 and BT5 beyond.

Above and west of the box trench, a series of deposits were explored. They included Context (227), a grey deposit beneath (214) with a similar makeup to (155) and interpreted as equivalent to (246). The pottery assemblage from this layer contained Temple Period and Żebbuġ phase sherds. Context (214) was a compact, brown (10YR 4/3), sandy clay with small stone inclusions and covered by (168). It was interpreted as a plough soil overlying the south and west of Area B to the west of the Horton/Trump trench. Context (86) was a compact, mottled deposit underneath the Horton/Trump spoil heap within the area of the Neolithic structure. It formed a crusted layer on top of (96) and (97) and was interpreted as an ephemeral crusted lens, equivalent to (168). The pottery assemblage from this layer contained Roman and Bronze Age material. The long section of the 1995 trench and BT4 traced (168) and lens (169) across much of its length, suggesting that these contexts cover a large area. Context (168) was a firm, brown (10YR 4/3), silty clay loam, probably better preserved than layers sealed by (185) and found on the southwest side of the interior of the structure. This seems to represent a truncated Roman period surface;

Lens (169) was found under it in places and comprised a shallow deposit of dark grey material overlying (155). Covering these strata were equivalent Contexts (226) and (246). These were both similar in composition to the loam deposits below, but also yielded finds that included ten Roman pottery sherds and three lithics. Cut [96] was made into these layers, and was exposed under (86). It was interpreted as spoil from a previous excavation. Fill (97) was a yellowish brown (10YR 5/4), sand filling (96). At a superficial level, cutting across much of the internal structure, modern Cut [182] (the extension of Vine Channel 7, [70]) penetrated layers (71), (155), (163) and (186) and contained modern material layers (94) and (167). Machine marks are clearly visible, so it was likely machined out to create a hole for dumping. Covering this was modern soil and debris, identified as (94).

3.4.4. Box Trench 6

BT6 (Figs. 3.16 & 3.42), located in the southwest corner of the excavation, contained the deepest stratigraphy on the site, and followed the edge of a natural karst feature. The limestone edge influenced the shape of the

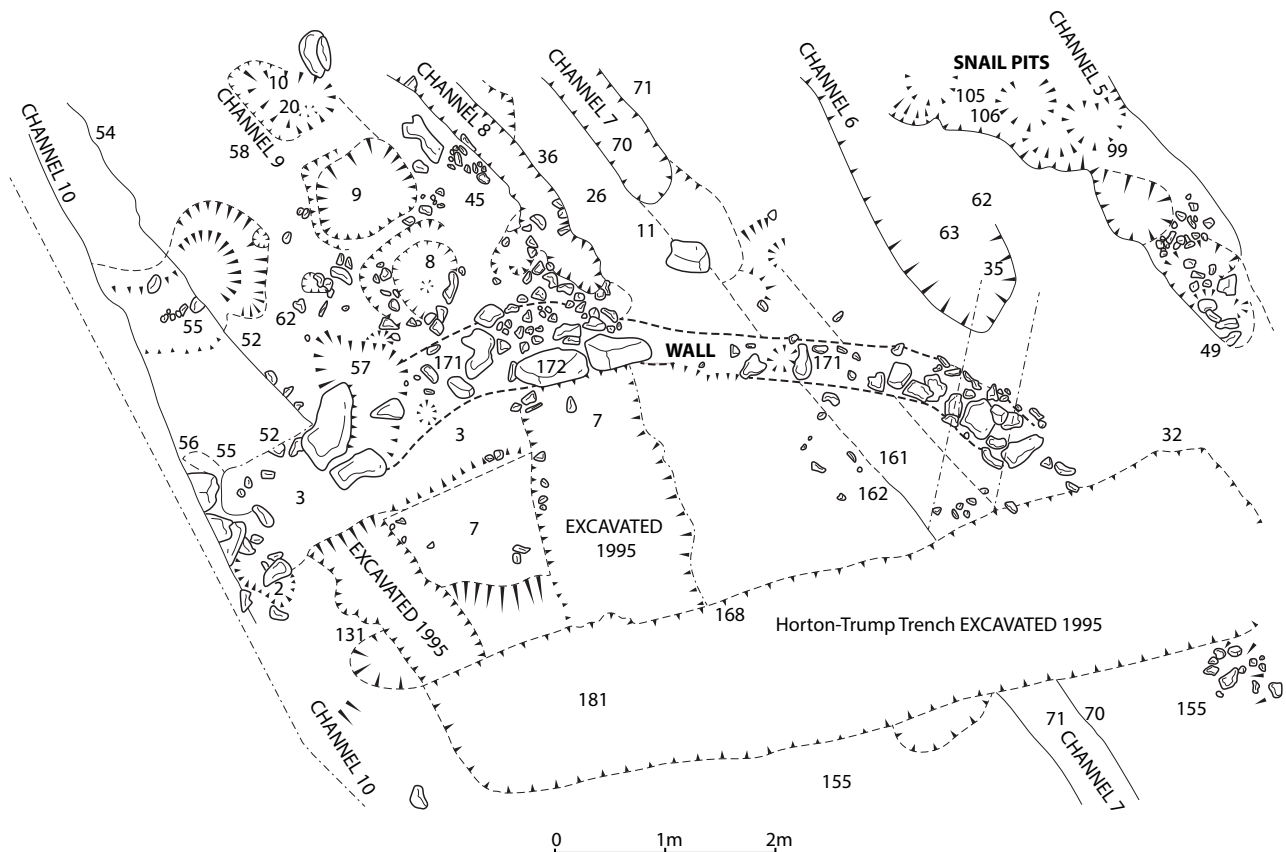


Figure 3.47. Upper excavation levels of the area to the north of the stone structure, showing vine pits and agricultural channels.



Figure 3.48. *Partially cleared vine pits, revealing remnants of the wall 207 extension preserved between the two pit rows.*



Figure 3.49. *View of the late stages of excavation looking west–southwest with (207) wall and exposed bedrock, terra rossa in foreground, the main structure wall mid-image and the box trenches (from L to R) BT6, BT4 and BT5.*



Figure 3.50. Vine pits (8) and (9) during clearance showing possible postholes within the pits and the emerging stone walled structure beyond (172).

superficial features, in particular Cut [257]. This was a rectangular, poorly defined pit, whose base sloped downwards to the west, and contained Fill (258), which was defined as a friable, dark yellowish brown (10YR 4/4), loamy sand, with frequent fragments of crushed snail shell. This context was covered by (246) described below. The top of the pit may have been undercut on its west edge and filled by (260), but the relationship between the two was unclear, and (260) may have been an unrelated fill intruding into (258). The pottery assemblage from this layer contained sherds dating to the Ġgantija phase. Another superficial deposit was Context (260), which contained a concentration of adult snail shells with friable, dark yellowish brown (10YR 4/4), loamy sand between them. It was covered by (241) and (258), and was identified as the remains of a Roman period snail midden.

Context (246) (Fig. 3.44 for location) was a firm, mottled, brown (10YR 4/3), silty clay loam, flecked with occasional small red stones, and containing two obsidian and one chert flake. It was covered by layers (184), (213) and (214) and interpreted as the highly disturbed remnants of prehistoric occupation debris. The assemblage from the context was dominated by

pottery sherds from Tarxien and other Temple Period phases, and also contained obsidian and chert waste. The cut [216] of a modern (1990s) bedding trench for a block wall to the west of the site bordered the western edge of the site, and indeed, caused considerable destruction of underlying layers. It contained Fill (215), which was a very dark and friable soil, filled with modern material and covered by (1).

3.4.5. *The prehistoric deposits outside the wall east of the stone structure*

The zone beyond wall (172) outside the stone structure, was excavated to bedrock, with a small baulk left to record the stratigraphic depth (see Fig. 3.44). This zone was excavated in an arc stretching from the deep Channel 10/Cut [52] in the northeast, south-ward to the southern boundary of excavation defined by Channel [62]. The work clarified not only the internal deposits of the structure, but also the related extramural features that had potential to reveal aspects of the domestic settlement. The sealed deposits were systematically excavated and sampled, yielding valuable palaeoeconomic and dating information, especially of the Ġgantija phase. At the base of the deposits, which

Table 3.2. Extramural deposit sequence in the main trench east of the stone structure.

Level	Layer	Description
Level 5 Old ploughsoil layers	58, 147, 148, 174, 175	Mix of Ćgantija / Tarxien pot
Level 4 Floor base stones	4, 7, 32, 35, 74, 136, 137, 138, 139, 178, 179, 191, 192	Mix of Ćgantija / Tarxien pot
Level 3 Stones	26, 174, 175, 176, 205, 206, 208, 209, 210, 239	Radiocarbon 3300–3100 BC
Level 2 Fine brown and dark deposits	222, 228, 233, 238, 239, 243, 247, 249, 250, 266	Predominantly Ćgantija pot
Level 1 Base terra rossa dark red-brown soil	244, 248, 251, 252, 253, 259, 261, 268, 273, 277, 278, 300, posthole cuts	Radiocarbon 3600–3300 BC
Bedrock	127	

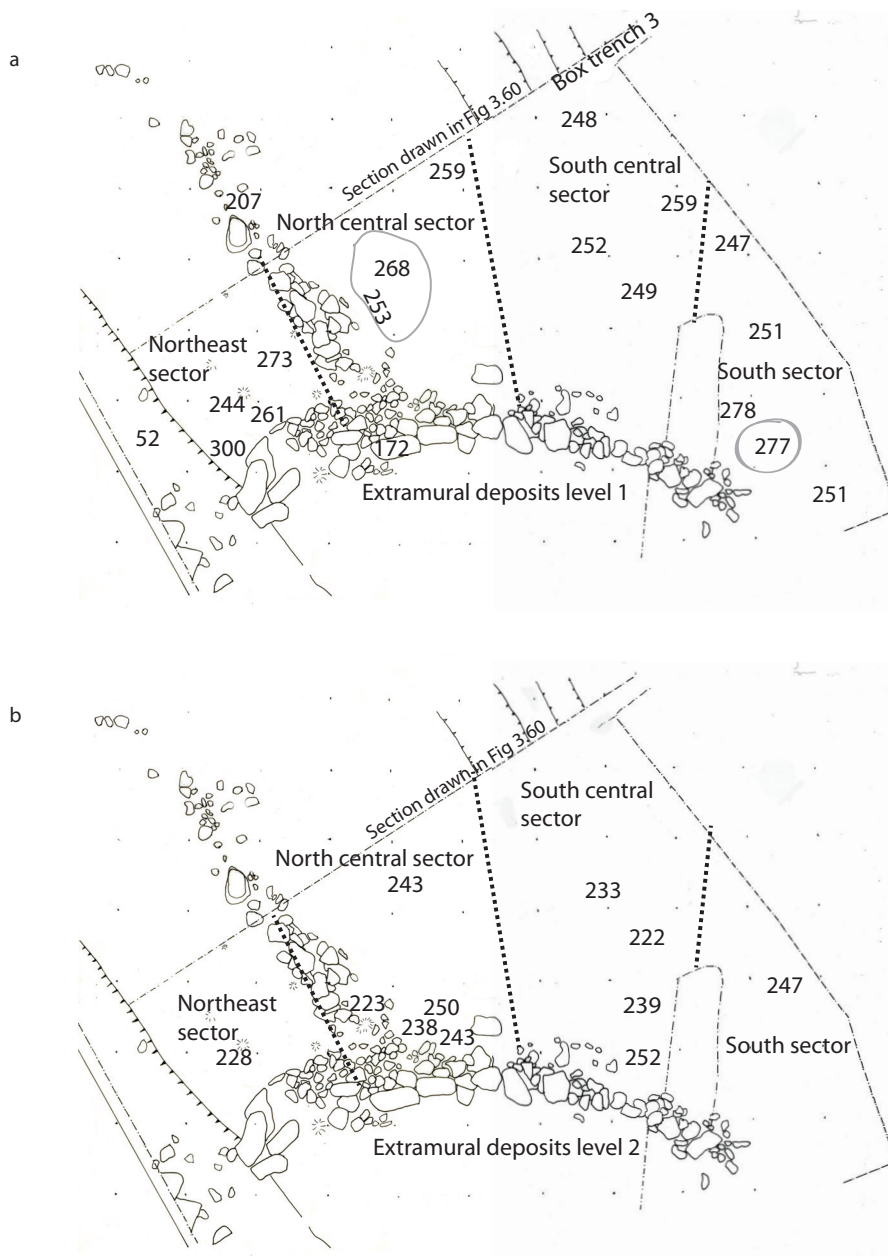


Figure 3.51. The sequence of contexts in the extra-mural deposits in a) Level 1 and b) Level 2.

extended as an arc around the north, east and north-west sides of the drystone wall, a series of compacted stony deposits formed a base level to depressions in the natural bedrock. These depressions were variously filled by *terra rossa* or by midden-type deposits, often with sooty lenses. The sequence is described as follows from base upwards.

The sector was defined by Wall (207) a linear stone feature extending roughly at right-angles northeast from the main prehistoric stone structure (172). It comprised six large stones and many smaller ones, in a matrix of clay loam, interspersed with sporadic finds of highly fragmented prehistoric pottery. There was a significant gap between the (172) wall edge (identified as (223)) and the first stones of (207), which suggested another 'entrance' area. When sampled and wet-sieved, the loam matrix (207) produced five cereal grains and one pulse.

3.5. The lower levels of extramural occupation

3.5.1. Summary

The area east of the stone structure was excavated and recorded in segments (sectors) that rayed out from the stone walls. Some contexts were ubiquitous across the lower levels in the zone encircling the building. Underlying all layers, bedrock (127) formed an undulating and often fractured surface, sloping towards the south of the site, with sediment increasing in depth from east to west. The layers were sometimes varied and recorded as separate contexts, but overall, it was possible to distinguish five main stratigraphic elements to the extramural deposits that commenced early in the Ġgantija phase, as shown in Table 3.2.

At the base of the sequence located directly north-east of the stone structure, the area was divided into four segments and recorded from north to south as Northeast Sector, North Central Sector, South Central Sector, and South Sector. Three sections extended from the east of the stone wall (172) to the line of BT3 (Figs. 3.56a & b, 3.59a & b, 3.60). The foundation deposits were generally similar, but designated by separate context numbers; these were: (244) in the Northeast Sector; (243) in the North Central Sector, which also included Cut [253] that contained (268); (248) and (259) in the eastern part of the South Central Sector, whilst the western area of the Sector was identified as (249)–(252); and (247) and (251), which were separated by a mini-baulk in the South Sector. Other similarly generic contexts above these base levels include (205) and (206), which were widespread layers. Both (247) and (248) contained a small number of Roman period sherds, indicating later disturbance, although the overlying strata contained only prehistoric material (Tarxien and earlier), so it is not clear what form this

disturbance took. The precise find-spots of the sherds in question is not known. Yet, given that the sequence of the deposits seemed *in situ*, especially those close to and butting the building wall, it is probable that the area was disturbed through bioturbation or a cut/fill sequence localized to one area, but not leading to any persistent archaeological traces. The area had been subject to intensive Roman agricultural exploitation (probably the cultivation of vines and fruit trees) which could explain the movement of small sherds. The following description deals with each segment, recording the stratigraphic contexts from the base upwards.

3.5.2. The Northeast Sector

The Northeast Sector sequence segment lay between the western edges of excavation defined by the 1995 small trial trench and Channel [52] to the line of BT3, which defined the excavation area to the north (see Fig. 3.60), and the small wall projection from the stone structure (207) to the east. The northern edge of the wall (172) contained a distinct gap in the larger wall stones on the eastern edge of the Sector. Instead, it comprised a rough cobbled surface intermixed with soil and fragmented pottery from the Tarxien phase and earlier. This strongly suggests an entranceway of sorts, possibly with two openings, separated by four remaining large stones (although damage from later vine trenching cannot be ruled out).

The basal deposit in the Northeast Sector was Context (273), a red brown sandy clay loam. This contained a large number of prehistoric pottery sherds from the Skorba, Żebbuġ, Ġgantija and Tarxien phases, twelve chert and two obsidian artefacts, charred cereals and pulses, and the bones of cattle and sheep/goat. It also contained concentrations of stones, which in one place resembled a cobbled surface extending about 80 × 60 cm. This feature was defined as Context (300), sealed beneath Context (261) located directly outside the wall (172). Layer (273) was cut by a possible post-hole [284], positioned beside the possible entrance. This may have represented a door post or some other timber post structure. Cut [284] measured 20 cm in diameter and was filled by (285), which was a reddish brown loam devoid of finds. Other postholes were suggested by natural depressions in the bedrock and base deposits. The most northeastern posthole was Cut [294], located about 1.6 m from the edge of the threshold. This was also the largest feature, measuring about 22 cm in diameter and 16 cm in depth. Posthole [294] was filled by (293), a firm reddish brown (5YR 4/4) sandy, clay loam with few stones. Smaller, but similar features were represented by Cut [289] and Fill (290), located against the north side of wall (207) against the southern edge of the Northeast Sector; and [294]/(293)

located within the cut of the Channel [52] (Vine Gully 10) at the northern edge of the Sector. These features were of a similar form, and exploited crevices and depressions in the bedrock (Figs. 3.51 & 3.54). These features form a rough rectangle, and may potentially suggest an extramural structure.

The next layer immediately outside and extending around the wall was Context (261). This was a compacted, dark reddish brown sandy clay loam, containing medium-large sized stones and significant assemblages of pottery and organic debris, very similar to what was found in (273). The layer was particularly rich in lithics, yielding some five obsidian flakes (from both Lipari and Pantelleria) and almost fifty chert pieces. Dark patches of soil mixed with charcoal were also present within the layer, and it produced three cereal grains and five pulses. The pottery assemblage included Skorba, Żebbuġ, Ġgantija sherds and some Tarxien pottery. Context (261) was covered by the extensive Context (244). This was a compact, dark reddish brown (5YR 3/3), sandy clay loam, and was stratified below (228) (139), (208) and (209), immediately outside the structure wall or entrance threshold on the northeast corner. Context (244) extended to [52] and the eastern edge of excavation, and it butted against (207) to the south and appeared to butt against wall (172). Context (244) was rich in lithic fragments, (15 chert objects), which could imply that this extramural

zone was used for knapping or disposal of lithic waste. Above (244), Context (228) was a friable fine brown loam, beneath Context (208). This latter was a mixed deposit of soil and stones, containing a large number of Tarxien phase and earlier pot sherds and 13 lithics, of which two were obsidian; and (208) in turn, was sealed by spread (136), discussed below.

The area was only excavated to the start of the stony spread in the northeast (which extended for some 2 m), but it contained two distinct areas of post or stake holes cut into the deposits. The first of these comprised three postholes, and possibly a fourth, set in a line parallel to the edge of the wall/threshold (172) and about 50 cm apart from each other. The cuts [224], [230] and [232], and possibly a fourth, close to [230] (Table 3.3; Fig. 3.52), were covered by (139) and (208). The fills contained some pottery, whilst the surrounding, underlying deposit (244), was considered equivalent to layers (243), (247) and (249). Context (244) contained a rich assemblage of pottery from Żebbuġ, Ġgantija and Saflieni phases and 11 cereal grains and 17 pulses. This comparatively large botanical sample could imply that the area was a focus of food processing or storage.

Cut [224] was the most southerly of three postholes in a line running parallel to the structure wall (172), and across the possible threshold. The cut was about 20 cm in diameter and 16 cm deep, and filled by a Fill (225). The feature was sampled and sectioned. Fill

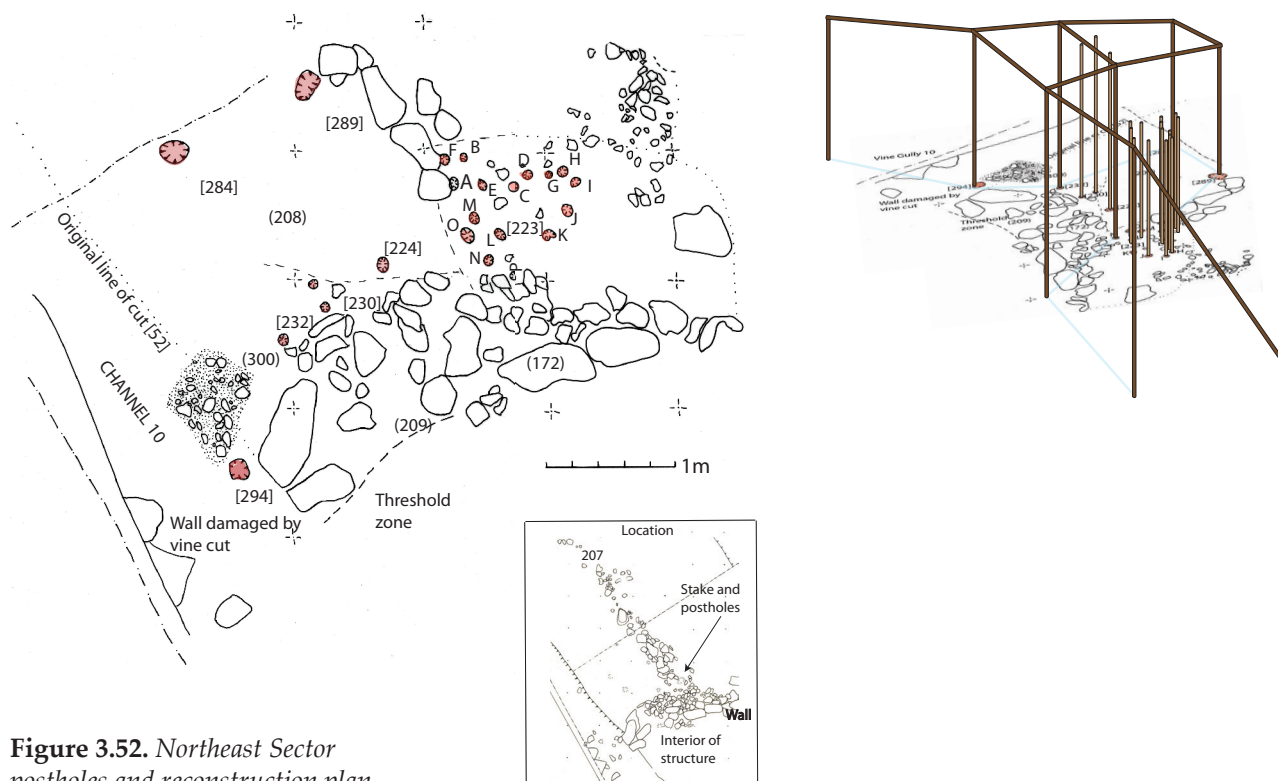


Figure 3.52. *Northeast Sector postholes and reconstruction plan.*

Table 3.3. Post- and stake hole dimensions in layers (244) and (273).

Cut	Fill	Diameter	Depth	Finds
[224]	(225)	20 cm	16 cm	Tarxien and unidentifiable prehistoric pot
[230]	(231)	12–13 cm	11 cm	Ġgantija and unidentifiable prehistoric pot
-	-	c.15 cm	c.10 cm	Uncertain posthole
[232]	(229)	14 cm	16 cm	No finds
[223] A – P	(208)	10 cm	5–10 cm	Numerous lithics in deposit in and over some 15 holes Flake Context 208 SF275 Flake 208 276 Chert flake 208 278 Chert 208 301 Chert 208 302 Obsidian 208 307 Obsidian 208 315b Chert 208 317 Cowrie shell 208 318 Cherts 208 319
[294]	(293)	>20 cm	>15 cm	Żebbuġ and prehistoric pottery
[289]	(290)	>20 cm	>15 cm	No finds
[284]	(285)	20 cm	16 cm	No finds

(225) was a fine brown, friable soil with no packing, and contained virtually no finds. Cut [230], measuring 12–13 cm in diameter and 11 cm deep, also cut into (244) directly in front of threshold (209). It was filled by (231), a fine brown friable soil, again with no evident packing. Cut [232] was the most northerly posthole cut, measuring 14 cm in diameter and 16 cm deep, and filled by Fill (229) – a fine friable brown soil covered also by (139) and (208). On the boundary between the Northeast Sector and the North Central Sector (in the ‘gap’ between the main structure and (207)), several post-/stake hole features were also identified. These were arranged roughly in two lines, spaced about 20 cm apart, on a northeast alignment linking the main wall structure to (207). Below (208), eight, or possibly nine, shallow depressions identified as (223), and measuring between 5–10 cm in diameter and about 10 cm deep, were set at a right angle to the stone wall (172) ‘threshold entrance’ area. These cut into deposit (244) between them. They were designated as A, B, E, F, M, L, N and P, and were excavated and their fills sampled (see Table 3.3). Context (208) yielded a significant quantity of small finds, suggesting the area was intensively used or at least formed a domestic waste zone. Another group of seven shallow holes or hollows arranged in an arc occurred to the south of the double line of postholes, and were designated C, D, H, I, J and K. They may have formed some other element of the wall fill or threshold. The presence

of these postholes indicates that wood, in addition to stone, was an important building material in the Temple Period. The specific function of these posts, however, is unclear. It is possible that the posts were part of an additional wall structure; alternatively, they could have been placed to support the roof of a building and were part of a more widespread pattern of other posts whose archaeological traces have not survived.

An extensive deposit was allocated context divisions from south to north as follows: (136), (137), (138) and (139). This deposit was confined by the Channel [52] on the west and the projecting stone wall (207) on the east, and sealed and overlay the postholes [230], [232], [224] and [244] in the zone extending northeast from the stone wall (172). The northern part of the area comprised the lower lines of vine pits (see Figs. 3.74 & 3.7), which extended between BT2–3, but not further north. In some places, it had been partially exposed in the disturbed agricultural levels in 1994. Layers (137), (138) and (139) were a firm, dark yellowish brown (10YR 3/4), silty clay loam, equivalent to the old plough-soil deposit (69). They revealed as a defined deposit extending between BT2 and BT3, and were covered by (58) between Channels 9 and 10. Finds from (137) included pottery and animal bone, whilst (138) produced an obsidian chip, a single cereal grain and two pulses. Context (139) contained fewer stones and butted against (136), which partly overlay (139) on the west. Context (139) later became the generic layer across

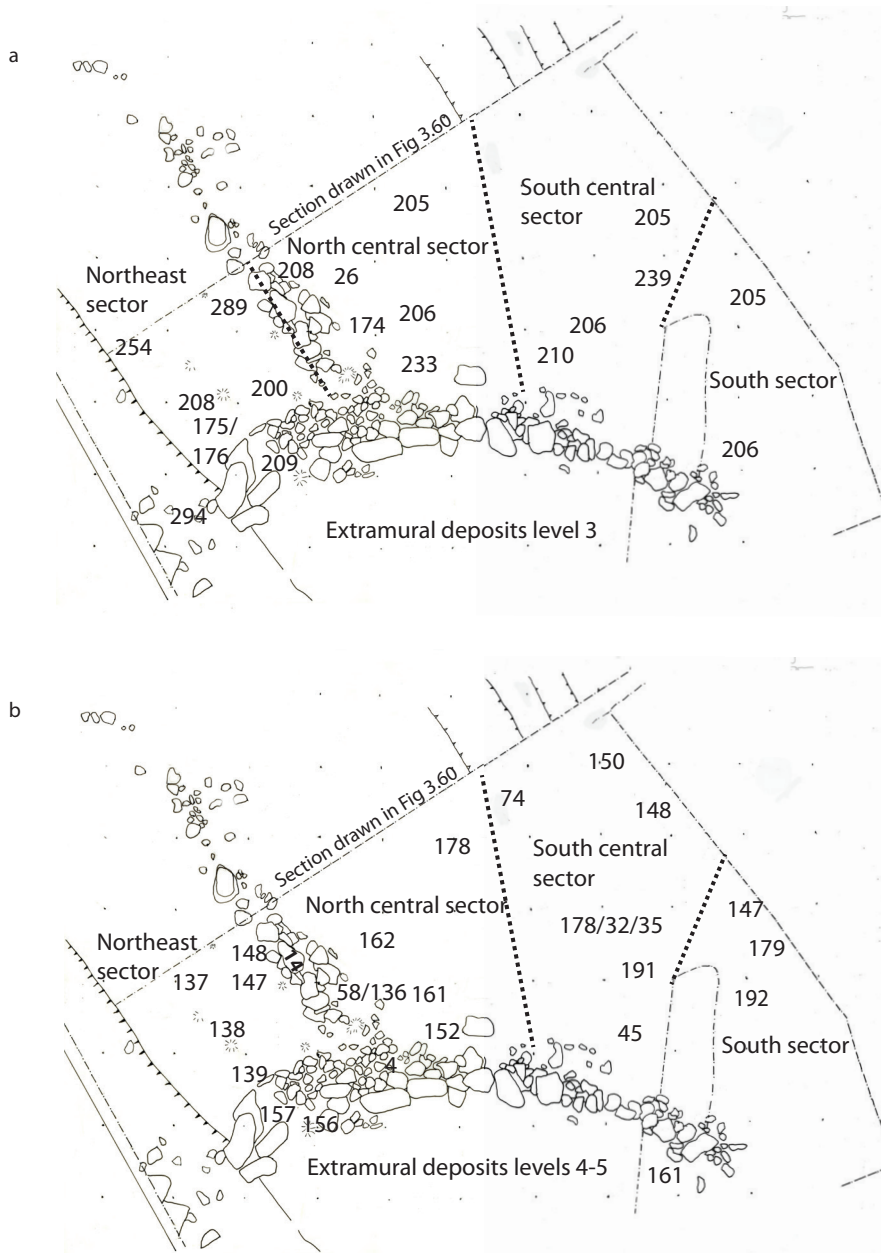


Figure 3.53. a)
Intermediate levels in
the extramural area; b)
upper prehistoric levels
in the extramural area.

the entire area, incorporating finds from contexts (137), (138) and (139). These included an extensive pottery assemblage totalling 1097 prehistoric sherds dating to the Skorba, Ġgantija, Żebbuġ and Tarxien phases, ten chert items and one obsidian chip. Context (139) produced two cereal grains and six pulses. Two Roman sherds hint that the layer had been disturbed, at least in places. 'Outside', the wall (139) was overlain with (174), which was revealed only in section in a limited area, but otherwise resembled the prehistoric strata below. Sealing this stratigraphy (139), (174), (208) and below (58), a stone spread (136) of medium sized sub-angular stones, perhaps derived from spoil from the vine pits,

was located to the east (§3.5.3). Context (136) also sealed the stake-holes discussed below, immediately north of the Neolithic structure. The deposit had a similar consistency to (4) to the east (§3.4), and contained eight chert and one obsidian flakes. Underlying the (139) level, extending into the northeastern part of the sector, Context (153) represented a stone spread. It also formed the lowest excavated strata in the trench, leaving undisturbed deposits below. Context (153) was exposed by the removal of (137), (138), and faded out in the south, close to the Neolithic structure. Its relationship to (48) and (61) (the deposits between Channels 9 and 10) to the north, was unclear. Context (153) was interpreted

as a stony surface that was not quite cobbled, which may be the remnant foundation of flooring from a lost structure related to the stone wall (207). The overlying deposit (58) was an old plough-soil, similar to (69). Close to the stone structure (172), Context (135) was cut by Channel 10/Vine Trench [52] and was revealed in the trench section. It was equivalent to (58). Context (56) was a compacted, dark greyish brown (10YR 4/2), clay loam layer, which had been cut into by [52]. It was interpreted as an old plough soil and equivalent to (58). Context (2) was a compacted, brown (10YR 4/3), silty clay loam, identified when exposed in the section at the outset of excavation in 2014. The layer was very similar to Context (3) and may have been an old ploughsoil. The pottery assemblage from this Layer contained Ġgantija, Żebbuġ and Temple phase material.

Forming the southern boundary of the sector, Wall (207) emerged through the base deposits, and projected above the overlying disturbance of agricultural pits and Channels 9 and 10 (§3.8.2). These later structures and deposits disturbed the prehistoric levels, and inevitably, the precise relationship between the wall (207) and the deposits that had developed around it. One small trial trench was opened close to Vine Pit [8] and channel Cut [52]. This revealed Context (176), a firmly compacted dark brown deposit lying beneath (136), that contained some Ġgantija and Tarxien pottery, but no plant remains or animal bones. A small exploratory trench was also opened to identify the relationship between the stone spreads east of the structure (172). This trench revealed a sequence that commenced with (176) and was overlain by (175), further separated by a calcrete layer/lens and stones from the overlying

(139) and (174) deposits. Context (174) in particular was reddish, whilst Context (175) was a paler brown clay loam. Context (174) may have been a later dump, related to the vine trench construction. This sequence is probably repeated in the other overlying vine pits, which were not fully explored.

Cut [57] was an irregular sub-circular pit, previously excavated in 1995, and measuring 90 × 120 cm with no fill remaining beneath the green mesh and (1). This feature overlay exposed bedrock against (3) on the far northern limit of excavation and covered the area between Pit [8] and channel Cut [52]. Context (173) formed a stony, compact layer of trampled material just outside the structure wall, in the possible entrance between old plough-soils (74)/(167) and (157). Another deposit was Context (228), which was a firm, brown (10YR 4/3), deposit containing some stones. The edges of Context (228) were defined by Cut [52] and Wall (207) to the northeast of (139), and were cut, in part, by the bases of Roman and Punic pits, the junctions of which were removed in (228). The layer was not excavated northeast of the stony area. The pottery assemblage from this layer contained sherds dating to the Ġgantija, Temple Period and Red Skorba phases. Cutting through these layers, Cut [6] may have been an extension of Channel [52], which appears as a U-shaped cut, 0.6–1 m wide and 0.35 m deep in the box trench section. Cut [6] was partly lined with green mesh from the 1984 excavation, and was filled with Context (5), a firm, brown (10YR 4/3) modern backfill, and Context (2), which may have been unexcavated fill. Cut [6] formed a continuation of Cut [52] and a large vine trench that formed the northern boundary of the trench. (§3.8).



Figure 3.54. Exposed bedrock in the area immediately outside wall (172) and confined by wall (207) by possible entrance area showing postholes [284], [294] [289] (see also Fig. 3.8).



Figure 3.55. Photo of postholes [223] marked by white labels looking northwest towards structure wall (172).

3.5.3. The North Central Sector

The east–west line was defined by: the (207) wall, which formed the northern limit to the sector; the wall (172) on the east; and the baulk following the BT3 line north–south on the north edge. Several contexts extended into the South Central Sector. At the foundation level, there was *terra rossa* (126), a natural subsoil, which was somewhat contaminated with small sherds of prehistoric pottery that had made their way into the layer from the strata above. Cut into, or making use of, natural depressions in the bedrock, Cut [253] was a large oval shaped depression with dimensions 2.5 m × 2 m × 30 cm deep. This was bounded by bedrock on the south side, filled by (268) and covered by (266) and (244). Another natural depression followed the line of (172) forming a sloping channel around the exterior of the structure. This may have been utilized because of its convenient shape (see (238)). The fill of the depression extended almost from the edge of wall (172) to the baulk of BT3. Fill (268) was a friable, dark reddish grey (5YR 4/2), sandy clay loam with numerous charcoal and ash lenses that came directly down onto *terra rossa*. The fill contained large pieces of pot and bone, and several

pieces of worked stone, obsidian and chert. When sectioned, a stony fill on the east side became visible. The base of the fill was uneven, and the earth was judged to have been well trampled, and was interpreted as a fine, bonfire silt layer. The pottery assemblage from this fill contained material from the Ġgantija and Żebbuġ phases. Context (268) produced 51 cereal grains and 21 pulses, the richest botanical context on the entire site. It seems likely that the depression was exploited as a fire pit, immediately outside the structures to north and west, thereby charring and preserving food and other organic materials. Three radiocarbon dates were obtained from charred cereals from the layer; a Bayesian model of the ages of these samples (Table 3.4) confirms that the deposit is Ġgantija-phase in date. The very base of the pit, which was sampled separately, represents *in situ* material from the Żebbuġ phase and earlier, deposited in the Ġgantija phase. This confirms that occupation activity occurred over a considerable length of time – at least 40 years, but more probably several centuries, as recorded in section in Figure 3.55.

Overlying (268) and (253), Context (266) extended north of the depression [253] to the baulk on the line

Table 3.4. Radiocarbon dates from Pit 268.

Id	14C age	±	Material	Bayesian modelled date
UBA-31713	4454	38	<i>Hordeum vullgarae</i>	Combined in OxCal 4.2 and modelled as a later phase as 3350 to 3100 cal. BC (95.4% probability)
UBA-31714	4518	41	<i>Triticum</i> sp.	
UBA-33028	4776	35	cf. <i>Triticum</i>	Sample from very base of feature; 3640 to 3520 cal. BC (84% probability) or 3420 to 3380 cal. BC (12% probability)

of BT3. It formed a friable, dark reddish brown (5YR 3/2), sandy silt loam that broke into the dark sooty deposit of (268), stratified beneath. (243) merged with *terra rossa* to the south. The pottery assemblage from this layer contained sherds belonging to the Ġgantija and Żebbuġ phases. Overlying (268), across the central part of the North Central Sector, Context (243) was stratigraphically equivalent to (244) to the north. Context (243) extended westwards from wall (172), the small postholes and wall (207) to the edge of depression (238), and northwards towards the baulk, connecting many stratigraphic units described in this discussion. It was a dark reddish brown (5YR 3/2), sandy loam that contained frequent medium to large-sized cobble stones within very compact soil and occasional traces of plaster floor. The stones averaged 15–20 cm with some up to 25 cm in size. Context (243) was covered by (233), and in places it was located directly above bedrock (127), or above the depression Fill (268). It was interpreted as a cobble-like surface deposit, equivalent to (244), (247) and (249). The pottery assemblage from this layer was dominated by Ġgantija-phase sherds, with some presumably intrusive Tarxien and residual Żebbuġ sherds also present, as well as a miniature cup retrieved through sieving (Chapter 11, Fig. 11.6).

Lithics were frequent in the deposit, accompanied by a stone bowl fragment (SF332), a piece of Lipari obsidian and 12 chert flakes. When sampled and wet sieved, (243) produced seven cereal grains and 21 pulses, reflecting the relative richness of the area for palaeoeconomic material.

Immediately east of the stone structure, midway between wall (207) and the mini baulk to the south, a further sequence commenced at bedrock (127) that ran parallel with the line of the vine Channel [70]. Here, there was a natural depression with defined stone edges, perhaps another fire pit, measuring c. 1.25 m east–west × 1.40 m north–south, sloping down towards the external wall (172). This depression was filled by Context (238), which was a friable, dark brown (10YR 3/3), sandy loam that contained sooty inclusions, and produced 11 cereal grains and three pulses. Context (238) was stratified above a red soil in the south, which had a steeply defined edge against (249) and included patches of *torba* (250) (Figs. 3.56 & 3.57). Lens (250) was a discontinuous *torba* plaster lens within (238) and was interpreted as floor material. A substantial patch of plaster extended close to the exterior of the structure wall. The extensive Context (243) was stratified above (238) and was, in turn, covered by another extensive and very stony Context (233), which covered the western part of the sector against the wall (172). Context (233) was a friable reddish-brown soil with medium sized stones, containing large pot sherds, 13 chert flakes, one obsidian chip, a terracotta figurine fragment, a rubbing stone and bone. It was covered by a stony spread (210). Context (233) was interpreted as an exterior dump layer, beneath (210) and its covering layers (205) and (206). The assemblage from (233) contained Żebbuġ, Temple Period and Ġgantija phase pottery sherds, and produced five cereal grains and four pulses. The overlying Context (210) was a collapse or dump deposit that contained more stones than (233). The deposit contained medium sized stones, loosely cemented in a single layer that was set into a

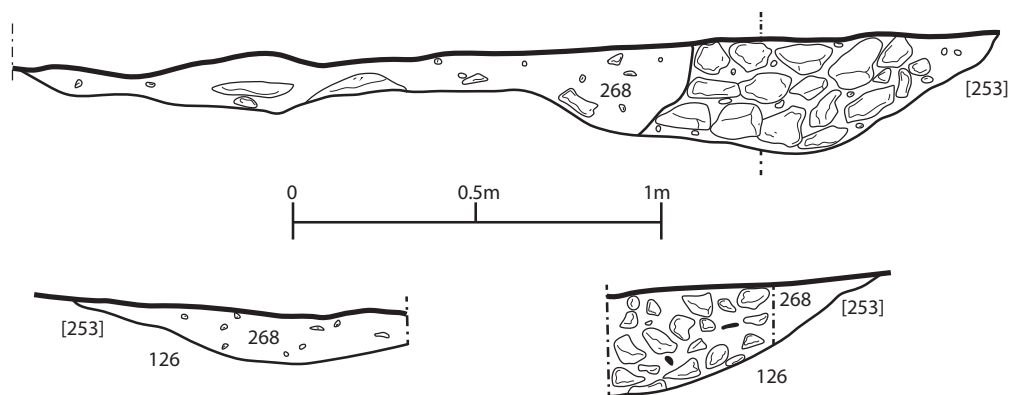
**Figure 3.56.** Section of (268) showing north–south and two short quadrant sections (see location on Fig. 3.50a).



Figure 3.57. a) P12000584 showing the external cobble (210) dumps and displaced wall stones (see Fig. 3.52a for location).

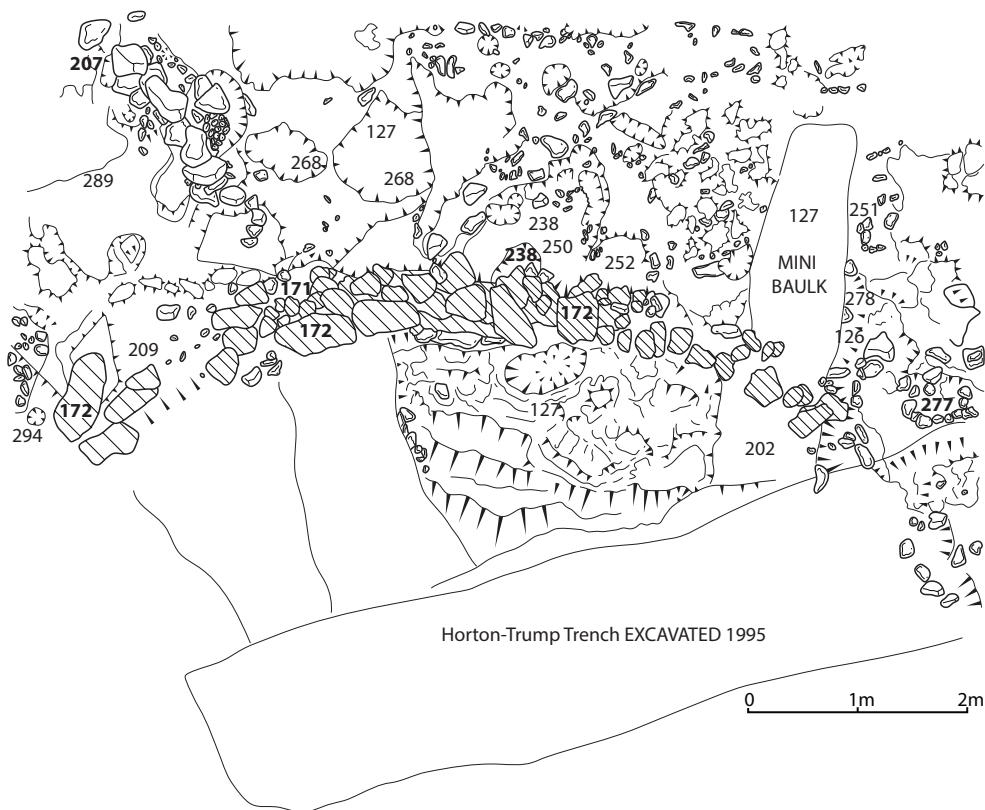


Figure 3.58. Primary contexts around the structure walls and cleared bedrock within the Main Quadrant.

firm, dark brown (10YR 3/3) matrix, and covered by (205) and (206) (see below). The assemblage contained a mixture of prehistoric pottery spanning the Ġhar Dalam, Ġgantija and Żebbuġ phases, as well as a Roman-period sherd, signalling intrusion or disturbance.

In the extreme eastern area of the trench (close to Vine Trench [62]), Context (259) was the primary grey-brown deposit north of (252) (which is dealt with below in the South Central Sector description). This deposit became redder in depth, and overlay *terra rossa* (126) and bedrock (127). The deposit was relatively sterile, quite stony and contained some grey patches. The pottery assemblage from this layer contained Ġgantija and Żebbuġ phase sherds. It was covered by (233) and (205).

3.6. Destruction layers, middens and a *torba* remnant outside the building wall

Close to structure (172), and immediately to the east (Figs. 3.64b & 3.77), the next layers were the equivalent midden contexts (206) and (205). Both (205) and (206) were firm, dark yellowish brown (10YR 3/4), silty loams containing medium to large sized stone inclusions. Context (206) lay above (210) and (222) (discussed below), beneath (178) and (179), and butted wall (172), where the deposit had become concreted to it in places, indicating that it had rested relatively undisturbed in this position for some time. Context (205) was assigned to the area east of (206) about 1.5 m distant from the structure wall, and was covered by (191) (178), (35) and (49). Despite being equivalent stratigraphically, Context (205) was excavated separately from (206).

The pottery assemblage from Contexts (205) and (206) consisted of a relatively small number of Tarxien-phase sherds mixed with hundreds of Ġgantija and Żebbuġ phase examples. The layers also contained a rich quantity of charred plant remains, shells and animal bones, twenty-eight lithics, four of obsidian (two each from Lipari and Pantelleria). Context (205) produced two pulses, whilst Context (206) yielded radiocarbon dates from a charred barley grain (UBA-30419, 4540±37 BP) and charred lentil (UBA-30418, 4524±34 BP). These combined to date the midden material to between 3350 and 3120 cal. BC, the Middle Ġgantija phase. If the two radiocarbon-dated seeds from (206) are representative of the date of the material in general, the presence of Tarxien-phase pottery in and under the midden material implies that it was not in its primary position. It does, however, illustrate quite clearly a pattern that is present, to some degree, over much of the site: Taċ-Ċawla was a place of continuous settlement for millennia, and the archaeological strata derived from material of previous phases that were subjected to constant reworking and mixing.

The edges of Context (205) were defined by Cut [70], BT3, and Cut [62]. The midden deposit extended around the exterior of (172), and was covered by Context (239), which was a very gritty, stony and compacted layer, perhaps a floor deposit or foundation. This, in turn, was covered by layers (192), a friable, brown deposit, and (191), a firmer layer of brown loam. These were covered by Context (178), which is also identified as Layers (35) and (32). It was a compacted, dark-blackish soil that seemed to be an intact prehistoric soil, and contained a wealth of lithic finds, yielding over 25 chert and nine obsidian flakes, as well as a significant quantity of pottery (1339 sherds), especially from the Temple Period. Crucially, among these often large sherds, there was one sherd of an early Bronze Age style. This sherd may have been intrusive from a higher level, but nonetheless its presence in this context signals the proximity of post-Temple Period/Early Bronze Age activity. The finds from (178) included animal bones, and one pulse.

Context (32) was equivalent to (178) and was a similar compact, black soil, beneath (31) in the west end of Trench 1. Its extent became evident on the removal of plough/topsoil, and stratigraphically it could be related to the cultural deposits close to the Horton/Trump trench. Above the black soil was a patch of *torba*, identified as Context (31). Measuring only about 1 sq. m, this consisted of pale limestone powder mixed with soil, small stones and other debris. A small assemblage of pottery including Tarxien-phase sherds was embedded within this context, but there was nothing of a later date. The 1994 excavation had reached but stopped at this level as evidenced by the fact that the *torba* was covered with textile mesh. Elsewhere in this area, at the same point in the stratigraphy, were Contexts (179) and (74), which had formed the basal part of later plough-soil. The surface stratigraphy in this part of the site consisted of Contexts (30) and (49), which were truncated by a modern feature [131] and its fills (see Appendix Table A3.1.1). These plough soils were well worked, and rich with cultural material, which in the case of (74) contained 11 lithic items, and in the case of (179), 12 artefacts.

3.6.1. The South Central Sector

The bedrock (127) rose higher in the northern and eastern parts of the site, and was, with Layer (126), covered by shallow deposits. The ground in this sector sloped down towards the stone structure and the 1995 trench. In the extreme southeast corner, the base Context (248) formed a dark reddish brown (7.5YR 4/2), sandy loam, and underlay layers (206) and (205). These, in turn, also overlay the equivalent layers (247) and (249). Context (248) contained stones, but not as many cobble layers



Figure 3.59. Location of stone spread (178).

as (222) and (233) in the eastern extent of the trench. It was interpreted as a cultural deposit. The pottery assemblage from this layer included Žebbuġ and Ġgantija phase material.

In the southern part of the zone, against the mini-baulk, the base Context (252) was a sterile, redder *terra rossa* deposit lying below (249). Context (252) was structurally equivalent to the large depression, (253), to the north, which was also directly outside the stone wall (172). It contained almost no finds or cultural material, but produced two cereal grains and two pulses. Overlying this was Context (249) was equivalent to (248), (247) and (244), but located closer to the structure and against the north side of the mini-baulk. Context (249) was a firm, dark brown (7.5YR 4/2), sandy loam with small to medium sized stones that abutted the structure wall (172). It was sealed beneath (243) and (206) and stony layers (222)/(239). The latter features exploited a stony outcrop that seemed to tally with a similar edge of bedrock that emerged on the west (inner) side of the structure wall, and may have defined its shape in plan. The pottery assemblage from this layer was small

but contained material dating to various phases of the Temple Period. Above this, two very stony deposits occurred either side of the mini-baulk. On the north side, Context (222) formed a firm, brown (10YR 4/3) deposit, perhaps collapse from the structure, and extended north from the mini baulk c. 2 m and in places merged with (210).

Over these layers, a series of deposits covered the largely intact prehistoric layers (Figs. 3.67 & 3.71). These were spread around the mini-baulk towards the east and south edge of excavation, where they were increasingly disturbed by agricultural activity. Context (191) overlay (206), and was an extensive deposit of about 3 × 2 m and 0.2 m thick. It was bounded by the southeast end of the mini baulk, where the roughly equivalent deposit (192) extended east and south around the baulk. Context (191) produced a good amount of pottery and bones with the pottery assemblage containing Ġgantija, Tarxien, Žebbuġ, Saflieni and Red Skorba phase sherds. Other artefacts included a fragment of a stone bowl and three chert flakes, one of which was a fine triangular knife (SF188). Context (191) was covered



Figure 3.60. View of the north-facing section of the mini baulk and the corresponding floors within the structure.

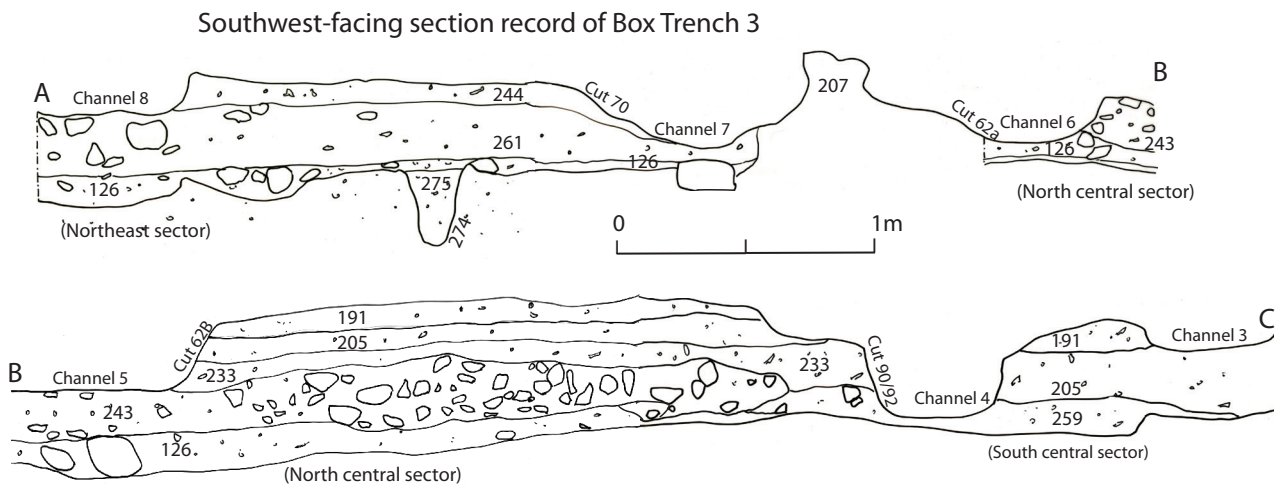


Figure 3.61. Southwest-facing section record of Box Trench 3, forming the northeastern boundary of the area excavated to bedrock (shown in photo). The section records the profiles of the deep Roman channels (4,5,6 & 7) and the prehistoric deposits preserved between them.



Figure 3.62.
Contexts in the southern extramural zone.



Figure 3.63.
Southern extramural zone with rock-cut and primary features.

by (178) and (179). Context (192) was a friable, brown deposit covered by (178) and the edge of (179) on the eastern end of the mini baulk. It was close to the edge of agricultural Cut [62], but was intact and undisturbed. It was also bounded by the *torba* floor (31) and relatively well sealed by layers (49) and (35).

Context (178) (see above) was a firm, dark brown (10YR 3/3), clay loam enveloping an even spread of medium-sized stones that overlay (191) and (192), and indeed an extensive area east of the structure. It was similar to, but more intact than, the overlying (179), and also bore similarities to stony deposits (74) and (4). The stones, however, did not appear to have a clear structural function. The deposit produced plentiful lithics, some 27 chert and nine obsidian pieces, of which six were from Lipari and three from Pantelleria. Context (179) lay partly above (178) and extended south of the mini-baulk to channel Cut [62]. The deposit was a firm to friable brown layer containing frequent small to medium sized stones and root inclusions. It extended east to abut Cut [62] and its Roman-period snail midden deposits. Context (179) was interpreted as a remnant plough soil. The assemblage from this layer contained Ġgantija, Tarxien and Saflieni phase pottery sherds, and a good sample of 11 chert and two obsidian flakes. Overlying (179), Context (148) was a deposit located between the agricultural cuts, and was a moderately friable, brown (7.5YR 4/4), clayey silt. It was stratified beneath (4) and (26), east of the structure, but truncated by the linear agricultural feature [36] that extended north-south from (172). South of the line of the mini baulk, Context (148) overlay (147). Finds from (148) included pottery and bone, and three chert and two obsidian pieces (both of Lipari and Pantelleria origin). It was interpreted as a disturbed prehistoric layer beneath the stone rubble Context (4), which was possibly formed by material disturbed from the wall (172). Context (148) may be earlier than the destruction of the upper levels of the prehistoric structure. Overlying this deposit, Context (150) was a firm to compacted, dark yellowish brown (10YR 4/4), silty clay. It was located beneath layers (26), (48) and (61), and cut into by [36]. Context (150) was similar to (26), but was more compacted and had more frequent inclusions of charcoal flecking. It also contained inclusions of small (max. 3 mm) flecks of degraded red and white stone/clay. It was interpreted as an *in situ* prehistoric layer. Finds from (150) included pottery. Context (26) overlay (150) and formed a firm, dark yellowish brown (10YR 3/4), clay loam. This context was rich in prehistoric sherds, six chert flakes and animal bone, moderate quantities of assorted small stones, and infrequent charcoal flecks. Context (26) was interpreted as a possible remnant of a clay

floor or occupation layer. It contained pottery dating to the Żebbuġ, Temple Period and Ġgantija phases, and was later cut into by agricultural pits/channels [36]. Cut [161] was an agricultural feature comprising odd pits and channels that cut through these deposits, and connected with Channels [70] and [62]. It ran parallel to Cut (70) which in turn extended across and within the structure wall (172), disturbing the deposits across the floors in (193), (194), (195) and (196).

3.6.2. The South Sector

At bedrock level, the sequence commenced with natural depressions [278] in the bedrock (127) to the south of the mini baulk. These were covered by (251). These depressions were found on the south side of the structure wall, 60–70 cm from its edge. They were interpreted as potential small post sockets, perhaps associated with the external structure of the stone wall (172) and Feature (277) (Fig. 3.59). This feature comprised several medium-sized stones, which formed an arrangement around quite a deep slot into bedrock measuring about 35 × 20 cm and 20 cm deep, surrounded by large stones, extending 60 × 70 cm. These stones were cemented together with calcrete at a distance of 40–50 cm from the wall. They were interpreted as a possible external post socket for support of the structure wall. The stones were arranged in a rough circle around a depression in the bedrock; even if the relationship between the two was unclear, their location, together with the many other similarly located depressions around the structure, do suggest external posts. Context (251) overlay (278) and was a red *terra rossa*-like layer that contained cultural material, including Ġgantija phase pottery. This was sealed by Context (247), a dark brown (7.5YR 4/2) deposit that got redder with depth until it bonded with (251), and was covered by (206), (222) and (239) (see above). The make-up of (247) was similar to (69) around the perimeter of the structure wall (172), but it contained worked bone, four chert and two Lipari obsidian flakes, and was very rich in pottery and animal bone. As such, Context (247) was probably an extramural dump area equal to (243). The upper levels of the deposit included a stone spread. Context (4) was composed of small irregular-shaped stones, bonded by hard, charcoal-flecked, dark yellowish brown (10YR 4/4) clay that were revealed when the backfill plastic cover was removed at the beginning of the 2014 work. The layer was shown in a plan of the 1995 trench and was well-conserved under backfill sacking, and was therefore archaeologically intact. The layer butted two large stones that may have formed a wall. For this reason, it was interpreted as either a wall collapse or, along with contemporary Context (7), a floor surface. Context (45) overlay (4) as a firm, dark brown, loamy

clay, beneath the green mesh and was interpreted as old plough soil. Context (45) was cut by Channel [36] and Pits [42], [8], [9] and [10] (Fig. 3.61). It was contemporary with Context (58), a compacted, dark brown (10YR 4/4) clay loam with charcoal flecks. The pottery assemblage from this layer contained Tarxien and Temple Period material. The stratigraphic sequence at this part of the site continued upwards with the cuts and fills of Roman period agricultural features, already discussed in Section 3.8.

3.6.3. Summary of the stratigraphic sequence of the eastern exterior of the stone structure

In summary, the deposits around the external eastern side of the structure fall into five phases:

1. A base level, dark *terra rossa* soil
2. A brown, finer deposit
3. A stone rich layer that seems to be partly the collapse of a Ġgantija-phase structure, and perhaps a primary base for later floors or surfaces
4. A stone cobble layer dating to the Tarxien phase
5. A brown, stony and partly disturbed soil deposit suggesting an old or even ancient ploughsoil, containing both prehistoric and more recent material.

The base levels were well sealed and offer an important insight into the later Neolithic domestic archaeology of Malta. Surprisingly perhaps, they have yielded a much richer range of economic and cultural material than the levels within the structure. The discovery of the post sockets/postholes around the perimeter of the wall (172) is particularly significant, as these imply the use of timber uprights incorporated within the drystone base, and thus the felling and perhaps management of suitable trees to provide wood (Chapter 9). Previous investigations of houses have not revealed post sockets before, and the use of wood as a building method has not been considered a significant part of local techniques in prehistory (Malone *et al.* 2009, 52–6). Their discovery may be due to the timing of the excavation, which took place in a damper time of year, before the summer heat of Gozo took hold.

3.6.4. East extent of the Tač-Ċawla site

The eastern corner of the excavation area (covering c. 10 m × 5–7 m) represented a shallow and relatively eroded profile, which was upslope from the deeper stratigraphy in the southwestern / western zone. This description deals with the layers and features identified during excavation, from the base upwards, and discusses the various individual sequences in the area, shown in plan in Figure 3.62.

A series of slight depressions and rocky fissures cut into bedrock (127) may have been postholes and structural features of a domestic area, possibly an extension of the occupation noted by Van der Blom in the early 1990s (§3.2; Fig. 3.63). Cut [121] was a small posthole-like feature in the bedrock (127). It was covered by (109). Another feature, Cut [129] was a roughly cut posthole dug into a semi-natural cut in the bedrock (127), which was probably enlarged to accommodate up to two posts, but could be natural. It was interpreted as a fissure/posthole in the bedrock. The cut was filled with (128) a friable, dark yellowish brown (10YR 3/4), clay loam and was covered by (120) (Fig. 3.67; Section E–F). When sectioned, Context (128) was found to have a loose, darker soil fill; and although it filled what may have been a natural fissure, the presence of several packing stones (up to 30 × 25 cm) suggested the original existence of two posts that overlay reddish brown *terra rossa* (126). Context (120), covered by (109), was an extensive *terra rossa*-like deposit in the northeast corner of the excavation. It was a firm, dark reddish brown (5YR 3/4), silty clay (see also Figs. 3.77 & 3.78). This compact layer filled deep hollows in the bedrock beneath vine channel Cuts [79] and [115], and was quite hard to excavate. The deposit contained large quantities of pottery of Ġgantija, Żebbuġ and Għar Dalam phases, many large pieces of animal bone, a large intact quern, three chert objects and two Pantellerian obsidian objects, all of which are indicative of a preserved domestic rubbish area. The deposit also produced four cereal grains, one of which (*Triticum cf. aestivum / durum*) was AMS radiocarbon dated to 3700–3520 cal. BC (UBA-30415, 4849±38 BP). It was interpreted as the lowest occupation layer overlaying *terra rossa* (126) and the bedrock (127).

Within layers (109) and (120), Structure (117) was evident as a burnt clay deposit, containing the remnants of a ceramic or daub oven that had collapsed and been spread over an area of 2–3 m (Fig. 3.65a). This Layer was comprised almost entirely of chunks of poorly formed, thick moulded pieces of fired corky oven clay, which incorporated burnt sooty material within its matrix (Fig. 3.65b). It was located over a natural hollow in the bedrock. Context (81) was a dark reddish brown (5YR 3/2), sandy clay loam forming a lens or patch of redder deposit mixed with the greyer (109) that otherwise filled the entire area. The pottery assemblage from this layer contained sherds dating to the Ġgantija, Żebbuġ and Għar Dalam phases, and five lithic items. A wet-sieved soil sample from (81) contained a single cereal grain and one pulse. Context (109) was a grey-reddish matrix deposit, similar to or part of (69) that extended over a large area. It was cut by Channel [79], which, on clearance, revealed large pottery fragments. Some of



Figure 3.64. Plan of eastern and southern extent of excavation plotting parallel box trenches cut across Roman agricultural channels. Stipples area indicated traces of torba flooring enclosed with the red line. The area may have once been a domestic structure.



Figure 3.65. Excavated rock features in the southeast area of excavation, which may represent early structural elements.



Figure 3.66. Excavation in the southeast area in 2014.

these fragments also appeared to be from a broken clay oven structure (Fig. 3.65c, d), which was embedded in the deposits exposed in the section on either side. A fine Lipari obsidian core (SF94) (Chapter 11, Fig. 11.13) was closely associated with the oven material and pottery spreads in (109)–(120); it was revealed in the Channel 2 cutting lodged between large pot sherds (Fig. 3.66) together with another obsidian flake, a likely grind stone (SF147) and three fragmentary stone beads. On the west side of Channel [79], (109) was bonded with (85), which although probably from the same phase of activity, was slightly less grey in colour and did not have the high density of layered pottery. Finds from (109) included many snail shells (mostly broken), and large ceramic pieces. Some of the pottery was very fine, and the assemblage represented Ġgantija and Żebbuġ phases. Context (109) produced one pulse. It was evident that the deposit was almost intact and *in situ*, and represented one of the best preserved ancient deposits on the site. The extensive Context (69) overlay (109) and indeed most of these intact and extensive prehistoric deposits (Fig. 3.69).

On the southwest section of the southeast corner of the excavation area, Context (145) filled a depression ($0.7 \times 0.3 \times 0.3$ cm) in the bedrock. This was a friable, dark reddish brown (5YR 3/2), silty clay loam found beneath (83), (84) and (130) and above *terra rossa* (126) and the bedrock (127). Finds from (145) included sparse pottery fragments (including one Borg in-Nadur sherd) five lithics of which one was Lipari obsidian, and animal bone. The feature was interpreted as a pit.

Fill (146) was located in a rock depression, a possible feature delineated by the bedrock located on the south side of the trench, adjacent to BT2. Fill (146) consisted of a friable, dark reddish brown (5YR 3/2), silty clay loam. It was covered by layers (84) and (130) and produced a large quantity of medium and large sized pottery sherds (dating to the Tarxien, Ġgantija and Żebbuġ phases) and bones (Fig. 3.65 section A–B, 3.63 & 3.64). Context (130) covered (146) with a firm, reddish brown (5YR 4/3), silty loam that dried to a grey colour, with some red mottled inclusions. This, in turn, was covered by Context (30), an old ploughsoil. Context (130) had frequent inclusions of prehistoric pottery sherds, six lithics (one of Pantelleria obsidian), a possible figurine fragment, animal bones, charcoal and a moderate amount of sub-angular to sub-rounded stones. The layer was truncated and reduced in extent by Roman Vine Trenches [77] and [91]. It was interpreted as an *in situ* prehistoric occupation deposit, equivalent to (69). The pottery assemblage from this layer contained Ġgantija and Żebbuġ phase material. The flotation of soil samples from (130) produced two cereal grains and two pulses. Close by, another structural element,

stone structure and deposit (84) (Fig. 3.79) formed a discrete line of stones about 0.3–0.4 m wide in BT2 and BT3 (Fig. 3.68. Section A–B). Context (84) was found beneath (30), where it was bonded with Context (69), and cut by Vine Trenches [82] and [75]. The grey soil matrix contained a concentration of largish stones and prehistoric pottery. With no definite edge, (84) gradually blended into adjacent Context (85) (see below). Context (144) was a grey-orange deposit, covered by (119) a firm, reddish brown (5YR 3/3), sandy clay loam, rich in pottery, two pieces of chert and animal bone. Context (144) was similar to (126), but abutted against, and contained parts of a plaster floor (118). It was also cut by the modern bedding trench [111] that defined the northern limit of excavation. The pottery assemblage from this layer contained Żebbuġ material, and nothing identifiable from any later phase, suggesting that this was an intact layer from the Żebbuġ phase (c. 3800–3600 BC). Context (119) overlay (144), with large quantities of pottery, an obsidian flake, a chert blade and bone. This deposit was less intact since some Ġgantija-phase sherds were present. Collectively, however, these features and fills appear to form the southwest edge of a domestic area dating to the Żebbuġ phase, which surrounded a central depression in bedrock, and included a possible arc of structural post sockets, and traces of *torba* plaster floors. These adhered in part to the bedrock or overlay compressed red soil (144). The excavation revealed several discrete patches of broken plaster, beaten earth and compressed stony deposit that suggested floor make-up layers from early domestic activity. On the extreme northeast corner, exposed in section by the baulk, Structure (123) comprised at least two flattish limestone slabs ($50 \times 35 \times 5$ cm and $35 \times 25 \times 7$ cm) that lay against each other at the same level (Fig. 3.67, G–H). The stones lay above Context (204) a firm, brown (10YR 4/3), silty clay devoid of finds that lay above (126) and (127) (Fig. 3.69). The stones were interpreted as representing some kind of prehistoric paving area, perhaps the remnants of a floor associated with the oven described above, where (204) was a levelling deposit. The stones (123) were enveloped by Context (122), a dark greyish-brown (10YR 4/2) deposit that contained animal bones, a single piece of obsidian and pottery; some further material derived from occupation at the site during the Żebbuġ phase, although a small number of intrusive Ġgantija-phase sherds were also present.

On the north and east edges of the excavation trench, scattered *torba* plaster/clay floor remnants were present at the base of stratigraphy (Fig. 3.67 Section C–D; see also Figs. 3.77 & 3.78). At the base level, Context (125) was a compacted, creamy yellow layer, covered by a second plaster level, Context (118) which was a firm, very dark greyish brown (10YR 3/2)

silt loam, located next to the modern bedding trench [111]. The plaster floor was a thin strip about six centimetres wide. It was interpreted as a rotted daub-like deposit that occurs in patches across the trench. The pottery assemblage from this layer contained Ġgantija, Tarxien and Żebbuġ phase material. Floor deposit (128) described above was found immediately to the east.

Other possible floors/floor foundations included Context (107) a stony deposit found east of Cut [62] and visible in section below (74) (Fig. 3.67). Context (75) was an ashy, friable deposit in the southeast of

BT2. It was a firm, dark brown (10YR 3/3), loamy sand with inclusions of stone, pottery and animal bone, located below (30), and surviving between agricultural cuts [92] and [82]. It was interpreted as a spread of material, possibly derived from a mud brick building that had decayed and become spread over a relatively large area. Remnants of associated floor deposits were suggested, in places, where this 'brick' material had blended with other grey deposits. The associated pottery assemblage was dominated by sherds from the Ġgantija and Żebbuġ phases, but with

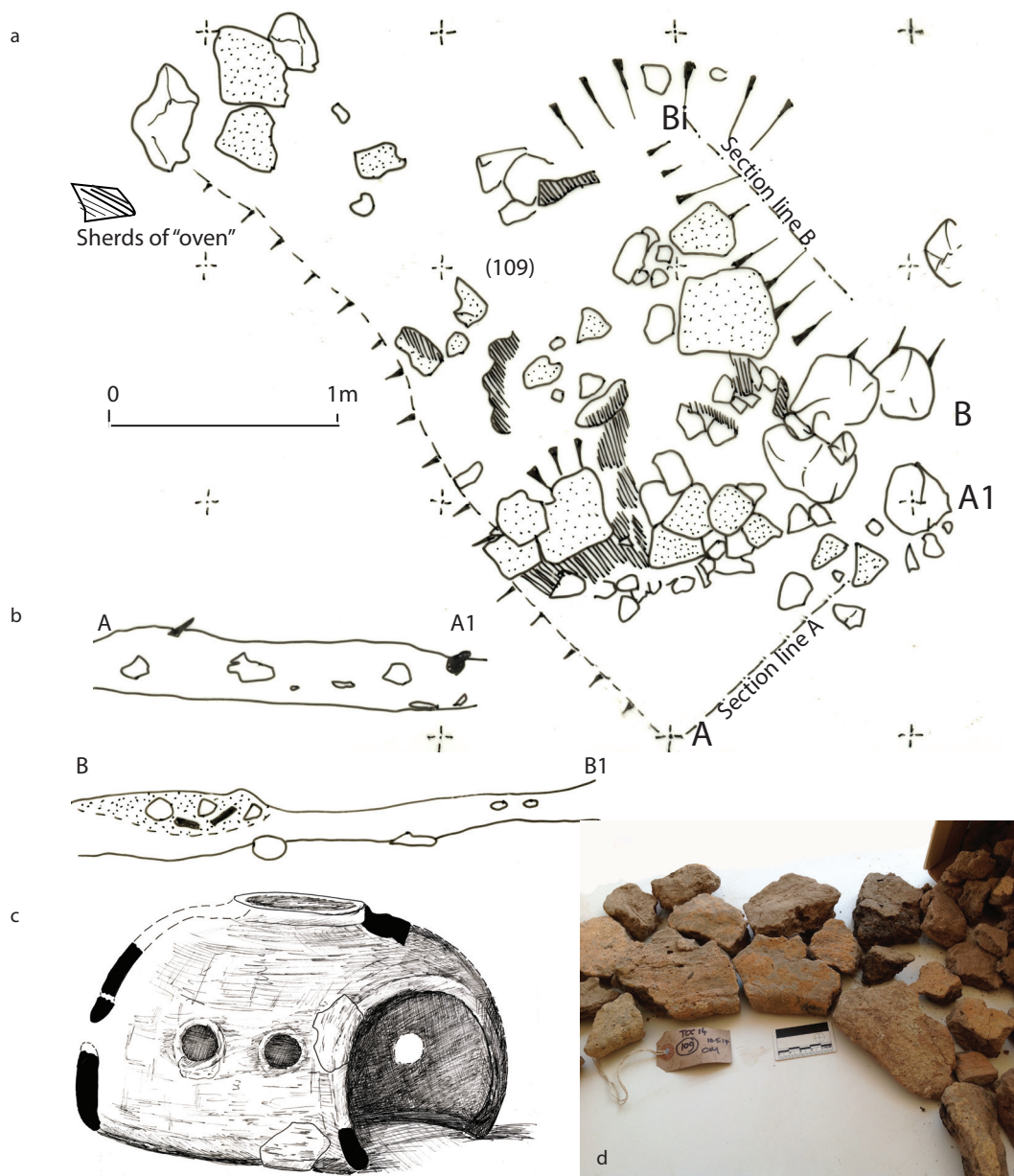


Figure 3.67. a) Plan of context (109) with sher and stone scatter; b) section record of excavation through Context (109); c) reconstruction drawing of possible clay oven form; d) clay oven sherds.

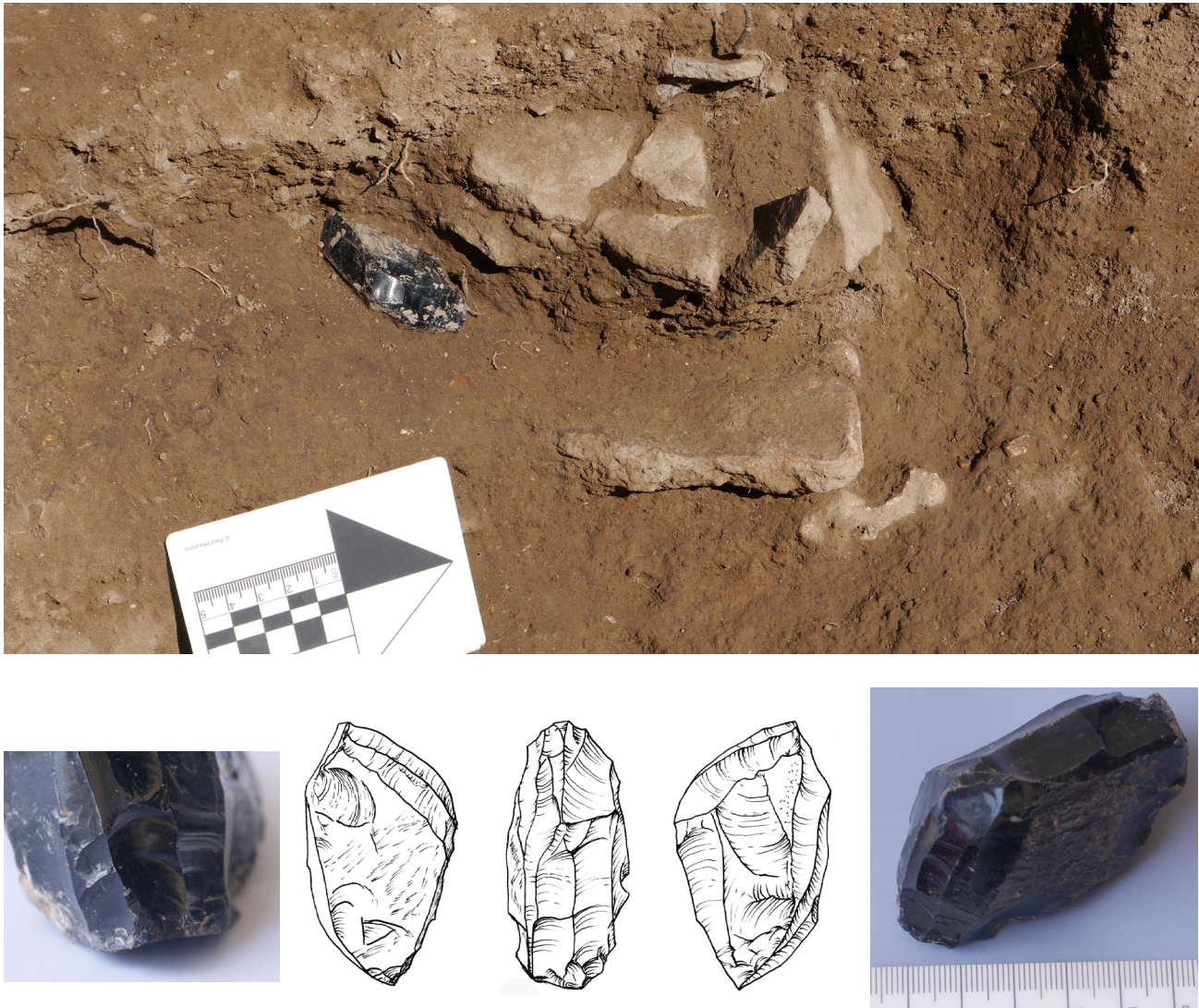


Figure 3.68. Obsidian core and associated pottery in situ, detailed photographs and drawing (see Chapter 10); see Fig. 3.62 for location).

at least two sherds from the Tarxien phase as well. A sample from (75) produced a single cereal grain and two pulses. The deposit was bounded by Cut [78], a shallow channel exposed in section in BT3, and by the vine Channel [82]/(83) discussed below. Although later than the deposits discussed above, the stratigraphic relationship between [78] and the vine channels was impossible to determine as their fills were similar.

The northwest section of the excavation trench, exposed a clear sequence of intact deposits (Fig. 3.67 A–B). These were founded upon Context (298), a dark prehistoric deposit below *torba* (152) and above bedrock (127). A similar deposit (120), discussed above, was located in the northeast corner of the trench (Fig. 3.67 G–H). The pottery assemblage from (298) contained

Tarxien, Ġgantija, Żebbuġ and Grey Skorba sherds, demonstrating the long history of human occupation at this part of the site. Context (298) was overlain by Context (152), a *torba* floor remnant defined on its east and west sides by Vine Trenches [92] and [62] (Fig. 3.67 C–D), was embedded directly on parts of the uneven bedrock that lay below. Context (151), a dark silt sealed beneath layers (140) and (143), and covered by (152), contained Ġgantija and Żebbuġ phase pottery. Soil flotation from Context (151) produced nine cereal grains and eight pulses. Context (142) comprised the stone layer overlying (140), and the neighbouring grey deposit of (141). A contemporary deposit was Context (143), which was interpreted as a possible prehistoric surface associated with a structure in this area, but

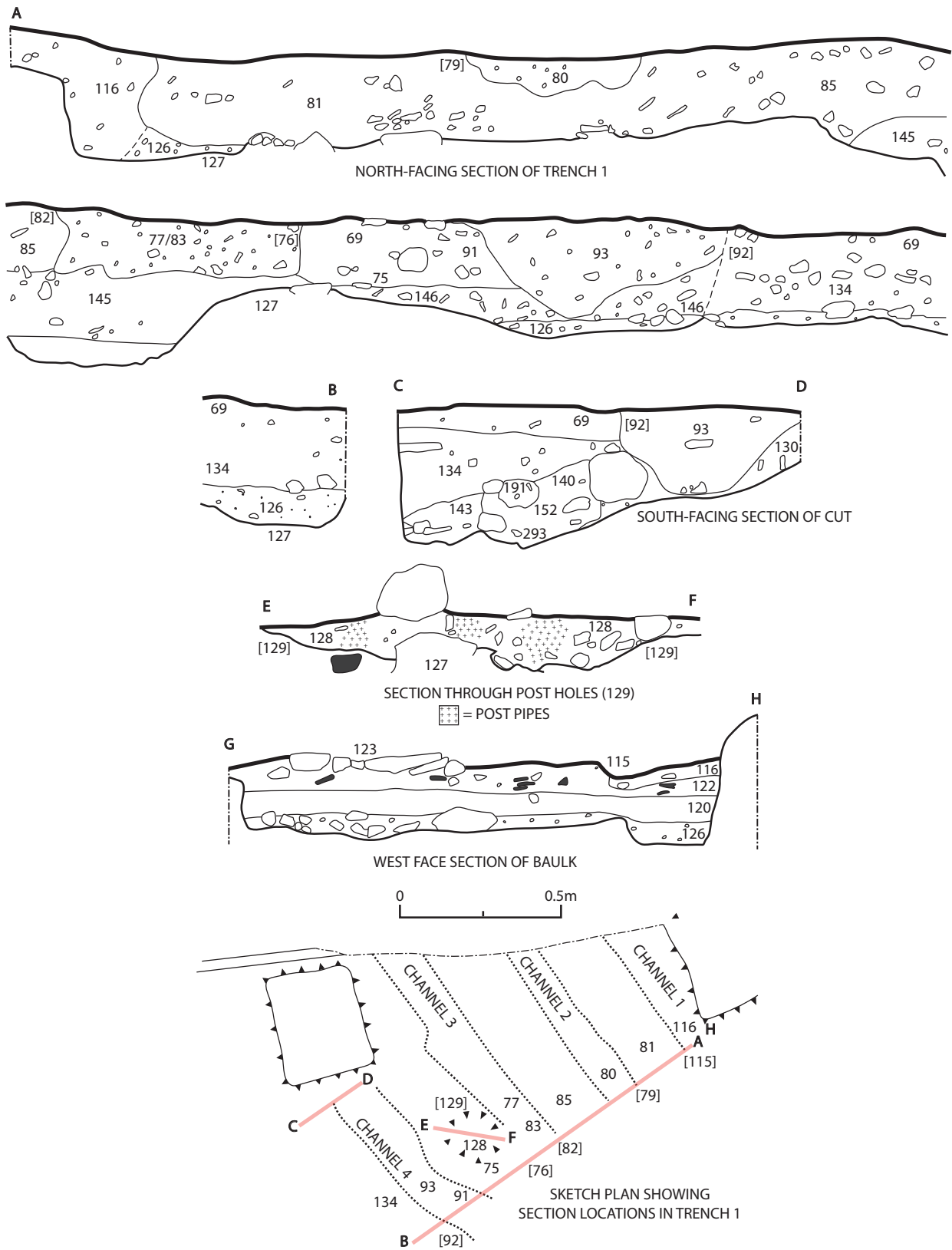


Figure 3.69. Sections and location plan recording the stratigraphy in the southeast area of excavation.

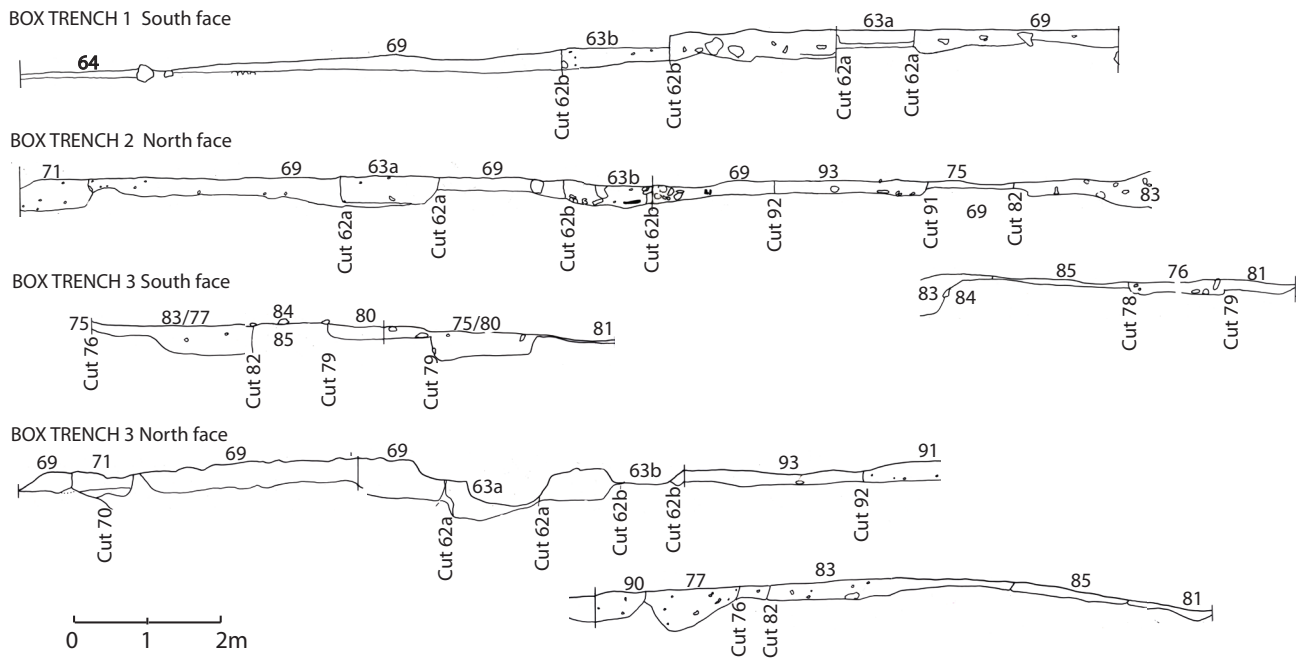


Figure 3.70. Box Trench profiles and their numbered contexts.

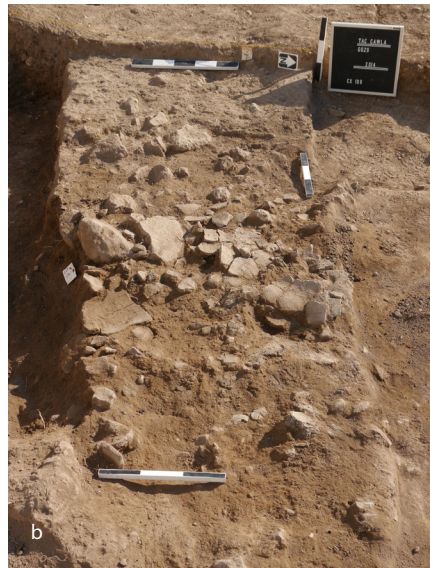


Figure 3.71. a) Paving stones exposed at the edge of Channel 1; b) in situ sherd scatters in Context (120).

now very disturbed. It was a firm, very dark brown (10YR 2/2), sandy clay loam, containing mixed Temple Period pottery. It was overlain by Context (140) – a firm, very dark brown (10YR 2/2), clay loam, rich in pottery and animal bone. Context (140) was located below stony Context (142) (Fig. 3.75, section C–D) and was cut through by modern concrete foundations on the north side. The pottery assemblage from this layer was dominated by sherds from the Tarxien and Ġgantija phases. Context (141), adjacent to and contemporary

with (140), beneath (142) and above (143), was a firm, very dark greyish brown (10YR 3/2), sandy clay loam, set against the baulk in the northeast part of the site. Context (142) covered Context (134), which was a firm, dark brown (7.5YR 3/2), sandy loam that survived between vine trench Cuts [62] and [92], and was covered by (69). Like the layers below, the pottery assemblage from this layer contained examples from the Ġgantija and Tarxien phases, together with six pieces of chert, a piece of Lipari obsidian and two stone rubbers.

3.7. Ancient soils and deposits and the Roman vine channels and pits

Whilst the upper levels of the entire excavation area were cleared and cleaned of topsoil in previous campaigns, a buried soil remained, particularly in the zones preserved between the Roman channels. Context (69) was the most extensive of these deposits and formed a firm, reddish brown (5YR 4/3), silty loam, occasionally with a blotched/speckled appearance suggesting the incorporation of pieces of daub and/or *torba*. This deposit can be interpreted as a prehistoric soil into which many Roman-period agricultural channels were cut (Fig. 3.62). It was particularly rich in cultural debris, such as animal bone, pottery and burnt materials, suggesting that it was a former ploughsoil receiving settlement waste material that enveloped several rubbish pits and middens. Figures 3.63 and 3.64 show the midden deposit within which sherds and lithics were found. This layer contained 2730 sherds of pottery, with Roman, Bronze Age, Temple Period and Skorba pottery phases all represented in the assemblage. It was also rich in lithics with some 26 chert flakes and four obsidian blades and flakes (two each from Lipari and Pantelleria). Context (108), a similar, but somewhat more compact deposit, survived between cuts in Channel 4, south of BT3; this contained fewer finds. Context (124) was another similar deposit, lying immediately to the east beneath the later vine trench Fill (83) in Channel 3, south of BT3, and took the form of a firm, dark greyish brown (10YR 4/2), silt loam, which was later cut by channels, and can be considered equivalent to (85). Context (85) was a similar buried soil located between vine channel Cuts [79] and [82] extending from BT1 to BT3 and adjacent to (84). It was a firm, dark reddish brown (5YR 3/3), sandy clay loam with grey mottling. Figure 3.72 shows this soil cut through by agricultural features and the archaeological box trenches that were placed across them. As is typical of these disturbed domestic midden areas, the deposit yielded a bone tool, seven chert and two Lipari obsidian flakes and a stone rubber.

Small quantities of very early (Thermi) Bronze Age pottery were retrieved within the disturbed levels of the upper prehistoric soil. Some material was located in what appeared to be a shallow pit cut into levels above the earlier Neolithic house. This material corresponds to pre-Tarxien Cemetery and Borg in-Nadur styles, and means that this pit presents an interesting and important dated context for material associated with the final Temple Culture (§3.10; Chapter 10). Across the site, other fragments, possibly not associated with any particular structure, were retrieved and dated to the Early, Middle and Late Bronze Age phases. No intact features were identified with this period.

3.8. The agricultural channels in the northeast area of the site

As noted in the 1990s work, the upper deposits over the entire excavation trench were crossed by linear cut agricultural features (Figs. 3.62 & 3.71). The pattern comprised nine distinct parallel channels, all of which were truncated to some extent. Ploughing and previous interventions had removed all topsoil cover, and a smooth, level surface was encountered over the site. Only the area immediately against the west wall (parallel to Triq Anici) had evidence of more intact deposits. These were not, however, formed from ploughsoil, but of pale soil dumps, floors, the kiln and other dense deposits.

The system of channels had three different forms. The earliest are likely to be the small sub-circular basins that formed a line of pits on the north side of the site, and are likely to be of late Punic form, if not date, going by similar finds in Ibiza (cf. Marlasca Martín & López Garí 2006: 97). The pits measured between 0.80 and 1.20 m in diameter and some were up to about 0.40 m deep. These individual basins probably formed holes for trees or vines (Figs. 3.73 & 3.74). There was substantial calcification of the surface of the basins. This was formed from the precipitation of lime, and appeared to be almost like mortar. Their formation, however, was considered to be a natural one, brought about by differential watering of the tree-holes.

Two further channel systems ran parallel to the basins, and cut through in places to form either deep (about 0.5 m) or very shallow (0.2 m) channel bases, where the upper levels were truncated by agriculture and previous archaeological investigation. It seems likely that the original field was laid out with lines of basin pits, and these were replaced, over time, by linear cut channels that followed approximately the same axis. Some of the channels cut through the Neolithic soil to bedrock and, given that the regular spacing of the agricultural channels was every 1.5 to 2.5 m over the site, these cut into and destroyed or disturbed the underlying prehistoric deposits. In particular, the channel features affected the eastern end of the excavation trench, where bedrock was higher, and early deposits less deep; whilst in the western end, deposits followed the dipping bedrock to a depth of about 1–1.3 m, and were better preserved. One channel [52] was especially deep on the extreme north of the trench. In total, the channel systems covered over one third of the excavated area of the site (Figs. 3.71 & 3.73) thereby limiting the sample of prehistoric deposit available for excavation.

The material found within the channel systems was of mixed date, and whilst it included quantities of prehistoric material (of a very rolled, fragmentary

Table 3.5. Contexts containing Roman pottery.

Contexts with Roman pottery	Identification
15	Diagnostic pottery
16	Diagnostic pottery
23	Diagnostic pottery
27	Diagnostic pottery
28	Diagnostic pottery
30	Diagnostic pottery
37	Diagnostic pottery
55	Diagnostic pottery
63	Diagnostic pottery
69	Diagnostic pottery
71	Diagnostic pottery
74	Diagnostic pottery
77	Diagnostic pottery
83	Diagnostic pottery
91	Diagnostic pottery
93	Diagnostic pottery
119	Diagnostic pottery
4	Undiagnostic pottery
8	Undiagnostic pottery
21	Undiagnostic pottery
44	Undiagnostic pottery
47	Undiagnostic pottery
84	Undiagnostic pottery
107	Undiagnostic pottery
130	Undiagnostic pottery
143	Undiagnostic pottery
145	Undiagnostic pottery
185	Undiagnostic pottery

size) the larger and probably contemporary pottery was Roman. These sherds were imported and locally made examples of ceramics, and appeared to be representative of domestic assemblages of pottery from the second to first centuries BC to the second

to third centuries AD.² Finewares, flasks, plates and coarse-wares were all identified, but interestingly, no examples were intact or even matching, and much was already well worn and abraded. This indicates that the pottery was probably transported to the site in manuring episodes and used with household rubbish to fertilize the soil.

Whilst rock-cut channels cut in the bedrock to grow vines in areas of limited soil depth are a well-known feature of agricultural improvement in Malta since Roman times (Vella *et al.* 2018), earth cut structures as recommended by the ancient agronomists (Thurmond 2017, 90) and as encountered at Taċ-Ċawla have not been identified before. Importantly, the excavations took place in spring, whilst the soil was damp and the soil colours were clear and well demarcated. These conditions made it possible to identify each of the channel cuts from the clean, level surface of the site, once loose topsoil had been removed (Fig. 3.72). Initially the channels were tested by three small cuts (parallel box trenches) running north–south, which enabled clarification of each channel and its scale. The areas explored in 1993–4 were emptied. Yet, within those areas distinct spreads of mollusc shell had been noted, and when they were excavated in full in 2014, these proved to be the fill of three separate pits (Figs. 3.75 & 3.76a, b), cut into by the lower levels of a recut channel system. Associated ceramics were of Roman date and incorporated with the shells. So dense was the shell deposit that these were almost free of any soil matrix. The mollusc assemblage was almost entirely terrestrial snails, presumably used for food. These were sampled extensively (see Appendix A3.8) (Tables 3.5 & 3.6).

3.8.1. The Roman agricultural channel sequence and fills

The Roman channels crossed the excavated area diagonally, and are recorded as follows commencing in the northeast corner of excavation and moving southwest. Defining the northern edge of excavations, a modern machine-made foundation (for a projected house, later abandoned) was defined as Cut [111]. This bedding

Table 3.6. Agricultural channel fills (contexts).

	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Channel 9	Channel 10	Channel 11
cut	113, 116	79	76, 82, 78	90, 92	62b	62a, 99, 106, 103	70, 161,	36, 11, 59,	18, 13, 12, 11, 8, 9, 10, 42, 39, 25, 18, 19, 59, 46, 60,	52,	131
fill	114, 115	80	77, 83	91, 93	63b	63b 102, 95, 100, 74	71, 72, 162	37	28, 44, 21, 34, 16, 40, 41, 23, 20, 22, 24, 51, 33, 27, 61, 48, 50, 19, 24,	55, 54	132

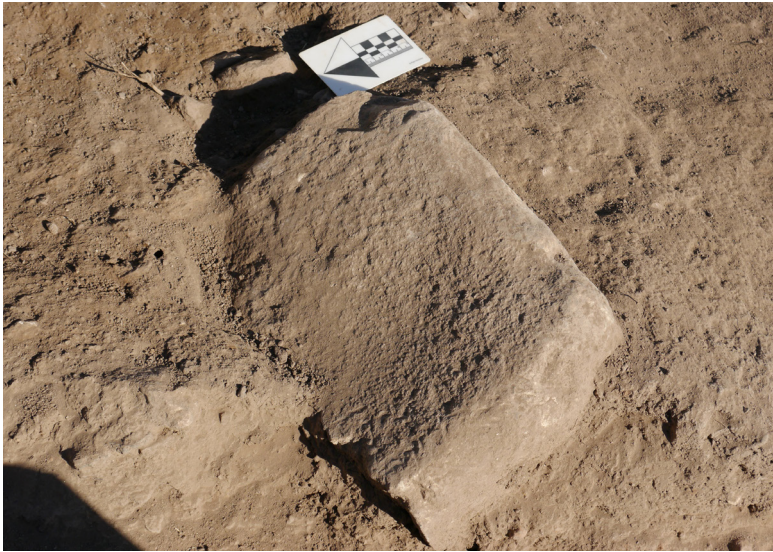


Figure 3.72. Sandstone quern in situ in Context (120) between Channels 2 and 3.

trench was filled by Contexts (110) and (112) and cut into Context (109) – the underlying prehistoric deposit. Fill (110) covered a lower concrete Fill (112) and was covered by (1). The pottery assemblage from this fill included material from the Ġgantija and Żebbuġ phases. Fill (112) was the concrete filling of the bedding trench [111].

Channel 1 was the most southerly and exposed feature in the southeast corner of the excavations. It was only partially explored and was clearly identifiable, if fairly shallow and narrow. The Cut [114]/[115] was 45 cm deep and c. 80 cm wide, filled by contexts (113), (116), and (30). These overlay intact prehistoric levels (109)/(120) (Fig. 3.69), (126) and (204). Channel 1 cut through stone paving (123), which had formed a surface over some well preserved and significant deposits (Figs. 3.62 & 3.69) that appeared to relate to a mainly Żebbuġ phase midden and floors. The Fill (113)/(116) was a firm, brown (10YR 4/3), clay loam, and contained moderate amounts of small-medium sized stones. It was interpreted as the fill of a Roman agricultural pit or channel on the southeast corner of the site. The pottery assemblage from this fill contained Roman and Żebbuġ phase material. Part of this channel is recorded in Figure 3.67 G–H and Figure 3.62, in the southeast corner of the trench. Fill (113)/(116) was covered by Context (74).

Channel 2, immediately to the north, was identified as Cut [79], and filled by Context (80). This was a relatively shallow straight edged narrow channel about 45 cm wide with a fairly flat base. The depth was deeper in the west (25 cm), but became shallow (10–15 cm) in the east where the bedrock was close to the surface. The Fill (80) was a compacted, dark yellowish brown (10YR 3/4), sandy clay, and overlay, in part, intact prehistoric levels (109)/(120), which extended over an area of about 2 × 2 m. The deposit contained

pottery of Ġgantija, Żebbuġ and Bronze Age phases, animal bone and stone inclusions, and was easily distinguished from undisturbed soils as its browner, with carbonates present at the edges (Fig. 3.71 A–B).

Channel 3 was a wider (about 1 m), shallow, truncated channel, that ran diagonally north-north-east–south-southwest across the site, in alignment with other Roman agricultural features. It was square edged, regularly cut channel that rested on bedrock in the shallow, eastern end of excavation and became deeper (about 30 cm) as it proceeded southwest. Limey concretions were noted at the edge of the cut. The channel was initially identified as Cut [76] to the north, and [82] on the south, but these proved to be the same entity, filled by (83). The channel had been re-cut, and at its western end Pit [78] was distinguished by its ashy-silty Fill (77), which comprised elements of mixed grey redeposit of prehistoric material of pottery and five lithics. The pit may have been a later tree-hole associated with the vine trench. The Fill (83) was a compacted, dark yellowish brown (10YR 3/4), silty/sandy clay loam, and the colour and matrix varied slightly from one end of the feature to the other, with a silty clay loam at the southern extent that became a sandy clay loam in the east. Finds from (83) included ceramic and animal bone fragments. The pottery assemblage from this context contained Roman, Tarxien, Temple Period, and Bronze Age phase material (Figs. 3.62 & 3.71, Section A–B).

Channel 4 was more difficult to demarcate, and was shallow, poorly defined, over 1 m in width, and interspersed with pits and recuts. The main Cut [90]/[92] was filled by contexts (91)/(93), and these directly overlay *terra rossa* (126). In the eastern excavated areas, a series of exposed sections of bedrock and earlier levels were disturbed by the channel digging in Roman

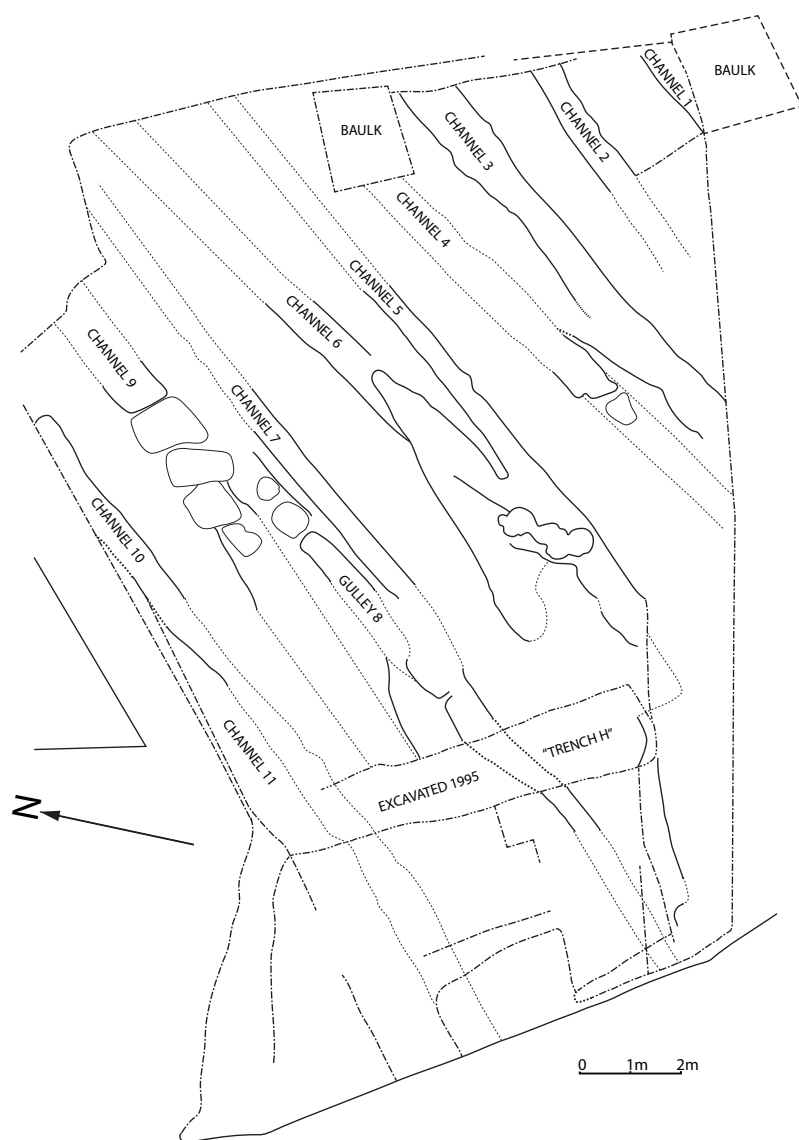


Figure 3.73. *Layout of the vine pit/channels across the excavation area (identified as gullies and trenches in the figure).*

times. There, the poorly defined channel appeared to morph into Channel 3. Indeed, parts of Channel 4 may be a natural depression. This was filled by Fill (91), which lay below (74) and above (69) in the west end, and comprised a friable, dark yellowish brown (10YR 4/4), sandy loam, which contained extremely encrusted ceramics, five chert and one obsidian flake. The pottery assemblage from this context contained Roman, Ġgantija, Tarxien, Temple Period, Żebbuġ, Bronze Age, and Tarxien Cemetery phase material. The equivalent Fill (93) was identical in the eastern end of the channel, and measured $2.4 \times 0.7 \times c. 0.35$ m. It produced a large amount of pottery from the Ġgantija and Żebbuġ phases, plus burnt bone, three chert and four pieces of Lipari obsidian. Flotation produced one pulse (Figs. 3.62 & 3.67, A–B, C–D).

Channel 5 was a narrow, clearly defined trench running east–west through the full length of the excavation. Midway, the channel merged in a clear ‘Y’-shaped feature with neighbouring Channel 6, which had been explored quite extensively in 1994 (Figs. 3.62 & 3.71). The cut of the two channels was identified as Cut [62B] in Channel 5 (filled by (63B)), and Cut [62A] in Channel 6 (filled by (63A)). Channel 6 was angled on a more north–northwest–south–southeast alignment than Channel 5, and it seems to have been recut, or at least deepened midway down its length, more than the southern channel, before they both merged. Cut [62] was calcreted around the flattish base, the encrustation measuring 5–8 cm thick at the boundary with the layer into which it was cut. Fill (63) had been partly cleared in a previous excavation. It was a friable, dark yellowish

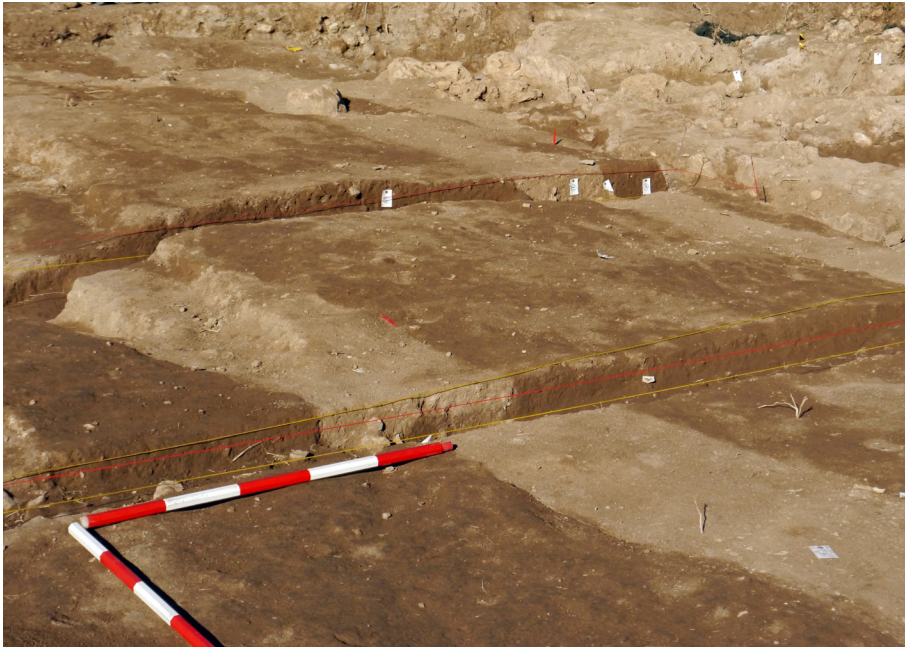


Figure 3.74. *Differential coloration (caused by relative humidity) of the agricultural channels, made visible on first cleaning, looking west.*

brown (10YR 4/4), silty clay loam with stones sized from very small to large. A deposit of snail shells found at the base of (63) was sampled separately as Soil Sample 28. Finds from (63) included ten lithic items, small pottery sherds, animal bones, and a small undated copper or bronze coin, 16 mm in diameter. Given its extent, the context was relatively poor in cultural material, and evidently very heavily reworked. The pottery assemblage from this fill contained Ġgantija, Temple Period and Żebbuġ phase material.

The merged Channel [62] cut through a succession of earlier, clearly demarcated pit fills containing rich deposits of mollusc shells, which survived at the edge of [62]. These pits, each about 0.8 m in diameter and 0.5–0.6 m deep, may have utilized earlier vine holes, or were specifically dug to bury the shell waste (Figs. 3.75 & 3.76). They were identified east to west, as: Cut [99], containing Context (95) and covered by (63) and (74); Cut [106], containing Context (102) and covered by Context (74); and Cut [103], containing Context (100), and covered by Context (74). The mollusc-rich deposits were carefully sampled and analysed fully (Appendix A3.8). Figure 3.74 shows the layout and profile of these pits. Figure 3.73a–e shows the complexity of pits and channels recorded photographically and with Structure-in-Motion software. The western part of Channel 6 merged into further cuts and disturbances as it extended south and was filled by Context (35) – a mixed deposit. Figure 3.75b shows the location of the snail-rich deposits that were sectioned and found to be evident in the sides and bases of the agricultural channel (Fig. 3.75a). Cut [99] was cut into the base and

edge of Channel [62], and filled by (95). The cut was sub-circular in shape, and measured approximately $0.6 \times 0.6 \times 0.2$ m. Its shallow depth was a consequence of its truncation by later channel re-cutting in [62]. The snail-rich Fill (95) was a friable, dark yellowish brown (10YR 3/4), sandy clay loam, and was identified as anthropogenic, due to a lack of juvenile snails or a mix of species. Cut [106] or ‘Snail Pit 3’ was filled by (102), another snail deposit. Cut [106] extended to a depth of 0.15 m. The Fill (102) was a dark yellowish brown (10YR 3/4), sandy clay loam densely packed with mollusc shell, filling the base of the pit. Cut [106] had been truncated first by the almost contemporary neighbouring agricultural Pit [103], and then further sliced vertically by the insertion of Channel [62]. Cut [106] clearly penetrated into Neolithic subsoil (Fig. 3.75a, b). Cut [103] was a shallow sub-circular feature found at the base of Channel [62], cut into the earlier Pit [106], and was also visible from the excavated surface, where it was observed to cut through the prehistoric soil (Fig. 3.67a, b). Cut [103] was filled by Fill (100), which was a dark yellowish brown (10YR 3/4), sandy clay loam filled with snail shells. The Pit [103], however, was insufficiently deep to contain the snails dumped within it, which had spilled over into the overlying (74) matrix. This, in turn, had spread into the surrounding matrix through past cultivation activities. The pottery assemblage from this Layer contained Żebbuġ and Saflieni phase material, and 12 lithics. A detailed molluscan study was carried out on the pit content (see Appendix A3.8). Traces of similar mollusc shell concentrations were noted on the surface



Figure 3.75. a) 2014 Structure from Motion rendering of the excavated pits; b) initial clearance of the channels and pits with three box trenches cut across them; c) the early stages of excavation of the pits and channels, looking south; d) vine pits looking southwest.

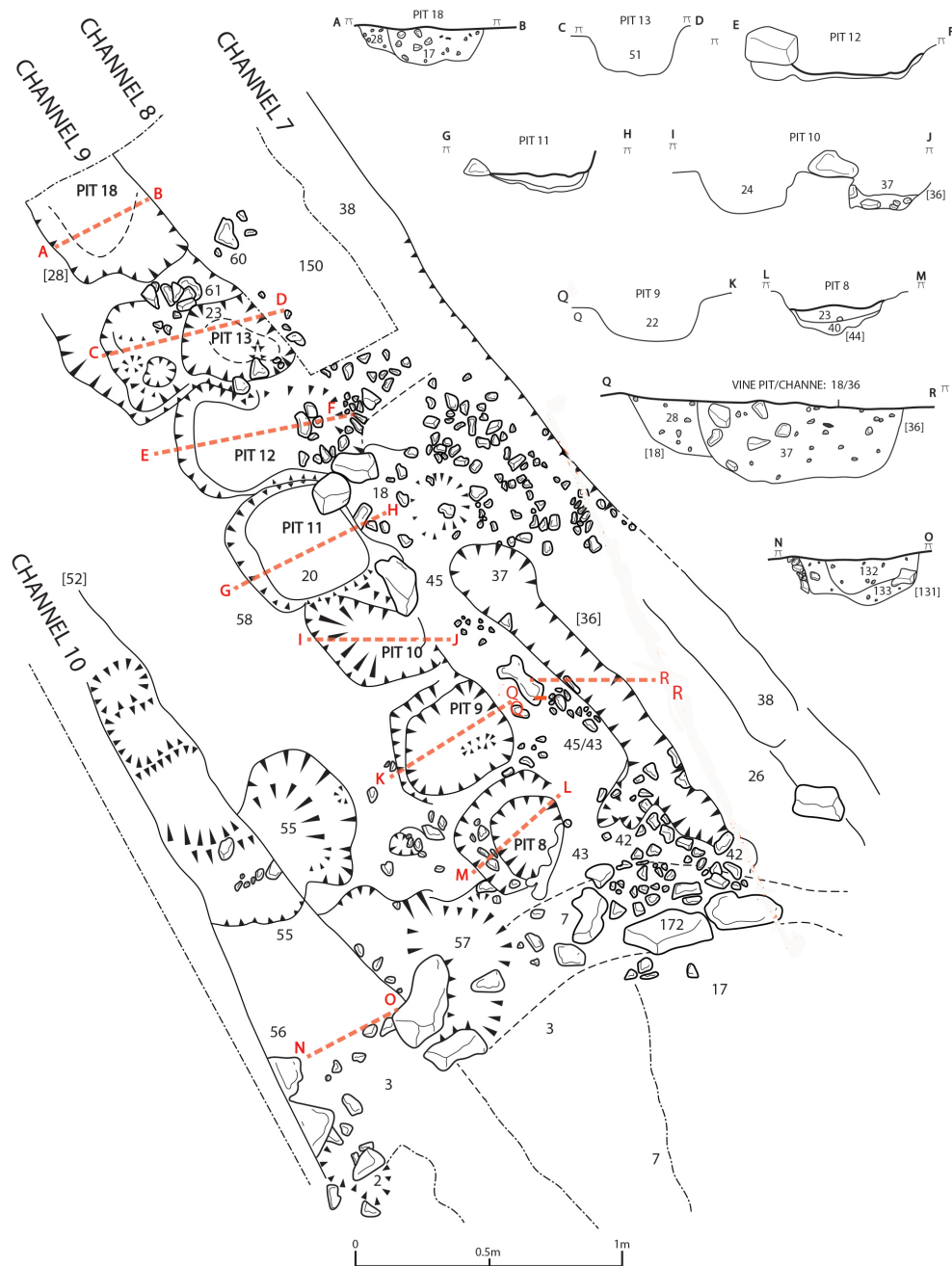


Figure 3.76. The excavated vine pits and features in plan and profile east of the stone structure (172).

of several areas in the site. They were not excavated, and remain to be explored in the future.

Channel 7 was angled east–west and spaced over 2 m north from Channel 6. Its Cut [70] was filled by (71). The fill was similar to that of Channels 1, 2, and 5, all of which seem to have comparable depths and widths (0.7 m wide and regular). The Fill (71) was a brown (10YR 4/3), clay loam and was covered by (30) – an extensive deposit that contained 14 lithics and

other cultural material. Deposit (72) was observed slightly below (70) and (69), and was a dark brown soil. The pottery assemblage from (72) contained Roman, Temple Period and Bronze Age phase material. The channel extended westwards from the eastern limit of excavation, passing through the centre of the Neolithic stone structure, where the channel was identified as Cut [161] and filled by Fill (162) – a similar friable, brown fill. Figs. 3.7 & 3.45 capture the relationship

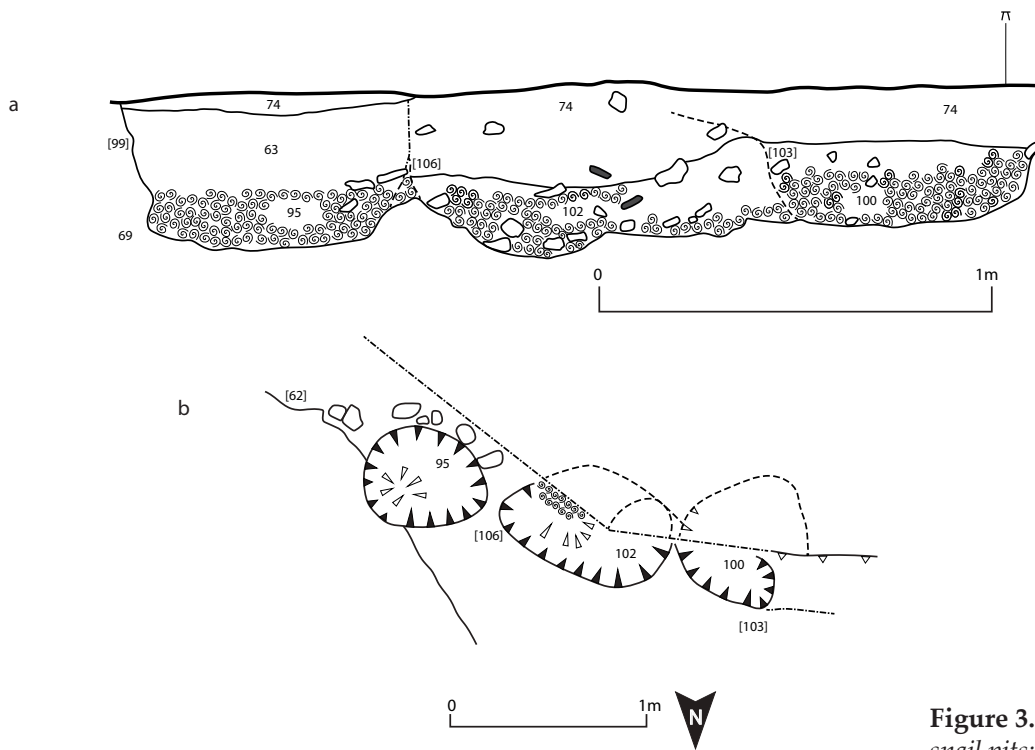


Figure 3.77. a) Section through snail pits; b) plan of snail pits.



Figure 3.78. a) Clearance of channels 5–6 (looking west) revealed remnant dumps of edible snail shells; b) sectioned snail pits shown as partly excavated into the base of the channels (looking northwest).

of the channels with the Neolithic structure. Context (162) filled and covered many small circular pits that formed a continuous Channel [161]. This ran parallel to Cut [70] and extended from the wall (172) across the structure's interior, disturbing the Neolithic deposits

and floors in (193), (194), (195) and (196), as well as dislodging large stones from the wall.

Channel 7 also appeared to merge with the pit alignment that formed Channel 8 (Cut [36]) as it extended west through the 1995 excavation trench.

The entire area around Channel 7 had been cleared of topsoil and partly investigated in 1993–4. The features were further identified as a calcareous base deposit (219) and Fill (220) where it appeared west of the 1995 trench; its cut and fill were evident within the section. The cut depth varied between 25–40 cm and the width between 50–60 cm, but whilst it meandered close to Cut [70], it remained some 30–40 cm to the north of it. In the western area of Channel [70], the Fill (219) formed a hard calcareous crust, and was covered by Fill (220), the upper fill. This was compacted, dark brown (10YR 4/3), sandy clay, covered by Context (167). Context (167) was a firm, brown (7.5YR 4/6), silty clay loam layered beneath (94) and above (154) and (162), with a similar consistency to (30), which it abutted. Context (167), however, contained modern materials such as plastics and bricks, and was interpreted as a modern ploughsoil.

Set close to Channel 7, Channel 8 comprised a series of individual shallow pits and amorphous depressions, apparently truncated individual vine or tree holes that might once have been part of the parallel, and possibly earlier, Channel 9 arrangement of pits (Figs. 3.47, 3.48 & 3.74). Many of these features were partially excavated but then backfilled in 1994. The alignment only appeared southwest of BT2 where the pits were collectively described as Cut [36], containing Fill (37). This Layer almost merged on the north side with a further series of shallow pits, collectively described as Channel 9 and Cut [36], which formed a linear cut/channel lined with green mesh cover (from the 1994 work) and backfill. Some of the original Fill (37) was still present in the shallow feature, which had gently sloping sides and a relatively flat to slightly concave base. Running parallel on the north side of [36] a further alignment of pits [11], [59], and Channel/Cut [42] disturbed the west edge of Channel 9 and partly cut into [36]. The edges were not well defined and because of previous truncation and excavation, the relationship with Pit [42] at the west end of the channel could not be established clearly. Yet, [36] overlay and cut into (48) and the underlying stony layer. The pits of Channel 8 contained deposit Fill (37), a friable, reddish brown (5YR 4/3), sandy clay loam that occurred in the eastern and less disturbed length of Cut [36]. This fill contained frequent sub-angular fragments of Upper Coralline Limestone (0.01–0.18 m diameter) and occasional degraded limestone flecks. The west end of the channel had been previously excavated, leaving scant traces/lenses. Finds from (37) included pottery sherds from Temple Period phases, animal bone, shells, and a human clavicle. (Fig. 3.74).

Channel 9 (Fig. 3.71 & 3.72), lying parallel to Channel 8, comprised seven shallow pits (each identified as a separate feature and cut), which were closely

set and numbered from east to west as: Cut [18], a sub-rectangular form, filled by Context (28); Cut [13], a roughly circular form, filled by Context (51); Cut [12], a sub-rectangular depression, filled by Context (44); Cut [11], a squarish form filled by (34), covered by Context (16); Cut [20], an amorphous depression, filled with backfill from previous investigations; and Cut [8], a smaller sub-circular pit, filled by Context (40), which was a concreted limey coating over the soil cut. The pits are summarized in Table 3.7.

Beneath the disturbance of the pits alignment, two main deposits were identified as ancient subsoil/ploughsoil, into which most of the agricultural features had been cut (§3.7). Context (20) appeared to underlie Context (24), and the line of shallow Pits [8–13]. It was a friable, dark brown (10YR 3/4), silt loam. An ashy lens within the deposit was cut by [10]. It was interpreted as the extensive layer into which Pit [10] and other such pits were cut. Finds from (20) included prehistoric (Temple Period) pottery. Context (15), beneath Context (1), was a firm, brown (10YR 4/3), silty clay loam. It represented a plough soil into which Pits [8–13] were cut. Its composition was very similar to that of Context (64). The pottery assemblage contained Ġgantija, Tarxien, and Temple Period material. Cut [29] and Cut [14] was a linear cut at the edge of the excavation trench; exposed upon excavation of (15) and the removal of the green mesh and Context (1). Context (47) represented another ploughsoil. It was a friable, brown (10YR 4/3), silty clay loam, identified in the eastern area. Context (147) was noted to be more compacted and clayey than Context (15) above, and included more charcoal and pottery. The 1994 excavation had sealed the unexcavated layer with green mesh. The finds from (47) included Roman, Ġgantija and Temple Period pottery sherds as well as bone and obsidian.

Channel 10 was located to the north of the pit alignments of Channels 8–9, and it defined the northern limit of excavation. It formed the deepest and most prominent vine/agricultural channel on the site and cut through all archaeological deposits, sometimes to bedrock. The Cut [52] contained Fill (55), and, where exposed, was 1–2 m wide and up to 0.8 m in depth from modern topsoil levels. In places, it was lined with a calcrete Fill (54). The channel cut through and obliterated much of the northern edge of the Neolithic stone structure (172) and recurred in the northwest corner of excavation, where it was defined in plan but not excavated. Cut [52] had been partially excavated in 1995, where tangential trenches explored its relationship with the stone structure. Midway along its length, immediately north of the stone structure, a few compacted areas suggested the presence of pits, but due to later disturbance, these were not proven.

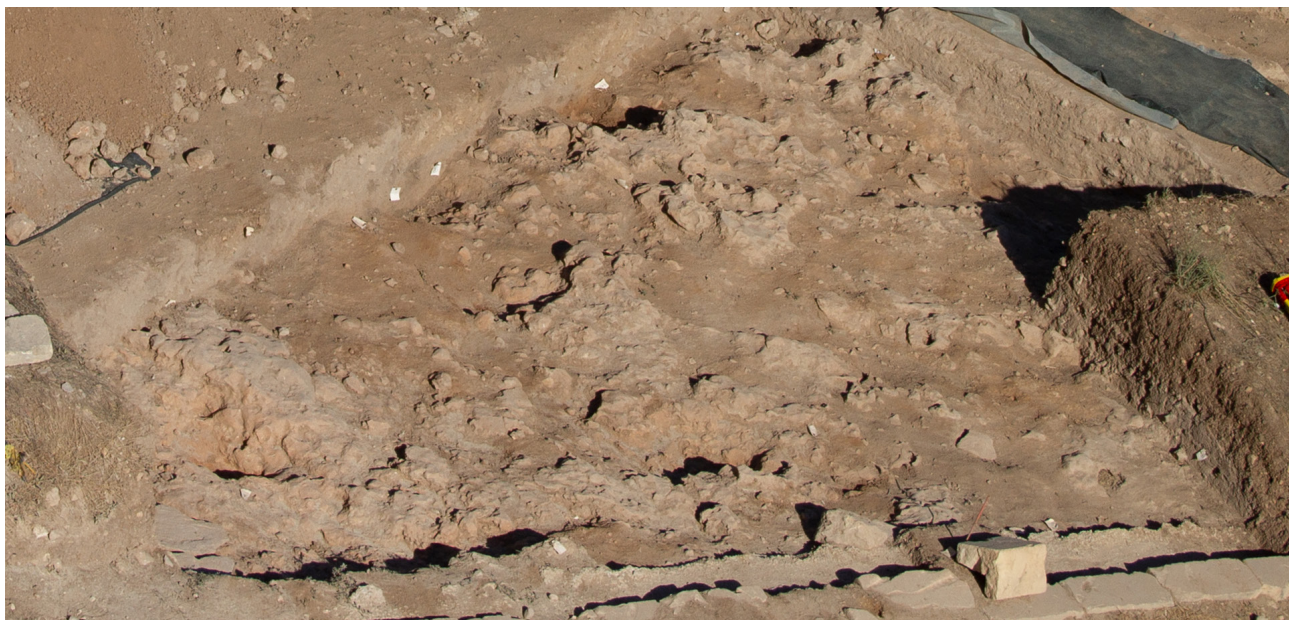


Figure 3.79. *Excavation of the shallow deposits on the east side of the site, looking northwest.*



Figure 3.80. *Bedrock features along the east baulk of the excavation, showing potential posthole and torba deposits.*

Table 3.7. Vine channel fill and cut contexts.

No'	Shape/size	calcreted	Above/Fill	Cuts into/below	finds	Excavated 1994
Cut [42]	Sub-circular, flat based, vertical sides	no	43 Friable, dark brown (10YR 4/3), sandy clay loam	36	0	yes
Cut [8]	Sub-circular	Calcrete fill (40)	[39] Possible posthole fill (40) Fill (41)	(4), Fill (23) firm, dark brown (10YR 4/3), Sandy silt loam	Scarce	yes
Cut [9]	Sub-rectangular pit with steep sloping sides and a slightly concave base,	Calcrete lining (22)			Scarce	yes
Cut [10]	Sub-circular pit	Calcrete surface, Context (24).		[25]	Prehistoric	yes
Cut [11]	Sub rectangular pit with steep side, concave base	Calcreted base (34)		Context (16)	Pot chert bone	yes
Cut [12]	Sub-circular pit steep sided	Concave calcreted base Context (44)	Cut [59] (20) (48).	Fill (21), [12]	no	yes
Cut [13]	Sub-rectangular pit with steep sides	Calcrete concaved base Context (51)	[46] (33) (27) (50)		Pot, chert, bine	partly
Cut [18]	Irregular vertical sided pit	no	(28)=(19)		Pot	yes
Cut [36]	Channel/pit [60]	Stony deposit	(61)	(48) (33) [36]		no

The main Fill (55) was a friable, dark brown (7.5YR 3/4), sandy clay loam, compacted in places. Finds included Temple Period, Żebbuġ, Roman and later pottery, obsidian, a metal nail, shells and animal bone.

Set against the western edge of the expanded excavation trench, another channel (No. 11) (Fig. 3.71)

was visible. Cut [131] ran north/south along the north-west edge of the excavation trench. It cut Channel [52] and Context (55), from the west and was visible in the trench edge section where the channels cut through the wall of the Neolithic structure. Cut [131] extended into prehistoric layers and through the wall of the Neolithic



Figure 3.81.
Post-medieval kiln
or burning pit,
showing rubble base
and circular edge.

structure, and contained fill (132). This was a firm, dark yellowish brown (10YR 4/4), clay loam, which was identified as an agricultural soil that formed the upper fill of Cut [131], above a darker Fill (133), and was covered by (15) and (30). The pottery assemblage from this layer contained Ġgantija, Tarxien and Żebbuġ phase material. Fill (133) was a firm, very dark greyish brown (10YR 3/2), clay loam, located in the lower layers of Cut [131]. Fill (133) was noticeably darker than (132), but contained similar cultural material.

In conclusion, the recognition of the earth-cut agricultural channels forming the Punic-Roman archaeology at Taċ-Ċawla is rare in Malta, since hard impenetrable rock is encountered more frequently. These examples are thus particularly significant in terms of their formation, survival and recognition. The 2014 work followed a damp winter and spring with ideal soil conditions that revealed the ephemeral features and enabled them to be identified and recorded. (Fig. 3.72). The conditions made it possible to distinguish each of the channel cuts from the clean, level surface of the site. Following the removal of the loose topsoil, it is worth noting that the rapid drying of the surface soon obliterated the surface traces of channels with pale dust unless it was watered frequently and protected with polythene sheeting.

3.9. Recent historical remains

Recent deposits that had not previously been removed in the earlier interventions were evident in the northwest area of excavation. Evidence of a furnace (discussed above) (Fig. 3.81) was likely to have been part of light industrial activity. Some recent pottery, glass and metal was located but was not of significance and probably derived from manuring and dumping activity.

3.10. The material culture of Taċ-Ċawla

3.10.1. Ceramics

Taċ-Ċawla has been the most productive of the sites studied in the *FRAGSUS Project*, in terms of quantities of pottery and artefacts it has yielded. The total weight of pottery retrieved from the 2014 campaign is just below 400 kg, with a sherd count of 50,679 individually recorded and phased pieces. These break down further into specific types and phases, with increasing numbers present in later prehistoric phases. The Ġhar Dalam phase proved to be elusive and only 28 recognizable sherds were identified. This count contrasts markedly with the assertions made by the earlier watching brief studies, which may have failed to recognize different later incised and impressed pottery styles. By contrast, the Skorba pottery group is well represented, with

some 844 Grey and undifferentiated Skorba, and 409 Red Skorba sherds identified. Together, these sherds weighed 14.44 kg. This represents a sizeable assemblage, and confirms the earlier Neolithic occupation of the site. The Żebbuġ ceramic phase was especially well represented: 5039 sherds were identified, weighing 59.41 kg, and this proved to be the largest assemblage of all the identifiable phases. The large size of many of the sherds, and the wide range of forms, style and sizes are especially important, since Żebbuġ phase material has not been retrieved from a settlement site before. Arguably, however, some early Temples could have been settlements, as discussed by Evans (1971). The variety of forms (Chapter 10) provides an insight into the elaborate food and storage practices that the Neolithic communities engaged in, and the assemblage demonstrates that early Malta developed a rich and diverse ceramic culture from at least 3800 BC.

The Mġarr phase is barely represented at Taċ-Ċawla, with eight sherds weighing 80 g, and evidently either the phase, or the use of that particular pottery had little impact on the area of Taċ-Ċawla excavated in 2014. The material is much more frequent on Maltese (rather than Gozitan) sites, but the phase may be short-lived, with the pottery used for very specific functions or simply having a poor survival rate. The stylistically distinct Ġgantija pottery phase yielded 5008 sherds, weighing 44.7 kg. The elusive Saffieni style (Malone *et al.* 2009, 229–31), which was potentially associated mostly with funerary sites, was barely present at Taċ-Ċawla. Only nine sherds weighing 50 g were found. In contrast, the long-lived and distinctive Tarxien pottery occurred in 1009 sherds, weighing 16.99 kg. The quantity is surprisingly low, however, given that the site clearly was expanded and much in use over the centuries that are assigned to the Tarxien phase. ‘Temple Period’ pottery was designated to indistinct body sherds, and of these there were many. In total, 31,959 sherds were counted, but their individual styles and phases could not be ascertained with confidence (Fig. 10.4). This general assemblage weighed 196.18 kg, almost four times more than the Żebbuġ material, but was more than twice as fragmented. The small sherds are naturally more difficult to assign to a particular phase or style, unless, as with the Skorba material, the fabric is particularly distinctive. The presence of Bronze Age material is quite marked at Taċ-Ċawla, since the material is distinctive. Earliest Bronze Age (formerly considered as Tarxien Cemetery phase) sherds of the Thermi Grey ware style amounted to 58, and weighed close to a kilogram. They represent a rare and important assemblage. Interpretation and new dating for this material appears to chime with evidence emerging from Tas-Silġ (Cazzella and Recchia 2013, 2015). Middle to Late Bronze Age Borg

in-Nadur pottery yielded 19 sherds weighing 73 g. Roman-Punic and later pottery was relatively infrequent, even in the Roman agricultural channels. Had the original topsoil remained for careful excavation in 2014, the later Roman and post Roman phases might have been better represented in these sherd counts. As it was, the previous excavation campaigns had effectively removed the last two millennia of soil formation and replaced that with mixed and unaccountable topsoils. The materials from the original 1994–5 topsoil and agricultural channels await further study.

The phasing of the pottery is discussed in Chapter 10, which expands on the traditional identification of style, decoration and material. The effective process of recording, weighing and counting all the ceramic assemblage from the site has enabled distributions to be plotted and densities mapped. Figures 3.83–3.85 plot the relative densities for each of the main phases of pottery, highlighting the continuity of some locations throughout the life of the site, especially the western area, closest to the local water source in the later phases of occupation.

3.10.2. Lithics and artefacts

The collection of artefacts from all parts of the excavation, including the top soil and backfill was systematically undertaken (Appendix Table A3.2.1).

All significant objects that were considered man-made, were identified as Small Finds, and where possible, provided with 3-D locations, individual numbers (SF) and later recorded, measured and drawn. The results of this work are extensively listed and illustrated in Chapter 11, Figures 11.12 & 11.13. The majority of material retrieved was lithics, mainly chert flakes and a smaller quantity of chips, but also a significant group of fragmentary retouched artefacts. Obsidian formed a small but significant part of the lithic assemblage, dominated by chips rather than flakes. The variation between the two main lithic materials, chert and obsidian may be a matter of identification and retrieval but it could imply that chert was worked on site, leaving large waste flakes, whilst obsidian was mostly the result of retouch that probably refreshed broken but complete artefacts. The identification of the large prismatic core from the site is particularly significant, since this would imply that some obsidian was struck and worked on the site. The distribution of lithic materials was plotted showing density plots (Figs. 3.86 & 3.87). Some possible fragments of polished stone were noted (Fig. 3.11), which imply that axes were in use, although none were found at Taċ-Ċawla. Other artefacts included a number of bone tools formed from animal bone (usually sheep/goat) although these are surprisingly rare. The forms include spatulae and points (Chapter 11).

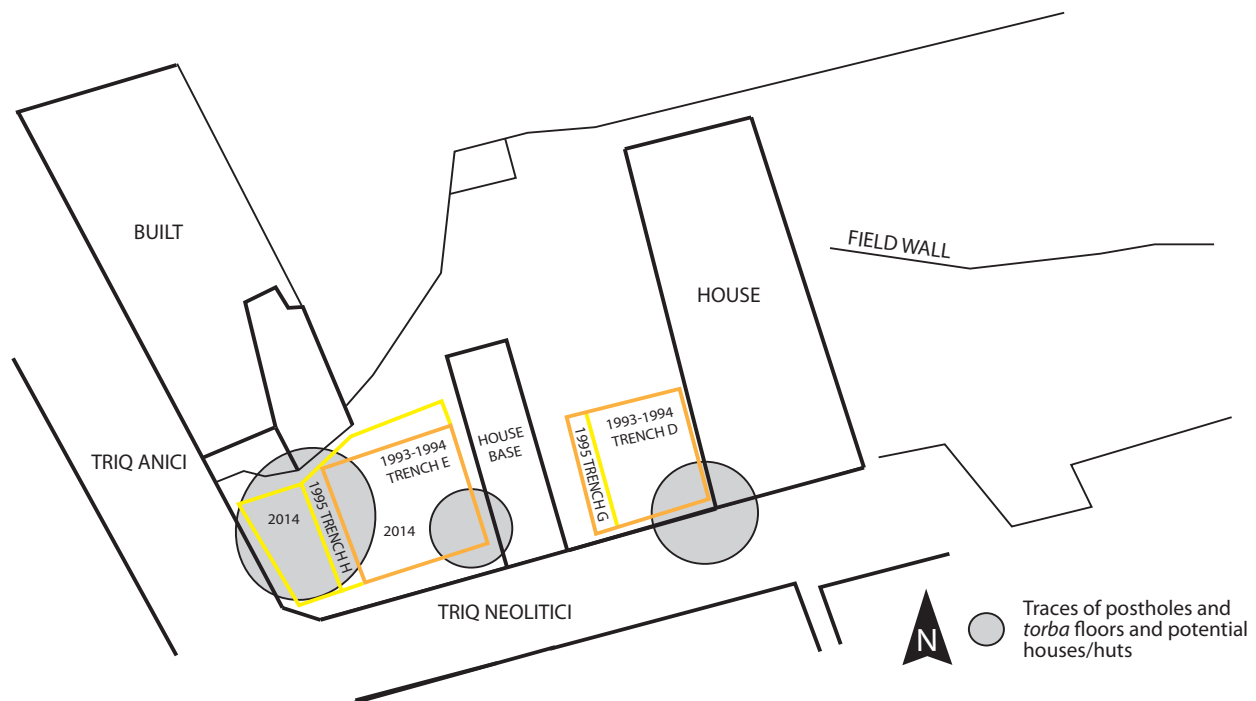


Figure 3.82. Possible layout of the Neolithic domestic structures at Taċ-Ċawla, indicated by deposits of torba floors. Concentrations occurred in two areas of the 2014 work and the eastern concentration was recorded in 1995 and the earlier watching briefs.



Figure 3.83. *Taċ-Ċawla*, main trench early in the excavation showing the partly cleared channels, looking west.



Figure 3.84. *The site at the close of the 2014 season, showing the deep box trenches 5 and 6 and the stone structure.*

3.11. The plant economy of Taċ-Ċawla

The programme of soil sampling and sediment flotation on the majority of 'intact' deposits at the site (169 samples, each of 10 litres = 1690 litres) (see Appendix Table A3.3.1) has produced a significant sample of domestic and wild plant remains. These are amongst the first substantial assemblages to be retrieved from Neolithic Malta (although see Fiorentino *et al.* 2012). The main deposits bearing plant remains were selected from the base levels of old trampled soil and midden-firepits, such as (268). This deposit, from a protected depression in the bedrock, in particular yielded significant remains that enabled an interpretation of a barley, wheat and pulse-based agri-horticulture. The significant quantity of burnt weed seeds may relate to the burning of animal dung, which is quite likely to have been practised, with a constantly renewable source of energy, compared with the scarce timber available (see §9.3.3 for the full report).

3.12 Summary

Taċ-Ċawla represents an important, if confusing, site that is important for its clearly domestic role and rich assemblage, but confusing because of its muddled and disturbed deposits of many phases. As highlighted in the study of Għajnsielem Road (Malone *et al.* 1988; 2009, 41–56) the case has been made for the rarity and importance of domestic archaeology in the otherwise monument-dominated prehistory of Neolithic Malta. Unfortunately, little has changed in the intervening years, which is why Taċ-Ċawla, located close to the earlier work at Xagħra (Gozo), was always noted as a potentially important site to investigate Neolithic settlement and economy. Other known locations of early material on Gozo, highlighted by the landscape survey (Volume 1, Chapter 6), such as Ta' Kuljat and Is-Sruġ proved to be difficult of access, under cultivation, and they remain untested ephemeral findspots. The suburban location of Taċ-Ċawla was therefore selected for the FRAGSUS study for a planned extensive programme of testing and sampling. The preserved and enclosed area presented various possible locations for investigation, including the more easterly parts of the site. The very thin soil remaining over that area, however, and the fairly comprehensive prior work (Cutajar 1993–4; Horton *et al.* 1995) did not suggest as much potential there as exists in the western area. To bring these various studies together, we draw on the features recorded in the previous work to suggest how the settlement might have been organized in the Neolithic.

The eastern areas on higher ground were clearly 'scalped' of their overlying soil cover through

agriculture and natural soil creep downhill to the west, leaving a severely truncated soil profile. In places *terra rossa* soil was exposed on the surface along with the primary settlement refuse of Għar Dalam pottery and made up some of the material collected in the first watching briefs of the site. Holes recorded in the bedrock indicated potential postholes and it seems likely these supported structures that extended from the eastern to the western limits of the site, where similar hollows and cavities were also identified. Unfortunately, there is not yet sufficient excavation to bedrock on the rest of the site to link the various recorded cavities and enable any meaningful reconstruction of huts or buildings, even though concentrations have been mapped (Fig. 3.80). Future study may be able to do this more precisely. It is not possible from the stratigraphic remains to identify whether the posthole structures belong to the primary settlement phases of Għar Dalam and Skorba, or whether they date to the Żebbuġ and Ġgantija phases, when the area was most intensively exploited; the later phases seem more likely. Floor remains in a number of areas across the site also indicate the location of structures, and attempts by the prehistoric inhabitants to level the uneven bedrock within their living space. The irregularities were smoothed with soil/stony fill and covered with *torba* plaster, traces of which clearly mark where floors had once been located. Unfortunately, no clear form, or even connected extent, was identified, because of the disturbance caused by Roman channels, so it is not possible yet to describe the size or density of building other than the walled structure itself. This structure, however, provides much more information on size and scale. The surviving walls, albeit of low height, provide an important addition to the limited knowledge of domestic structures from prehistoric Malta. The size of about 9 m diameter of the Tarxien phase house at Taċ-Ċawla seems consistent with the Ġgantija phase structure at Għajnsielem Road. This is also similar to the 10 m diameter Skorba phase structure at Skorba. Interestingly, the later 'domestic' huts identified by Trump (1966) at Skorba seem to be of much smaller size, typically 3–4 m diameter, but the excavated remains were very partially examined, and perhaps larger and more complex buildings still remain to be identified at Skorba, and indeed under other temple complexes.

3.12.1. Conclusions and discussion

The interpretation of Taċ-Ċawla, proved to be complicated initially, because the previous interventions (Van der Blom and Veen, Horton-Trump and Cutajar) had not fully reported on the nature of the site and its materials. The watching brief episode never resulted in

Figure 3.85. *Later phases of activity at Tač-Čawla shown through pottery distributions and density plots: Classical and Thermi phases.*

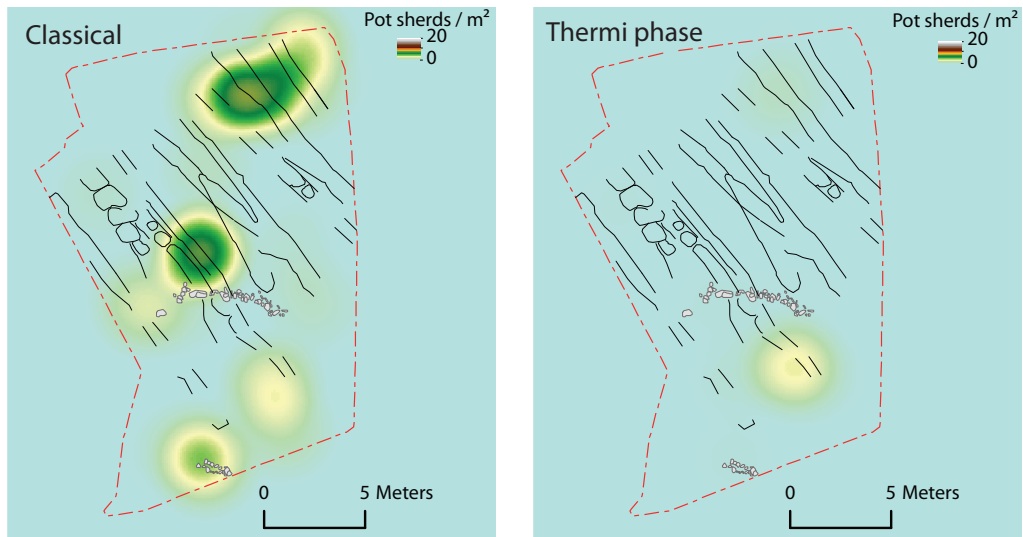


Figure 3.86. *Temple Period phases of activity at Tač-Čawla shown through pottery distributions and density plots: Tarxien and Ġgantija phases.*

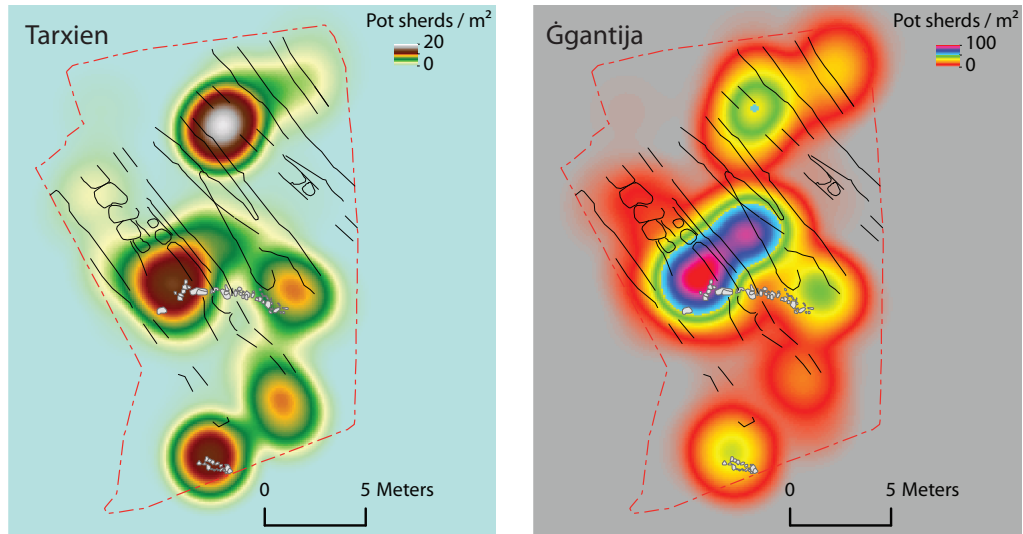
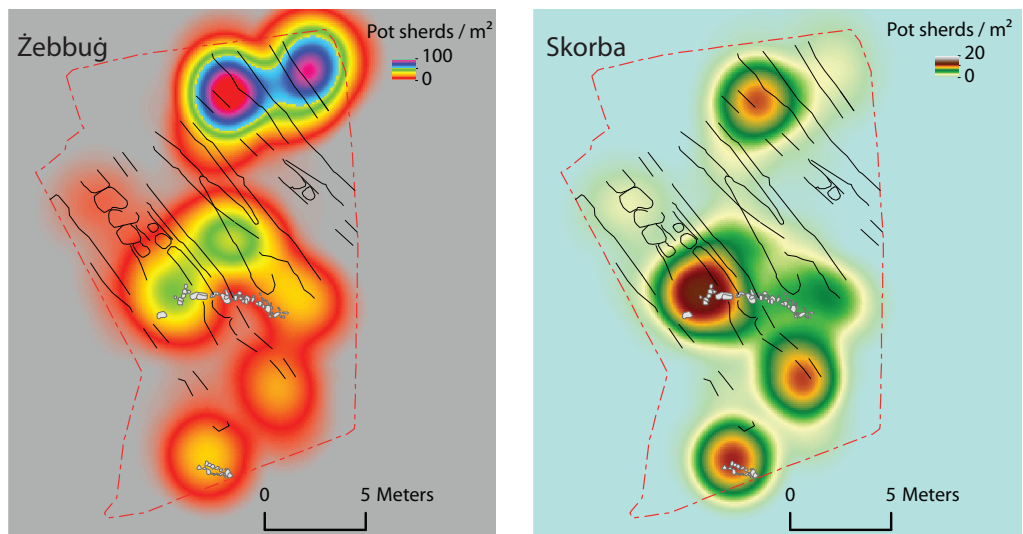


Figure 3.87. *Earlier phases of activity at Tač-Čawla shown through pottery distributions and density plots: Żebbuġ and Skorba phases.*



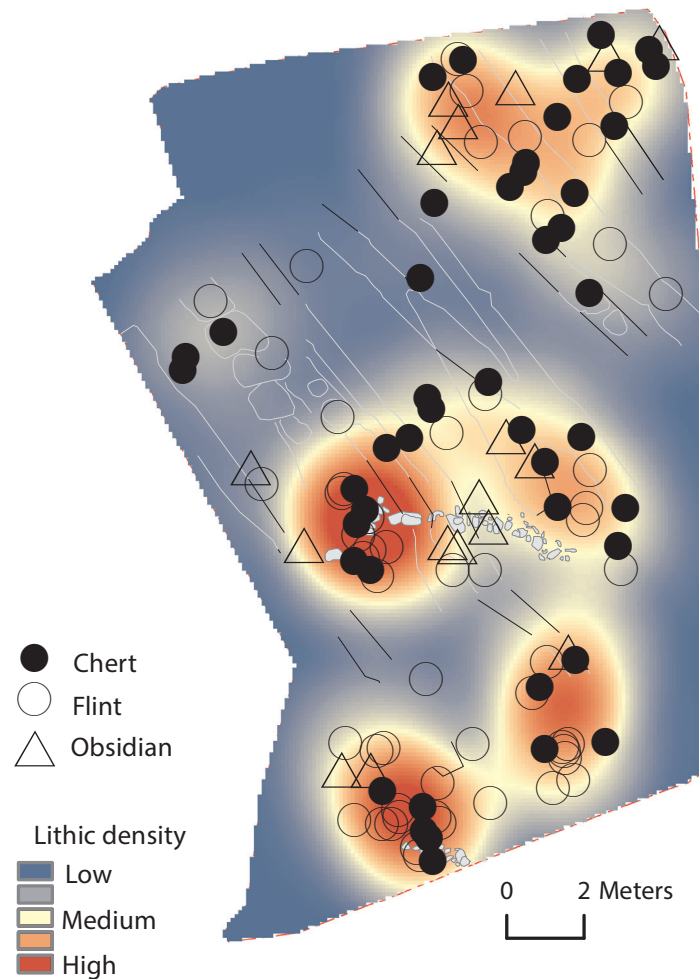


Figure 3.88. *Lithic distribution at Taċ-Ċawla.*

a detailed site map, studied and published material or any scientific data. The large-scale assessment in 1994 opened large areas but inadequately excavated any area to depth. Consequently, it failed to recognize the stratigraphic relationships of Roman and Prehistoric levels or the possible concentrations of material culture in them. No scientific work was done and none of the material recovered was studied or published. The emergency intervention in 1995 by Horton and Trump did not penetrate the depths of the site, all too effectively, and removed the key elements of the central part of the structure, as fate dictated. That work did produce an unpublished report and a brief assessment of pottery, but nothing has subsequently been published. Whilst it is easy to dismiss these attempts to interpret the site, in hindsight it is evident that excessively large superficial trenches or very small deep ones can actually cause information loss and prevent later work establishing linkage with previous observations. Nevertheless the

2014 work has managed, to an extent, to comprehend the past work as described above. The artefactual assemblages of those previous campaigns do now need to be assessed in line with what we have presented above, and make their way into a single coherent archive.

The 2014 excavation at Taċ-Ċawla tackled many of the questions that were posed by the *FRAGSUS Project* and added very significant new data and understanding to questions relating to settlement, economy, and landscape use. Perhaps most notable is the wealth of palaeoeconomic and artefactual material recovered from the site, and the 29 radiocarbon dates. These constitute a major body of data that contributes to our understanding of the economy (Chapter 9) and chronology (Chapter 2) of the Temple period.

The AMS dating programme reveals that the majority of this material dates to the periods between 3600 and 3100 BC – the period spanning the Żebbuġ, Mġarr and Ġgantija phases of the Temple Period. This

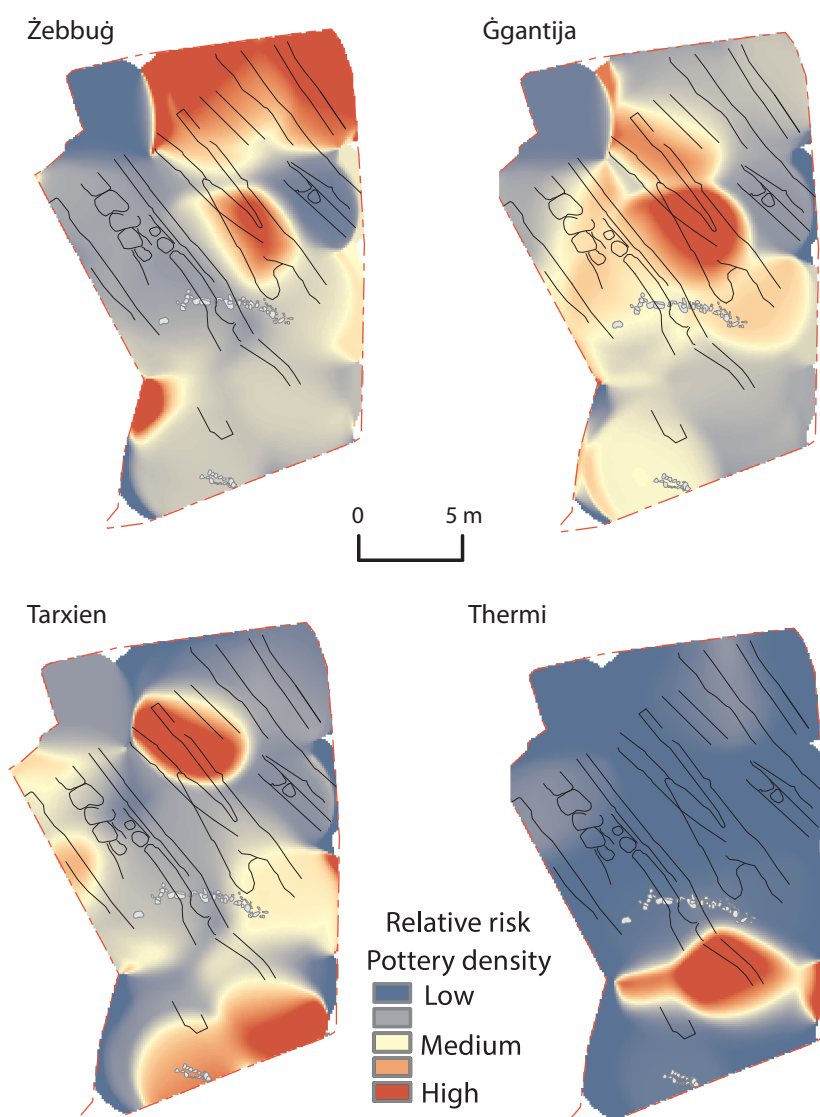


Figure 3.89. Pottery-lithic distributions at Taċ-Ċawla as summed probability plot showing the distribution through time of material (relative risk distributions).

tallies with the wealth of finds from the Žebbuġ and Ġgantija phases (Mġarr may not be a distinct phase on Gozo). The changing pattern of the density of pottery found on the site speaks to the continual process of reworking and reorganization that occurred. Activity in the Žebbuġ phase more likely focused in the north and east of the site, and this moved southwards and westwards, settling in the vicinity of the house structure during the Tarxien phase (Fig. 3.80). The stratigraphy of intact deposits encountered in 2014 largely dates to the Tarxien and Thermi phases. Thus although the site is clearly an important long-term settlement, it is unfortunately impossible to point to many intact strata from the early phases of the site's occupation, because of all the various processes that led to the site's formation: middening, bioturbation, reworking, redeposition, episodes of cut-and-fill, trampling, and so on. Despite

these complications, the overall picture that emerges from our excavation is of a heavily truncated late Temple Period structure, with secondary occupation spanning the Thermi phase, built near a seasonal water source that eventually disappeared around 2300–2200 bc. This process of decline, increasing aridity and possible abandonment represents a microcosm of events that occurred across the islands of Malta, and as such Taċ-Ċawla has proved key to addressing some of the key questions that motivated the *FRAGSUS Project* in the first place (§1.5; Table 3.6). *Was there social-economic or environmental failure at the end of the Temple Culture, and what may have caused society to collapse or change so drastically?* The evidence from Taċ-Ċawla suggests a process of aridity occurred alongside the record of cultural change, but this was drawn out over several centuries. The changing cultural response to this could



Figure 3.90. The FRAGSUS teams during the 2014 season: a) senior team visit to Taċ-Ċawla; b, c) excavation team; d) supervisors Armstrong, Bennett and McAdams; e) summer excavation beneath shading; f) the cleared site in April 2014.

Table 3.8. *Taċ-Ċawla and the FRAGSUS questions.*

FRAGSUS questions	Taċ-Ċawla
1a. What was the impact of human settlement on Malta?	Soil quality, water source, continuity.
1b. How rapid was the process of deforestation, erosion and degradation?	Continuity of settlement in one place where soil was rich, and water available.
1c. When did technical mechanisms to manage the environment develop – such as terracing, water and food storage?	Water hole/spring exploitation? Enlargement? Early to Late Neolithic manuring? Roman channels to improve soil fertility with midden waste and water retention for tree/vine crops.
1d. Were such mechanisms in place before or after the Temple Culture collapsed?	Yes, a thriving, sustainable settlement.
2a. How did a very small island community in prehistoric times manage to sustain dense, complex life over millennia, and what specific social, economic and ritual controls emerged to enable this?	Soil management evident on good farmland. Flat social structure or hierarchy? House size? Civilized living: plaster floors, proper houses.
2b. Were the monumental temples instrumental in the process of sustaining cultural life?	Moderately large stone and wood built settlements evidently were associated with larger temple foci.
3a. What sort of agriculture was used, and what did people eat, especially as the landscape became increasingly degraded and the environment more unpredictable?	Wheat, barley, peas, beans, lentils, sheep-goat, cattle, pig. Little evidence for resourcing of wild animals or fish.
3b. Were there failures in the food supply?	Kill pattern of young animals indicates lack of fodder, focus on milk production. Abandonment of site by the Early Bronze Age implies water supply failed. Burning of dung (weed seeds) suggests lack of manuring perhaps leading to soil degradation.
3c. What impact did diet, disease and stress have on the population?	
4a. What was the size and nature of the early Maltese population?	Density and size of houses gives some sense of population, at least three structures in the area of excavation.
4b. What role did demographic connectivity (immigration) play in maintaining island sustainability?	Some imported chert and obsidian. Stock and plants originated outside Malta before their importation during the Neolithic. Thermi and other exotic pottery types indicate connectivity in later phases.
5a. Was there social-economic or environmental failure at the end of the Temple Culture, and what may have caused society to collapse or change so drastically?	Infilling of water hole with Tarxien phase house built over it suggests water ceased to flow and implies drought, cereal decline, stock decline.
5b. Was there a hiatus between the Temple Culture and later Bronze Age settlers?	The presence of dated Thermi material in the final Temple Period, with no evident Bronze Age thereafter, implies a hiatus in the sequence.
5c. Are other hiatuses apparent in the sequence, such as between the earlier Neolithic and the Temple Period?	Taċ-Ċawla has no dateable sequence to demonstrate an early hiatus.

equally be seen as adaptation and resilience, rather than collapse (cf. McLaughlin *et al.* 2018). *Was there a hiatus between the Temple Culture and later Bronze Age settlers?* The site offers significant new evidence that whilst the Thermi ware pottery style that appeared on the islands around 2400 BC was novel, its deposition nevertheless represented a continuity of settlement, albeit at a reduced scale to what had gone before, as well a degree of connectivity with the wider world (cf. Copat *et al.* 2012). Intriguingly, however, there still

appears to be a gap in occupation between the Thermi and Tarxien Cemetery phases, which offers future fieldwork an opportunity to investigate further.

Notes

- 1 In the descriptions of contexts that follows, layers, fills and structural contexts are denoted in parentheses (), cut features in square brackets [], and surfaces in curly brackets { }.
- 2 Dated by Letizia Ceccarelli.

Temple places

The ERC-funded *FRAGSUS Project (Fragility and sustainability in small island environments: adaptation, culture change and collapse in prehistory, 2013–18)* led by Caroline Malone (Queen's University Belfast) has focused on the unique Temple Culture of Neolithic Malta, and its antecedents and successors through investigation of archaeological sites and monuments. This, the second volume of three, presents the results of excavations at four temple sites and two settlements, together with analysis of chronology, economy and material culture.

The project focused on the integration of three key strands of Malta's early human history (environmental change, human settlement and population) set against a series of questions that interrogated how human activity impacted on the changing natural environment and resources, which in turn impacted on the Neolithic populations. The evidence from early sites together with the human story preserved in burial remains reveals a dynamic and creative response over millennia. The scenario that emerges implies settlement from at least the mid-sixth millennium BC, with extended breaks in occupation, depopulation and environmental stress coupled with episodes of recolonization in response to changing economic, social and environmental opportunities.

Excavation at the temple site of Santa Verna (Gozo) revealed an occupation earlier than any previously dated site on the islands, whilst geophysical and geoarchaeological study at the nearby temple of Ġgantija revealed a close relationship with a spring, Neolithic soil management, and evidence for domestic and economic activities within the temple area. A targeted excavation at the temple of Skorba (Malta) revisited the chronological questions that were first revealed at the site over 50 years ago, with additional OSL and AMS sampling. The temple site of Kordin III (Malta) was explored to identify the major phases of occupation and to establish the chronology, a century after excavations first revealed the site. Settlement archaeology has long been problematic in Malta, overshadowed by the megalithic temples, but new work at the site of Tač-Ċawla (Gozo) has gathered significant economic and structural evidence revealing how subsistence strategies supported agricultural communities in early Malta. A study of the second millennium BC Bronze Age site of In-Nuffara (Gozo) likewise has yielded significant economic and chronological information that charts the declining and changing environment of Malta in late prehistory.

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