

# The Necropolis of Abila of the Decapolis 2019-2021

Abdulla Al-Shorman



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Abdulla Al-Shorman

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**TO**

The soul of Hussien Debajah, the friend and photographer.

Engineer Nayef Tura'ani, the friend and tutor.



## PREFACE

This book was motivated by the desire I have had to further understand the burial practices during the classical period in Jordan. It will hopefully serve as a documentary source for the tombs of Abila that were subject to vandalism by tomb robbers for many centuries. The 'Necropolis of Hesban' was an inspiring book where I adopt its tomb classification and make use of its parallel examples. 'The Necropolis of Abila of the Decapolis' is intended to serve as a source of information for scholars who wish to understand the Roman/Byzantine culture that existed in Jordan and how it came to an end. Most of the archaeologists that I have come into contact with during last two decades support what they call Romanization excluding the local people, their language and culture. We wished that we had enough information on how they co-existed and what was their role in a powerful and dominating Empire. Unfortunately, the locals enter the history of the region just after the end of the Byzantine period; everything they had accomplished then was attributed to the Greeks and the Romans.

Although more fieldworks are needed, this book provides funerary information that could be the start to generate a model for supporting or refuting the models of local people's acculturation, assimilation or cultural isolation. I started writing the 'Necropolis of Abila of the Decapolis' after the first season of excavation at the site in 2019, where I got inspired by the tremendous amount of data the team had collected. The collection of data for this volume ended after the third season of excavation in 2021. I employed high quality AutoCAD 2d drawings and SketchUp 3d sections of every tomb we excavated or surveyed. The dating and location of the tombs allowed me to track the temporal use of the Necropolis and, therefore, narrate the story of Abila from a funerary perspective.

Finding intact tombs was one of my aims during the third season of excavation, which was not an easy feat. For this reason, we used GPR instruments to scan Area J. We were fortunate to discover Tomb J33, which was intact and had never been utilized since its construction. This tomb adds to the body of knowledge we already had and offered further insights on the Late Roman/Early Byzantine transition period. We will search Area H for further Hellenistic tombs in the summer of 2022 to corroborate the present volume's premise that the early residents of the site during the Early Hellenistic period were not natives. I sent several samples to Durham University for Strontium isotope analysis in the hopes of learning more about human mobility during the site's classical period. Finally, the fieldwork team is hoping that this volume will catch the archaeologists' attention.

## ACKNOWLEDGEMENT

This book and the bioarcheology fieldwork of 2019, 2020, and 2021 at Abila were generously supported by Yarmouk University. I am indebted to the team who accompanied me during the months of excavation and surveying at the Necropolis; Faris Bdair (Co-director), late Hussien Deebajah (Photographer), Mahmoud Alwan (GPR technician), Waleed Abu Alhayja (Surveyor), Mousa Sarbal (Archaeology technician), Maria Allan (Teaching assistant), Hussien Sababbeh (Archaeology Professor), Sarah Alomari (Teaching assistant), and the Anthropology undergraduate students. Special thanks are due to the Director General of the Department of Antiquities, the Department's representatives Emad Obiedat, Mousa Malkawi, Hadi Migdadi, Asma Alzibdeh, Bashar Sbiehat, and Daifallah Obiedat. Without the locals' support and the enthusiasm of the local workers the fieldwork at the Necropolis would have not seen success.

The collected data from previous archaeological excavations at the Necropolis by Harold Mare, John Davis, Neathery Fuller and Robert Smith were of great help; they and the editor of the Near East Archaeological Society Bulletin permitted the use of the published top plans of tombs. Professor Michael Fuller, St. Louis Community College provided the top plan of the Apsed tomb and the photograph of Columbaria H61. I am indebted to ACOR for providing the requested pictures.

We owe heartfelt thanks to the local community, which was extremely generous and logistically supportive. The landlords around the site provided all means of support, and we believe that their partnership during the three seasons of excavation put the project on track for success and achievement.

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## ABILA OF THE DECAPOLIS

Abila of the Decapolis (now Qwailbeh, Raphana during the Roman period, and also known for a time as Seleucia) is located in northern Jordan ( $32^{\circ}40'52''$  N  $35^{\circ}52'11''$  E) 15 kilometers north of Irbid city, 15 and 50 kilometers northeast of the Decapolis cities of Gadara and Pella, respectively. Abila was constantly on the verge of several major empires, including those founded by the Egyptians in the Bronze Ages, Aramaeans, Persians, Greeks, Nabateans, Romans, Byzantines, and finally Umayyads. This generated a conflict between the city's sedentary residents and the indigenous who lived beyond the city's walls. Abila became one of the Decapolis cities during the Late Hellenistic period, only after sharing the other cities the same language, culture, city-state plan, and political status. Each of the ten cities was a self-contained city-state that was subordinate to Rome. They were centers of Greek and Roman culture in an area dominated by Semitic-speaking peoples (Nabataeans and Arameans). During the reign of Emperor Trajan, the cities were assigned to the provinces of Syria and Arabia Petraea; several cities were eventually given to Syria Palaestina and Syria Secunda. Except for Damascus, Hippos, and Scythopolis, the bulk of the Decapolis region is in Jordan.

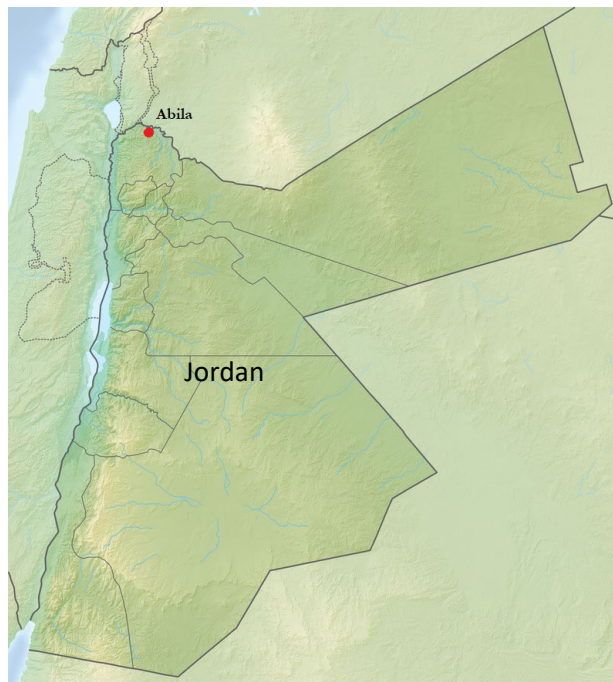


*Figure 1: A general view of Abila showing the Necropolis to the right, wadi Qwailbeh.  
Photographed by Hussien Deebajah.*

The natural environment of Abila played an important role in shaping the region's history, culture, and economy. Favorable conditions found at Abila contributed to the initial habitation of the area and the prosperity of the region. Abila's natural environment had a significant impact on the region's history, culture, and economy. The favorable climate conditions, although fluctuated, led to the region's initial settlement and prosperity especially during the Early Bronze Age (Frumkin et al., 1991), which was the best during the Holocene. Unlike Wineland (2001), who claimed that the Levant's overall climate had not altered since 9000 BC, the Levant saw climatic ups and downs over the Holocene, with the Middle Bronze Age being the driest period (Al-Shorman, 2002).

The geography of Abila is characterized by steep slopes and escarpments between 350-468 meters above sea level. It is a huge site with a 1.5-kilometer north-south dimension and a 0.6-kilometer east-west dimension. A perennial spring, Ain Qwailbeh, is located at the southern end of wadi Qwailbeh and irrigates the expansive and productive fields all around, helping make the site an important one for habitation throughout its archaeological history (Mare, 1993) (Fig. 1). Furthermore, water availability and soil fertility had contributed to the development and prosperity of Abila's successive cultures. The site is warm in summer (May to October) and cold in winter (November to April), receiving about 350-400 mm rainfall annually. Yarmouk River, Jordan River, and Lake Tiberias are all nearby.

The urban area of Abila occupies two hills in the west (Tell Abila and Tell Umm al-Amad), while the Necropolis occupies four hills to the east of wadi Qwailbeh. The region's geology is mainly of the Belqa Group; beds of limestone, chalky limestone, and chert are laid down in marine deposits. Their relatively soft stone is extensively transected by eroded wadis and is covered by meters of erosional Terra Rossa soil. The site is covered by another meter of Rendzina soil. Both soils are fertile, allowing agriculture and arboriculture to thrive (Khries, 2010). The site's geology is ideal for stone quarrying and tomb carving, with the entrances cut through a bed of hard limestone and the burial chambers carved into a bed of chalky limestone to ensure its long-term viability (Fuller, 1987). The geography and geology of Abila ensured a self-sufficient economy, which consolidated independence and ensured the inhabitants' access to a diverse range of materials and cultural experiences.



*Figure 2: The location of Abila of the Decapolis.*

Abila has the largest Necropolis in Jordan (about 0.4 km<sup>2</sup>) with unique and diverse tomb typologies that reflect the social and biological lives of the people who lived there throughout history. According to Fuller (1987) and Mare (1992), the variation in tomb architecture and grave offerings at Abila is attributed to three distinct social classes residing in the city during the Roman and early Byzantine periods: the wealthy elite had larger tombs decorated with paintings and occasionally containing basalt sarcophagi; the commoners had less elaborate tombs; and the poor could have afforded only shaft graves. Previous studies on the tombs of Abila showed temporal and spatial variations in the typologies and architecture including painted tombs (Smith and Mare, 1997). These paintings consist of a variety of themes, including human, mythological, animal, and geometric representations (Shaer, 2003).

Seetzen (1810) was the first to explore Abila, followed by Bruckhardt (1812), Wetzstein (1860), Merrill in 1875 (Mare, 1989), and Schumacher (1888). The other documented survey was carried out by Gottlieb (1889), when he surveyed six Roman tombs with central chambers and loculi. Nelson Glueck in the 1940s described the site as an easy quarry for nearby villages to pillage for constructing their homes (Glueck, 1943), which has contributed to the loss of many structures at the site. Qutshan (1960) reported a painted and other rock-cut tombs at the site (Figs. 3 and 4). In 1980, Harold Mare surveyed the site and

concluded that Abila's history began in the Neolithic and lasted through the Greco-Roman, Byzantine, and Islamic periods (Mare, 1982). Temples, mosaics, churches, basilicas, water tunnels, burial complexes, and many other noteworthy items have been discovered at the site, indicating that Abila had a sizable population throughout the Late Roman and Early Byzantine periods. The heyday of Abila can be regarded to have occurred during the Greco-Roman period (Mare, 1988). In 1981, Harold Mare surveyed the site again and explored another chamber tomb (Mare, 1981). Two years later, the American expedition excavated more Roman/Byzantine tombs (Davis, 1983). Then in 1984, Davis reported the results of four tombs in areas K and J (Davis, 1985). Another eight tombs of different periods were reported by Fuller (1987a) and another 11 tombs by Fuller (1987b). Smith (1989) excavated two pre-Hellenistic, one Hellenistic, two Roman, and five Byzantine tombs in 1988 and 12 others in the year after (Smith, 1990). Two years later, he reported the excavation results of 10 tombs of various types (Smith, 1992). The 1996 season of excavation at the site excavated six shaft-graves and six polyandria (Smith, 1996). In the summer of 2019, 2020, and 2021 Al-Shorman (2019, 2020, and 2021) excavated and surveyed many tombs in areas L, J, and N. using archaeological and geophysical methods, including the Ground Penetrating Radar (GPR) (Fig. 5), aerial photography (Fig. 6), and Global Positioning System (GPS) (Fig. 7).

Although most of the tombs were robbed, they possess a wealth of data on funerary practices and on the skeletal biology of the inhabitants. The diversity in tomb typology speaks of Abila's culture rise, change, and decline. The recovered skeletons added to the understanding of the biology of the inhabitants, health, diet, and disease. Accordingly, this book documents and classifies the various tomb types at Abila, introduces the burial practices during the classical period, and proposes a model of Abila's societal collapse. In addition, the book reviews the previous excavations at the Necropolis of Abila. All surveyed and excavated tombs are given as top and section plans to allow future comparative studies on a local and regional scale.



Figure 3: A painted portrait from Tomb L17 at Abila.



*Figure 4: A painted rooster from Tomb L 17 at Abila.*



*Figure 5: The use of GPS at Abila, 2019 season.*



*Figure 6: Aerial photograph of Tomb N1, 2021 season.*



*Figure 7: The use of GPR in surveying, 2020 season.*

## THE NECROPOLIS OF ABILA AND TOMB TYPES

Abila's tombs were dated based on the recovered pottery assemblages in the various loci inside them. Besides pottery, the field season of 2019, 2020, and 2021 dated the cleared tombs based on their architecture and the previously published similar reports from Abila. Most of the recovered tombs at the Necropolis were dated to the Roman and Byzantine periods. Abila has the largest known Necropolis in northern Jordan. The tombs are located east of wadi Qwailbeh occupying four major hills with very steep slopes. According to the plan of Abila-AE 90, they are found in areas H, J, L, and K, this nomenclature does not infer tombs' chronology (Table 1) or typology (Fig. 8). A new area named N is assigned in 2019 by Al-Shorman (2019) west of Umm Al-amad church. The tombs in the Necropolis are located on steep slopes at elevations that range from 352 to 468 m above sea level. The Necropolis of Abila suffers vandalism and clandestine robbing, where it is almost impossible to find an intact or not a plundered tomb. However, tomb robbing was not uncommon in ancient times, where a fifth century BC basalt sarcophagus from Sidon bears a Phoenician inscription that prohibits violation of burials "whoever you are, ruler and ordinary man, do not open this resting-place and do not search in it for anything, for nothing whatever has been placed in it" (Grinsell, 1975:97).

The enormous number of tombs reflects the higher density of population, where it was estimated that the population during the Iron age was about 3500, the Roman period population numbered approximately 6000-8000 and then doubled by the Late Byzantine period as indicated by the intensive landuse pattern in the countryside (Fuller, 1987). The topography of the Necropolis is similar to those found in other Roman/Byzantine sites in northern Jordan, to name few Ya'mun, Yasielah, and Natfieh. Abila had social and trade relationships with the neighboring regions, not to mention that it was one of the Decapolis cities.

*Table 1: Archaeological periods after Hendrix, Drey, and Storfjell, (1996) and Waterhouse (1998).*

Period	Abb.	Date
Middle Bronze	MB	2000-1550 BC
Late Bronze	LB	1550-1200 BC
Iron Age	IA	1200-332 BC
Hellenistic	Hel	332-63 BC
Early Hellenistic	E Hel	332-192 BC
Late Hellenistic	L Hel	192-63 BC
Roman	Rom	63 BC-AD 324
Early Roman	ER	63 BC-AD 135
Late Roman	LR	135-324 AD
Byzantine	Byz	324-640 AD
Early Byzantine	E Byz	324-491 AD
Late Byzantine	L Byz	491-640 AD

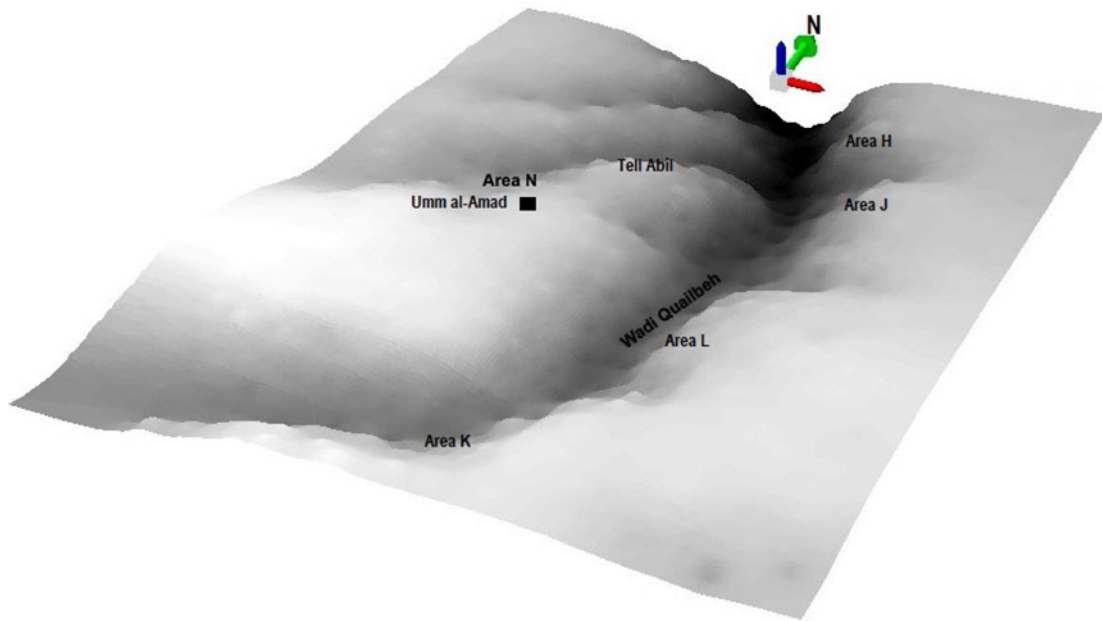


Figure 8: A 3d map of the city of Abila showing the Necropolis areas H, J, L, K, and N northwest of Umm al-Amad. Created by the author.

Detailed information regarding the Necropolis of Abila is available in the published reports of Davis (1983 and 1985) Fuller (1987), Smith (1989, 1990, 1992, and 1996), and the bioarchaeological fieldworks of Al-Shorman (2019, 2020, and 2021). The method of tomb classification was followed after Waterhouse (1998) in his work on the Necropolis of Hesban except for modifying Type I, excluding Type VII, and adding new types Vd, IX, X, and XI. The top plan of the Apsed Tomb and the photograph of Columbaria L91 were generously provided by Prof. Michael Fuller, St. Louis Community College. The photograph of Tomb L12 was provided by the American Center of Oriental Research in Amman (ACOR). A permission was granted by the editor of the *Near East Archaeological Society Bulletin* to use the published top plans of tombs. Permission was secured from Robert Smith to use the top plans of the tombs he made. Permission was also granted by the Department of Antiquities of Jordan to publish the ‘Necropolis of Abila of the Decapolis’.

The Necropolis of Abila is very rich in tombs that span the period from the Middle Bronze Age to the Byzantine period. The tombs, the recovered skeletal materials, and grave goods have the potential to tell the story of the people who once inhabited the site and exploited the vicinity around. Although the tombs of Abila represent *cultural diffusionism* during the classical period, they hold a uniqueness that was exclusivity embodied in the new tomb types. This volume does not elaborate on the orientation of the skeletal remains because most of the tombs were disturbed. Besides tomb typology, this volume is devoted to documenting the architecture of the various tombs; further excavations at the site may add new tomb typologies. The tombs of the Necropolis of Abila are distributed over 4 major areas H, J, L, and K, where all of them occupy the Tells east of wadi Qwailbeh except for Tomb N1 in area N. The recovered tombs are classified into 14 major types. The classification took into consideration the architectural elements of the tombs such as access (horizontal vs. vertical), the loculi, alcoves and arcosolia, naturally occurring caves, and sarcophagi. These elements along with their contents (grave goods) revealed valuable information about the culture of the buried people since grave goods were customarily interred with the deceased and reflect daily life use. The establishment of a tomb typology helps dating tombs that lack archaeological materials due to robbing and vandalism. In addition, the evolution of tomb types from the Hellenistic period to the Late Byzantine can be traced because this volume makes use of the tomb typologies of Hesban and utilizes other parallel examples recovered from the various

archaeological sites in Jordan. In table 2 below, there is a description of each type modified after Waterhouse (1998).

*Table 2: The classification of tomb types.*

<b>Type</b>	<b>Description</b>
Ia	Chamber tombs with loculi radiating from the chamber – one tier.
<sup>#</sup> Ib	Chamber tombs with loculi radiating from the chamber – two tiers.
II	Horizontal shaft tombs cut into the hillside, ending in a loculus or chamber.
III	Chamber tombs with adjoining arched-alcoves (arcosolia) containing sunken or trough graves.
IV	Chamber tombs containing both arcosolia and loculi.
Va	Vertical-shaft tomb which widens out at its base to accommodate arcosolia with trough graves and loculi.
Vb	Vertical shaft narrowing to form a ledge ending in a single burial or loculus.
Vc	Vertical shaft ending in a single chamber.
<sup>#</sup> Vd	Stone sarcophagus in the open air or buried in the ground.
VI	Natural caves used as burial sites.
VIII	Masonry above ground-built tombs.
<sup>#</sup> IX	Colonnaded tombs.
<sup>#</sup> X	Columbaria.
<sup>#</sup> XI	Chamber tombs that lead to a lower chamber with loculi radiating from the chamber – one tier.
	(#) New to Abila.

## **TOMB TYPE IA**

Type Ia tombs are chamber tombs with one tier of loculi radiating from the central chamber and were cut perpendicular into the rock wall (Fig. 9).

These tombs are either dated to the Late Hellenistic, Early Roman, or Late Roman. They were probably modified or used during the Byzantine period. The entrances of these tombs are invariably small with stepped doorways. They were usually sealed with rectangular stone slabs or stone doors. The central chamber was usually rectangular in shape, where it sometimes contained a sump, which served as a drainage area. The radiating loculi varied in width; they were wide in some tombs to become chamber loculi. The presence of metal nails in some of these tombs indicates the use of wooden coffins either inside the loculi or in the central chamber. Stone sarcophagi may also be present in the central chamber, and sunken graves were not uncommon. The Roman loculi (the average width is about 80 cm) are wider than the Byzantine ones (the average width is about 70 cm). The variation in the width within the same tomb indicates that the narrower ones were probably added during the Byzantine period. The tombs that belong to this type are found in areas H, J, and L. This type was found in many other archaeological sites in Jordan, such as the Roman tombs 5, 6, and 14 at Yasielah (Al-Muheisen, 2008), the Late Roman tomb 159 at Ya'mun (Al-Bataineh et al., 2011), the Roman tombs T2 and T6 in Amman (Rashdan, 1984;

Harding, 1951), the Roman tomb T1 at Beit Zar'a (Khadija, 1974), the Roman tomb of Jabal el-Hussein (Zayadine, 1981), the Roman tombs 13, 52 and 61 at Pella (McNicoll, et al., 1984; Potts et al., 1985), the Roman tombs 1 and 3 at Rajib (Bisheh, 1973), the Early Roman tombs F1, F6, F18 and F31 as well as the Late Roman/Byzantine tomb F14 at Tell Hesban (Waterhouse, 1998), the Byzantine tomb at El Burz (Lemzen et al., 1985), and the Byzantine tomb 25 at Ya'mun (El-Najjar et al., 2001).

### **TOMB TYPE IB**

Type Ib tombs are chamber tombs with two tiers of loculi radiating from the central chamber (Fig. 10).

In most of the recovered tombs, the upper tier is parallel to the lower one, with the first tier's roof separating them. The remaining features are comparable to those of the previous type, with the exception that none of the tombs of this type originate from the Late Hellenistic period. The parallel examples were found in the village of Marow and dated to the Late Roman period (Ta'ani, 1994) and in Umm el-Jimal and dated to the Late Roman period as well (de Vries, 2011). Both tombs were built of hewn stones, not carved in rock as is the case in Abila. Some of the Roman tombs at Yasileh in northern Jordan are like those at Abila, but none of them have two tiers of loculi. To create space for more burials, the people at Yasileh carved sunken graves in the central chamber that were arranged in two parallel lines, filling the whole chamber. Tomb K4 of Abila is an example of this type, dating to the Early Roman/Late Byzantine period (Fuller, 1987). This dating points to the time of use, not construction. However, it seems that the tomb was constructed in phases during the aforementioned period, with the first tier of loculi constructed during the Early Roman period and the second tier being constructed during the Late Roman period. According to Davis (1985), the floor graves were carved during the Byzantine period. The tombs with two tiers of loculi are certainly Late Roman tombs, as evidenced by the above reasoning; the other tombs in this category are also Late Roman (H6 and L3a).

### **TOMB TYPE II**

Type II tombs are horizontal shaft tombs cut into the hillside, ending in a loculus or chamber (Fig. 11).

The Middle Bronze/Late Bronze Age, Late Bronze Age/Iron Age, and Late Roman/Early Byzantine periods are all represented in these tombs. None of the tombs of this type belong to the Hellenistic or Early Roman periods. The other parallel examples of this type are found in Hesban (Waterhouse, 1973; Stirling, 1976), Ya'mun (Al-Bataineh et al., 2011), and Natfieh (Al-Shorman, 2008) (Albashaireh et al., 2011). At Tell al-Gadur, a horizontal shaft tomb was found and dated to the Late Early Bronze Age/Early Middle Bronze Age (Al-Manaseer et al., 2016). This type is one of the simplest burial types, which ensured its existence and frequency from the Early Bronze Age to the Late Byzantine period. Horizontal shaft tombs are the most common type at the sites of Sa'ad, Yasileh, and Ya'mun, and account for 87%, 88%, and 67% of the excavated tombs respectively (Rose and Burke, 2004). The only tomb in this category that revealed grave goods (one iron bracelet) was Tomb J7. It is probable that this type belongs to a lower social class during the classical period of Abila.

### **TOMB TYPE III**

Type III tombs are chamber tombs with adjoining arched-alcoves (arcosolia) containing sunken or trough graves (Fig. 12).

These graves were carved at the bottom of an arched ceiling where the latter extends from the floor to the tomb's ceiling. Unlike Hesban, where the alcove was vaulted over two trough graves, each arcosolia

was vaulted over a single trough grave. Abila's tombs of this type are exclusively dated to the Byzantine period. This type was found in Barsinia (Tombs 1, 2) and dated to the Late Byzantine period (el-Khoury, 2010), Tomb T2 in Pella is dated to the Late Roman (Smith, 1973), Tomb F10 from Hesban is dated to the Late Roman (Waterhouse, 1973), Tomb T1 from Beit Ras is dated to the Roman/Byzantine period (Zayadine, 1974), Tomb 6 from Bediyeh is dated to the Byzantine period (Al-Muheisen and Al-Shorman, 2004), and a tomb from Saal is dated to the Byzantine period (Ta'ani and Melhem, 1994). However, because the Late Roman/Early Byzantine transition period is traditionally regarded as part of the Byzantine period, this tomb type is often Byzantine. This assumption is supported by the fact that the Early and Late Roman periods in Jordan did not reveal tombs of this type. The small chamber of this type made it difficult for the family and/or visitors to meet, as the Romans practiced this habit on a specific and regular basis. There is evidence that this type may have contained wooden coffins in the central chamber, as indicated by the presence of iron coffin rings in Tomb L10 at Abila (Fuller, 1987). The recovered grave goods of this type were basically personal accessories, including beads, bracelets, earrings, and rings as well as oil lamps.

#### **TOMB TYPE IV**

Type IV tombs are chamber tombs containing both arcosolia and loculi (Fig. 13).

This type is very common at Abila. Most of the recovered tombs of this type are dated to the Late Roman/Byzantine period. However, tomb H38 is dated to the Early Roman period. The arcosolia of type IV is larger than those of type III, and they are mostly located on the wall facing the entrance of the tomb. Based on the parallel examples, this type appeared first during the Early Roman period and continued to be used throughout the Byzantine period. The parallels include Tomb F8, F27, and G10 from Hesban (Waterhouse, 1973; Davis, 1978; Stirling, 1976), Tomb T1 from Jerash (Zayadine, 1981), Tomb 9 from Yasileh (Al-Muheisen, 2008), and Tomb T1 from Som (Lux-Wagner, 1986). The central chamber of this type may house wooden and stone coffins. The grave goods are simply personal accessories, including metal pins, beads, gold earrings, rings, and coins. Metal pins, which were used to hold the upper half of a male outfit together, indicate that the deceased was buried in his everyday attire. This type is very common at Abila and contains niches for funerary busts, but they are absent in the Byzantine tombs.

#### **TOMB TYPE VA**

Type Va tombs are vertical-shaft tombs that widen out at their base to accommodate arcosolia with trough graves and loculi (Fig. 14).

Only two tombs belong to this type (L6 and L8). The parallels include Hesban (Waterhouse, 1973; Davis, 1978; Beegle, 1975), Naur (Abbadi, 1973) Petra (Zayadine, 1979), Bediyeh (Al-Muheisen and Al-Shorman, 2004), and Ya'mun (Al-Bataineh et al., 2011). The grave goods were personal objects, including iron bracelets, beads, earrings, rings, and funerary bells.

#### **TOMB TYPE VB**

Type Vb tombs are vertical shafts narrowing to form a ledge ending in a single burial or loculus (Fig. 15).

All of the recovered tombs of this type belong to the classical period (Hellenistic to Byzantine), but the majority of them are dated to the Byzantine period. A silver ring was recovered from Tomb H34 while the other tombs revealed no data. The parallels were found at the sites of Queen Alia International Airport (Ibrahim and Gordon, 1978).

#### **TOMB TYPE VC**

Type Vc tombs are vertical shafts ending in a single chamber (Fig. 16).

Three of the tombs that belong to this type are dated to the Late Hellenistic/Early Roman, Late Roman, and Byzantine periods. No grave goods were reported except for a small glass vessel from Tomb L16 (Fuller, 1987). The parallels of this type were found in Jerash (Naghawi, 1989), Pella (Smith, 1973), Petra (Zayadine, 1974), Ya'mun (Al-Bataineh et al., 2011), and Sadagah (Kurdi, 1972).

#### **TOMB TYPE VD**

Tomb type Vd is either a stone sarcophagus in the open air or buried in the ground.

A number of sarcophagi were found in areas L and K. This type was reported from many Roman archaeological sites in Syria (De Jong, 2017).

#### **TOMB TYPE VI**

Type VI tombs are natural caves used as burial sites.

These tombs are dated to the Late Roman/Byzantine period. They are found in areas L and K. In Tomb F37 at Hesban, two sarcophagi were found inside, which confirmed the use as a burial site (Waterhouse, 1998). This type was found in many Roman and Byzantine sites in Jordan, such as Amman (Hadidi, 1982), Gerasa (Fisher, 1938), and Jebel al-Qesir (McGovern, 1980).

#### **TOMB TYPE VII**

Type VII tombs are cist tombs partially or fully constructed.

This type was not found at the site of Abila. However, cist tombs were very common during the Byzantine period in Jordan and reported from Dhiban (Tushingham, 1972) and Umm Qeis (Weber, 1988).

#### **TOMB TYPE VIII**

Type VIII tombs are masonry above ground-built tombs.

Tomb L12 belongs to this type. Tomb 4 at Barsina is a parallel example dated to the Early Roman period (el-Khoury, 2010). It is interpreted by Fuller (1987) as a base of a tower structure or as being related to a massive podium not far from the structure. However, tower structures were not uncommon and were reported from Dura Europos and Palmyra in Syria, and Umm el-Jimal and Harta in Jordan (Fuller, 1987).

## **TOMB TYPE IX**

Type IX tombs are colonnaded tombs that have columns inside the central chamber, the walls or at the entrance (Fig. 17).

They may have loculi, arcosolia and/or sarcophagi. One tomb (L13) is found at Abila and dated to the Late Roman/Early Byzantine period. It has a decorated facade and a huge number of oil lamps (no. = 85). One iron ring was found inside the tomb, where the scarcity of grave goods was attributed to robbery. Parallel examples were found in Jerash (Al-Qdah, 1981) and Dhiban (Tushingham, 1972). In Palestine, a colonnaded tomb was recovered from Beit Jibrin and dated to the Late Hellenistic period (Oren and Rappaport, 1984).

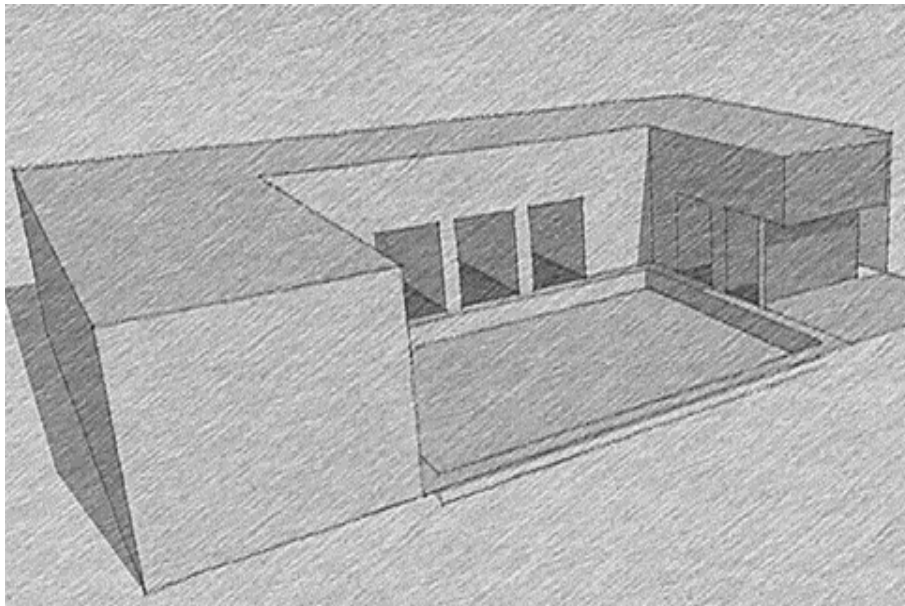
## **TOMB TYPE X**

Type X tombs are columbaria carved into prepared stone facades (Fig. 152).

The only columbarium that fits this type is Columbaria H61. The average width and height of the niches is about 25 cm, which is suitable for holding small pottery jars or for housing the ashes of the dead.

## **TOMB TYPE XI**

Type XI tombs are chamber tombs that lead to a lower, tunnel-like chamber with loculi on both sides radiating from the chamber – one tier (Fig. 18).



*Figure 9: Tomb type Ia.*

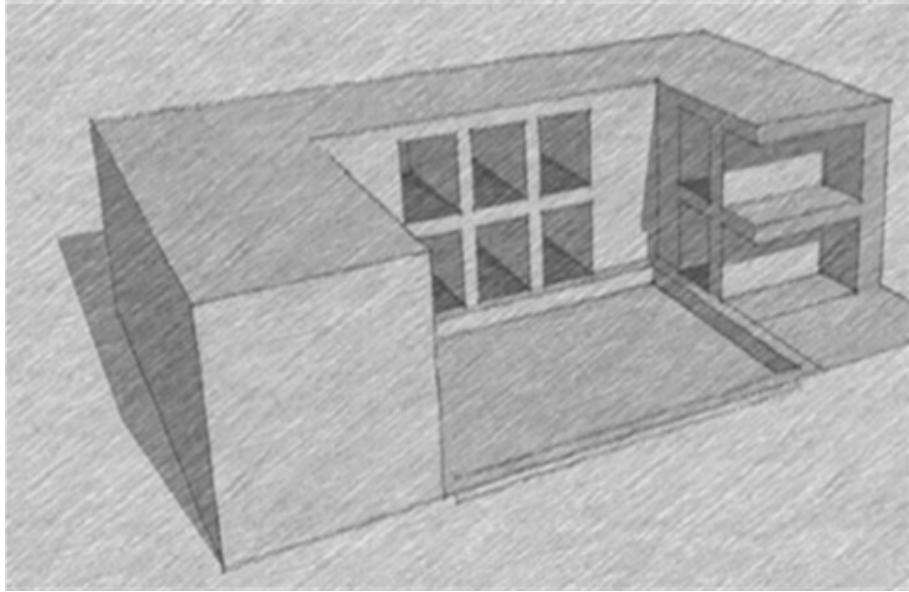


Figure 10: Tomb type Ib.

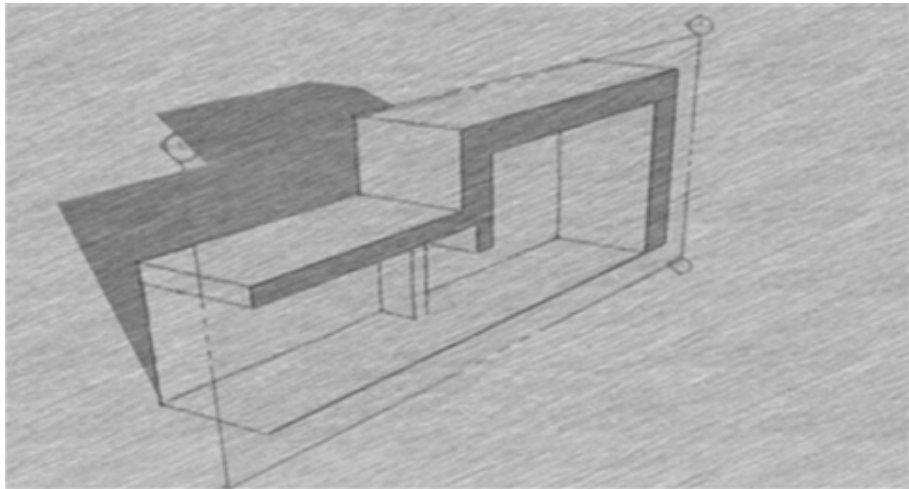


Figure 11: Tomb type II.

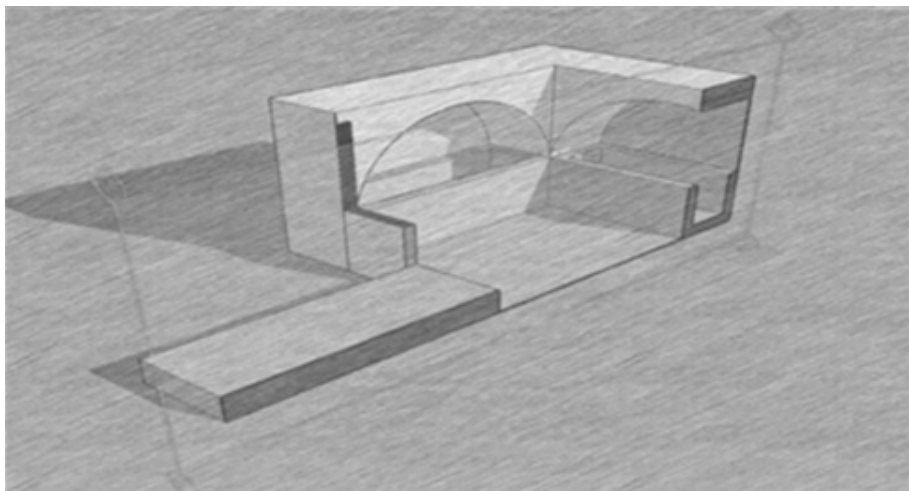


Figure 12: Tomb type III.

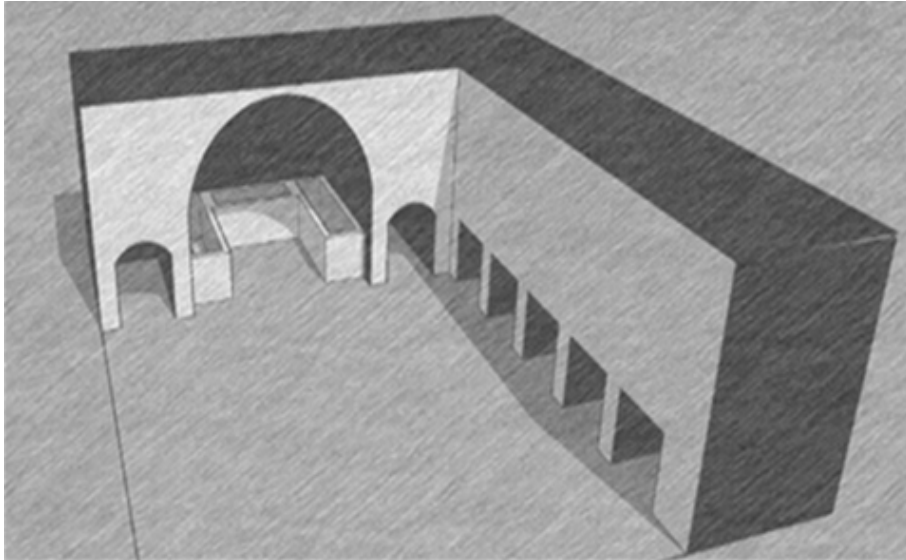


Figure 13: Tomb type IV.

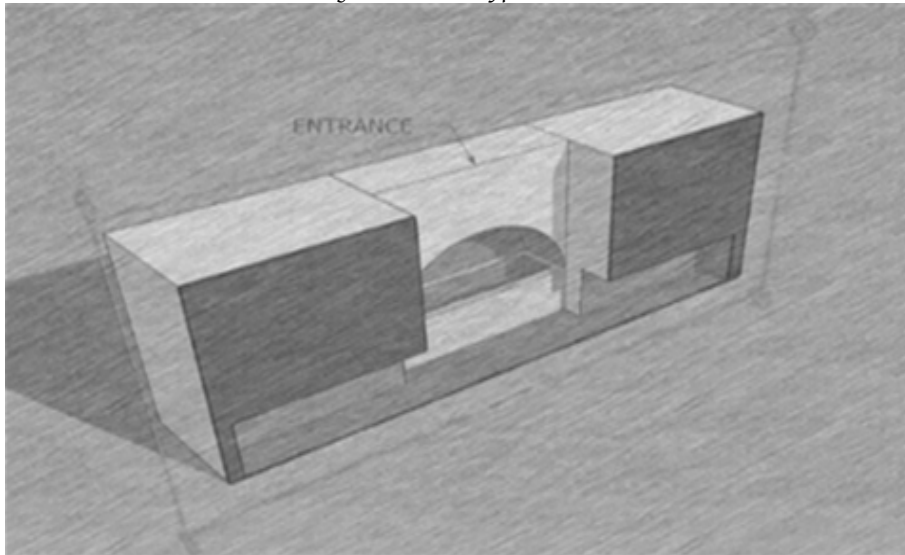


Figure 14: Tomb type Va.

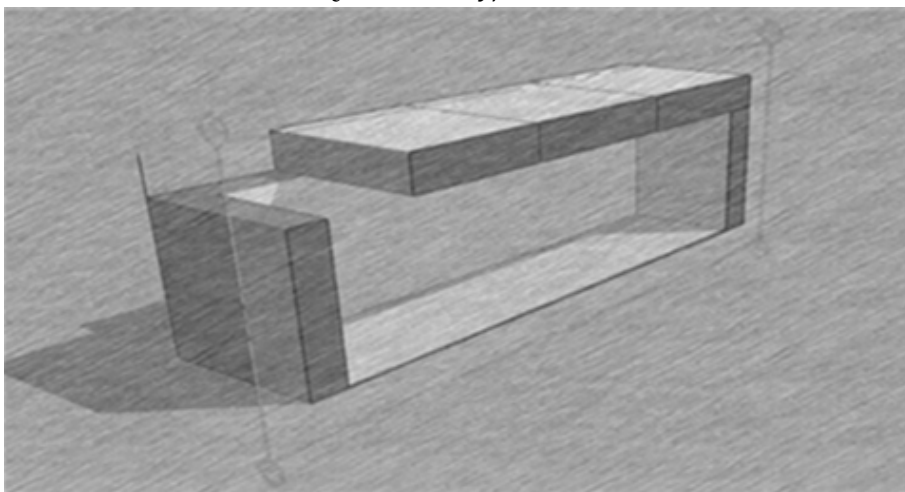
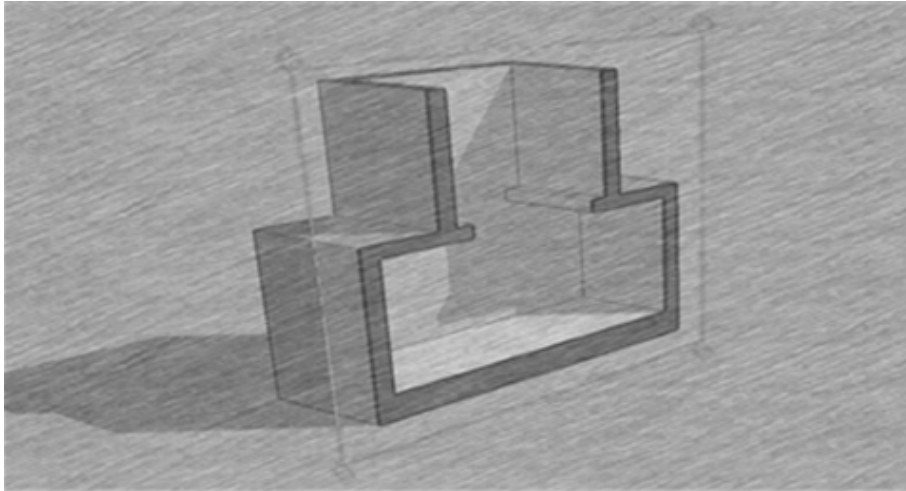


Figure 15: Tomb type Vb.



*Figure 16: Tomb type Vc.*



*Figure 17: Tomb type IX, photographed by Abdulla Al-Shorman.*

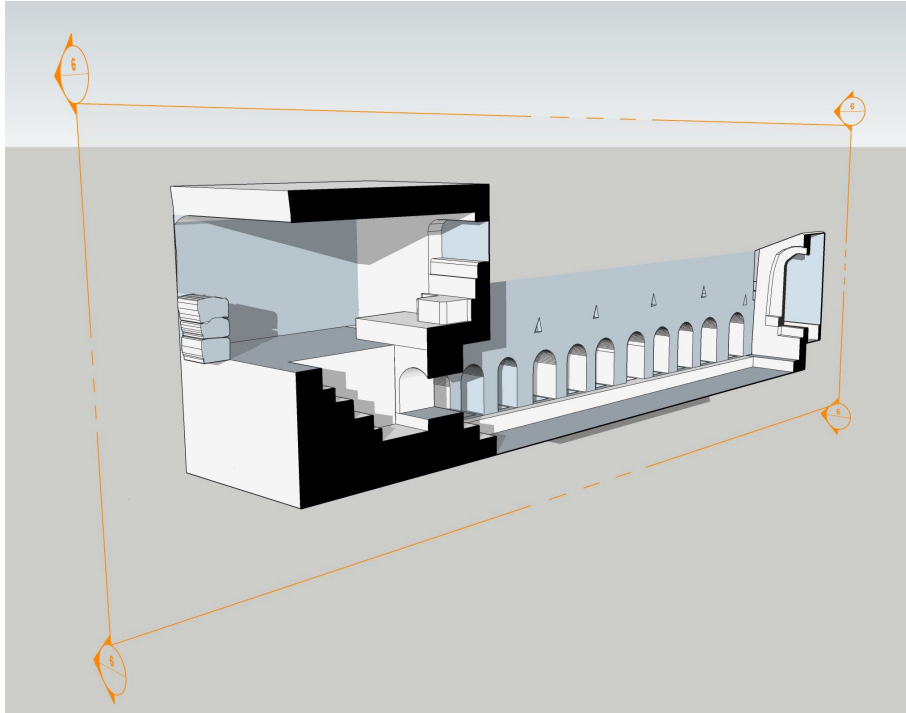


Figure 18: Tomb type XI, longitudinal section of Tomb J33. Drawn by Waleed Abu Alhayjaa

Table 3: Tomb Type Ia.

Tomb number	Date	Architecture	Source	Others
AT	LR/E Byz	10 loculi; crypt, lamp niche; 2 floor graves	Michael Fuller	
H1	LR	14 loculi; 3 lamp niches; sump	(Davis, 1983)	
H2	ER	6 loculi; 3 lamp niches	(Davis, 1983)	Copper coffin bracelets; 3 terracotta figurines; iron nails
H3	Byz	8 chamber loculi	(Fuller, 1987)	
H7	Byz	8 loculi 3 of them chamber loculi; sump	(Smith, 1989)	Nail fragments
H11	ER	10 loculi 8 of them are chamber loculi; sump; 7 lamp niches	(Smith, 1989)	Remains of wooden coffin
H12	Byz	5 loculi; floor grave	(Smith, 1989)	Nail fragments
H21	LR	12 loculi; sump	(Smith, 1990)	Coffin rings
H22	Rom	11 loculi	(Smith, 1990)	Coffin nails
H25	ER	8 chamber loculi; sump	(Smith, 1990)	Coffin nails
H26	ER	6 loculi 3 are chamber loculi; antechamber; sump	(Smith, 1990)	Remains of wooden coffin
H28	LR/E Byz	2 loculi	(Smith, 1992)	Coffin nails
H31	LR/E Byz	7 chamber loculi; sump; lamp niche	(Smith, 1992)	Coffin rings; 8 busts
H32	ER/Byz	8 loculi	(Smith, 1992)	Coffin rings Plaster; wall painting; iron nails
J1	LR	8 loculi; sump	(Davis, 1983)	
J6	LR	6 loculi; recessed burial	(Davis, 1985)	Metal nails
J21	ER	3 loculi; floor grave; pit	(Davis, 1985)	
J29	LR/E Byz	9 loculi	(Al-Shorman, 2019)	
J36	LR	11 loculi	(Al-Shorman, 2021)	
J37	LR	8 loculi	(Al-Shorman, 2021)	
J41	ER	5 loculi	(Al-shorman, 2021)	
K1	ER/Byz	15 loculi; 1 floor grave; 2 lamp niches; 2 loculi	(Davis, 1985)	

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
		outside entrance; 3 loculi with trough graves; 4 loculi with stone-cut pillows		
L3	ER	11 loculi	(Fuller, 1987)	
L5	ER	12 loculi; 8 sarcophagi; 2 busts; wall paintings	(Fuller, 1987)	
L15	L Hel/ER	5 loculi 1 of them is chamber loculi	(Fuller, 1987)	4 wooden bosses; iron coffin rings
L76	LR/E Byz	4 chamber loculi	(Al-Shorman, 2019)	
L17-Q5	LR/E Byz	2 chambers; 17 loculi; 1 floor grave	(Fuller, 1987)	
L90	LR	8 loculi; 1 unfinished loculi	(Al-Shorman, 2019)	
Q4	LR	3 chambers; 29 loculi	Michael Fuller	

*Table 4: Tomb Type Ib.*

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
H6	LR	2 tiers of loculi (10 in the upper and 9 in the lower), 1 underground loculi	(Smith, 1989)	Plaster, anthropoid figure
K4	ER/L Byz	2 tiers loculi (14 in the upper and 16 in the lower); 2 floor graves	(Fuller, 1987)	Remains of wooden coffin
L3a	LR	2 tiers of loculi (10 in the upper and 14 in the lower); 3 floor graves; 1 sarcophagus lid	(Al-Shorman, 2019)	Robbed and cleared by the Department of Antiquities

*Table 5: Tomb Type II.*

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
H5	Byz	1 loculus	(Smith, 1989)	Metal fragments of a wooden coffin
H10	LB/IA	1 rectangular chamber no loculi	(Smith, 1989)	

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
H13	MB/LB	1 rectangular chamber no loculi	(Smith, 1989)	
J7	E Byz	1 rounded chamber no loculi	(Davis, 1985)	
J8	Byz	1 loculus	(Davis, 1985)	
J12	Byz	1 small chamber	(Davis, 1985)	
J26	EB	1 small chamber	(Al-Shorman, 2020)	
J27	LR/EB	1 small chamber	(Al-Shorman, 2020)	
J28	LR	1 small chamber	(Al-Shorman, 2020)	
J38	LR	1 small chamber	(Al-Shorman, 2021)	
L18	LR/E Byz	1 small, rounded chamber	(Smith, 1990)	
L86	Rom/Byz	1 rectangular chamber with 3 graves	(Al-Shorman, 2019)	
L74	LR/Byz	1 rectangular chamber	(Al-Shorman, 2019)	
L77	LR/Byz	1 rectangular chamber	(Al-Shorman, 2019)	

*Table 6: Tomb Type III.*

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
J3	E Byz	1 chamber; 3 arcosolia with 3 graves and stone-cut pillows	(Davis, 1983)	
J4	E Byz	1 chamber; 3 arcosolia with graves and 2 stone-cut pillows	(Davis, 1983)	
J13	E Byz	1 chamber; 2 arcosolia with 2 graves	(Davis, 1985)	
L2	Byz	1 chamber; 3 arcosolia; 2 graves; 2 stone-cut pillows	(Fuller, 1987)	
L10	Byz	1 chamber; 3 arcosolia with 3 graves	(Fuller, 1987)	
L21	Byz	1 chamber; 3 arcosolia with 3 graves and stone pillows	(Smith, 1990)	
L79	Byz	1 rectangular chamber; 3 arcosolia, 3 graves.	(Al-Shorman, 2019)	

Tomb number	Date	Architecture	Source	Others
L81	Byz	1 rectangular chamber; 3 arcosolia, 3 graves.	(Al-Shorman, 2019)	
L82	Byz	1 rectangular chamber; 3 arcosolia, 3 graves.	(Al-Shorman, 2019)	
L84	Byz	1 chamber; 3 arcosolia with 3 graves	(Al-Shorman, 2019)	
N1	Byz	1 chamber; 3 arcosolia with 3 graves; 1 shaft grave outside the entrance	Department of Antiquities of Jordan, Al-Shorman 2019	

Table 7: Tomb Type IV.

Tomb number	Date	Architecture	Source	Others
H38	ER	1 chamber; 2 alcoves; 8 loculi	(Smith, 1992)	Fragments of metal coffin rings
H60	LR	1 chamber; 1 antechamber; 4 arcosolia; 1 grave; 3 sarcophagi; 3 niches for funerary busts; sculptures; fresco;	(Mare, 1997)	
L4	LR/Byz	1 large rectangular chamber; 2 tiers loculi (the upper are 18 and the lower are 24); 4 graves; 1 sunken loculi	(Al-Shorman, 2019)	Cleared by the Department of Antiquities
L11	E Byz	1 chamber; 2 loculi; 1 arcosolium	(Fuller , 1987)	
L69	LR/Byz	1 rectangular chamber; 2 tiers of loculi (the upper are 9 and the lower are 9); 1 arcosolium; 1 niche	(Al-Shorman, 2019)	
L70	LR/Byz	1 rectangular chamber; 2 tiers of loculi (the upper are 18 and the lower are 15); 1 arcosolium; 4 niches; 1 trough grave; 1 sunken grave	(Al-Shorman, 2019)	
L72	LR	1 rectangular chamber; 2 tiers of loculi (the upper	(Al-Shorman, 2019)	

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
L75	LR	are 19 and the lower are 14); 1 arcosolium; 1 stone sarcophagus 1 rectangular chamber; 2 tiers of loculi (the upper are 11 and the lower are 14); 1 arcosolium; 2 niches; 1 3 stone sarcophagi	(Al-Shorman, 2019)	
L88	LR	1 rectangular chamber, 1 upper loculus, 5 lower loculi; 1 arcosolium; 2 niches; 1 floor grave	(Al-Shorman, 2019)	
L89	LR/Byz	1 rectangular chamber; 3 arcosolia; 2 tiers loculi (the upper are 9 and the lower are 9), 11 graves	(Al-Shorman, 2019)	

*Table 8: Tomb Type Va.*

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
L6	Byz	3 loculi in 2 walls	(Fuller, 1987)	
L8	Byz	1 loculus; 1 arcosolium	(Fuller, 1987)	

*Table 9: Tomb Type Vb.*

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
H8	Hel	Vertical shaft ending in single grave	(Smith, 1989)	
H9	Hel	Vertical shaft ending in single grave	(Smith, 1989)	
H20	Rom	Vertical shaft ending in loculus	(Smith, 1990)	
H23	Rom/Byz	Vertical shaft ending in single grave	(Smith, 1990)	
H24	Rom/Byz	Wide vertical shaft ending in a single grave	(Smith, 1990)	
H29	Rom	Vertical shaft ending in single grave	(Smith, 1992)	Bust

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
H30	LR/E Byz	Vertical shaft ending in single grave	(Smith, 1992)	
H33	LR	Vertical shaft ending in single grave	(Smith, 1992)	
H34	LR/E Byz	Vertical shaft ending in single grave	(Smith, 1992)	
H35	LR/E Byz	Vertical shaft ending in single grave	(Smith, 1992)	
H37	LR/E Byz	Vertical shaft ending in single grave	(Smith, 1992)	
H42	Rom/Byz	Vertical shaft ending in single grave	Smith, 1996	
H51	ER	Vertical shaft ending in single grave	(Smith, 1996)	Drawn by Al-Shorman
H52	ER	Vertical shaft ending in single grave	(Smith, 1996)	Similar to H51
J9	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J10	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J11	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J14	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J15	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J18	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J22	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J23	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J24	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
J25	Byz	Vertical shaft ending in single grave	(Davis, 1985)	
L19	LR/Byz	Deep vertical shaft ending in single grave	(Smith, 1990)	
L20	LR/E Byz	Vertical shaft ending in single grave	(Smith, 1990)	
L87	Byz	Vertical shaft ending in single grave	(Al-Shorman, 2019)	

Table 10: Tomb Type Vc.

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
J5	LR	Vertical shaft ending in a single chamber	(Davis, 1983)	
L7	Byz	Vertical shaft ending in a single chamber; floor grave	(Fuller, 1987)	
L16	L Hel/ER	Vertical shaft ending in a single chamber	(Fuller, 1987)	

Table 11: Tomb Type Vd.

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
K2	Rom	Buried basalt sarcophagus	(Davis, 1985)	
L66	Rom	Stone sarcophagus in the open air	(Al-Shorman, 2019)	

Table 12: Tomb Type VI.

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
J32	LR/EB	Natural cave without loculi	(Al-Shorman, 2020)	
L73	Rom/Byz	Natural cave with 6 loculi	(Al-Shorman, 2019)	
L68	Rom/Byz	Natural cave without loculi	(Al-Shorman, 2019)	
L67	Rom/Byz	Natural cave without loculi	(Al-Shorman, 2019)	

Table 13: Tomb Type VIII.

<b>Tomb number</b>	<b>Date</b>	<b>Architecture</b>	<b>Source</b>	<b>Others</b>
L12	Rom	Hewn stones built above the ground	(Al-Shorman, 2019)	

Table 14: Tomb Type IX.

Tomb number	Date	Architecture	Source	Others
L13	LR/Byz	1 chamber; 13 loculi; 1 arcosolium; ionic columns near entrance; 2 raised relief columns in the chamber, 1 loculus, 1 grave inside arcosolium with stone-cut graves; 2 stone sarcophagi; 2 busts; fresco	(Fuller, 1987)	

Table 15: Tomb Type X, Columbaria.

Columbarium	Date	Architecture	Source	Others
L91	Rom	Unexcavated, 6 holes exposed	(Al-Shorman, 2019)	
H61		Excavated, hundreds of holes	Michael Fuller	
M2		Excavated, 8 holes were exposed	(Al-Shorman, 2019)	

Table 16: Tomb Type XI.

Tomb number	Date	Architecture	Source	Others
J33	LR	1 chamber with an altar and an entrance to the second chamber, a lower second chamber with 11 loculai on each side and a grave at the end of the tunnel. Five oil lamp niches on each side (unused). No grave goods.	(Al-Shorman, 2021)	Fragments of metal coffin nails in the 1 <sup>st</sup> chamber

## DESCRIPTION OF ABILA TOMBS

This chapter describes each tomb in each category with reference to the top plan and photographs. A total of 14 types was found spanning the period from the Middle Bronze Age to the Late Byzantine period. The source of information, description, finds, date, and top plan page number is given to each tomb.

### **TOMB TYPE IA: CHAMBER TOMBS WITH LOCULI RADIATING FROM THE CHAMBER – ONE TIER.**

#### Tomb AB, Apse Tomb

*Source of information:* Prof. Michael Fuller, St. Louis Community College.

*Describing:* This tomb was first drawn by Michael Fuller in 1980 but not excavated. It is basically a rectangular chamber tomb (7.9 m × 4.5 m) with 10 loculi (the average width is 0.74 m and 2.48 m in depth). The tomb has a crypt opposing the loculi and a niche for an oil lamp with a cross carved above. Two floor graves were carved between the apse and the two other loculi. The entrance of the tomb is about 1.30 m.

*Finds:* Not excavated.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 85.

#### Tomb H1

*Source of information:* (Davis, 1983).

*Description:* The tomb has a central chamber (5 m × 4.2 m) with a square sump in the middle. It has 14 irregular loculi arranged on all four walls. The loculi 12, 13 and 14 are chamber loculi, while the others are small ones measuring on average 0.68 m × 2.17 m. According to (Davis, 1983), the chamber and loculi 1-8 were cut first during the Late Roman period and that the other loculi were cut during the Early Byzantine period. He also noted that the Greek inscription and the bas-relief of a man were added during this period. Another two Early Byzantine reliefs were found in the ceiling depicting angels. The tomb was not used during the Late Byzantine period. There are 3 empty niches, one is located inside the left side of the entrance, another between loculi 6 and 7, and the third is located above loculus 11.

*Finds:* Pottery sherds.

*Date:* Late Roman and then modified and reused during the Early Byzantine period.

*Top plan page:* 86

#### Tomb H2

*Source of information:* (Davis, 1983).

*Description:* The tomb is accessed via a doorway of about 3.56 m ending in an entrance of about 0.92 m. There are three steps in the middle of the doorway. The tomb has a central chamber (1.87 m × 2.05 m) with 6 loculi of about the same size (0.6 m wide and 1.9 m deep). The entrance of the tomb was found sealed with three rectangular stones positioned on two stone ledges. The tomb had two lamp niches.

*Finds:* Oil lamps and oil lamp fragments, iron nails in five of the six loculi indicating the presence of wooden coffins, glass pieces, juglets, bowls, bracelets, an alabaster vase, rings, beads, buttons, a bone tool, a fibula, a basalt mortar, and terracotta figurines (associated with Greco-Roman mythology).

Seventeen individuals, both male and female, and ranging in ages from newborn to adult were buried within the tomb.

*Date:* Early Roman

*Top plan page:* 87.

### Tomb H3

*Source of information:* (Fuller, 1987)

*Description:* The entrance of the tomb (1.2 m) leads via a dromos with six steps to a rectangular chamber (4.9 m × 3.1 m) with 8 chamber loculi; the largest is 3.32 m × 1.7 m, and the smallest is 1.45 m × 2.06 m. There is a rectangular sump in the middle of the chamber measuring 3.96 m × 2.43 m. Two stone ledges were found on both sides of the dromos for sealing stones. A triangular lamp niche was found between each two loculi.

*Finds:* Pottery and lamp fragments. An inscribed sherd fragment from a bag jar was found in the tomb and reads “Belong to Apotizesos”.

*Date:* Byzantine

*Top plan page:* 89.

### Tomb H7

*Source of information:* (Smith, 1989).

*Description:* The entrance of the tomb is 0.86 m that leads via a dromos (2.34 m) with two stone ledges to a small rectangular chamber with 8 radiating loculi. Four of the loculi were chamber ones. The chamber measured 2.43 m × 2.77 m, and the sump is 1.66 m × 1.82 m. Loculi 14 had evidence to enlarge it during a latter phase of reuse.

*Finds:* Pottery fragments, iron nail fragments, broken human bones.

*Date:* Byzantine.

*Top plan page:* 90

### Tomb H11

*Source of information:* (Smith, 1989).

*Description:* The doorway of the tomb started with 3 irregular steps then a dromos of about 2.19 m leading to an entrance of about 0.89 m in width and 1.22 m in height. The entrance leads to a rectangular chamber (5.70 m × 4.76 m). The tomb contained 10 radiating loculi; two of them were small loculi and eight were chamber loculi. A recessed arched lintel surmounted each loculus. A sump was found in the middle of the chamber and measured 3.46 m × 2.23 m with a pit on its eastern edge (1.16 m deep). The chamber loculi contained evidence of decayed wooden sarcophagi. Seven lamp niches were found between loculi.

*Finds:* Iron nail fragments, pottery sherds, beads, a small scarab, oil lamp, a big jar, and two bas-reliefs.

*Date:* Early Roman.

*Top plan pages:* 92.

### Tomb H12

*Source of information:* (Smith, 1989)

*Description:* The entrance of the tomb is 0.74 m and leads to a rectangular chamber (2.50 m × 2.83 m). There were five radiating loculi from the chamber and a sunken grave near loculi 2. The average width and depth of the loculi were 0.56 m and 1.65 m respectively.

*Finds:* Pottery sherds and iron nail fragments indicating the presence of wooden coffins.

*Date:* Byzantine.

*Top plan page:* 95.

#### Tomb H21

*Source of information:* (Smith, 1990).

*Description:* The entrance of the tomb is 0.62 m that leads to a rectangular chamber (3.11 m × 4.50 m) with 12 radiating loculi; 2 of them were chamber loculi (3 and 7). The chamber had a sump in the middle measuring 2.32 m × 3.38 m. this tomb intersects with Tomb H22 and demonstrates the improper decision of new tombs.

*Finds:* Iron coffin rings for wooden sarcophagi.

*Date:* Late Roman.

*Top plan page:* 96.

#### Tomb H22

*Source of information:* (Smith, 1990).

*Description:* the entrance of the tomb is 0.97 m that leads to a rectangular chamber (5.33 m × 4.07 m) with 11 loculi. the entrance did not look west as the other tombs in area H. the loculi were sealed with boulders and were plastered.

*Finds:* iron coffin rings.

*Date:* Roman.

*Top plan page:* 97.

#### Tomb H25

*Source of information:* (Smith, 1990).

*Description:* The tomb had a long and wide dromos (2.37 m × 1.36 m). The entrance is 0.95 m that leads to a rectangular chamber (4.97 m × 3.18 m), which has 8 radiating chamber loculi and a sump in the middle (2 m × 2.77 m).

*Finds:* Big jars, cooking pots, wood fragments, coffin nails, gold earrings, spindle whorls, an oil lamp, beads, and bronze rings.

*Date:* Early Roman.

*Top plan page:* 98.

#### Tomb H26

*Source of information:* (Smith, 1990).

*Description:* The doorway to the tomb is about 1 m wide leading to 5 steps then a dromos of about 1.6 m in length and 0.90 m in width. The entrance of the tomb is also about 0.90 m in width that leads to two steps then the central chamber. On the right side of the dromos, an antechamber was found with 2 shallow niches. The chamber has 4 radiating chamber loculi; one of them was small. Evidence of wooden coffin was present.

*Finds:* Four intact big jars, oil lamps, gold earrings, basalt incense burner.

*Date:* Early Roman.

*Top plan page:* 99.

## Tomb H28

*Source of information:* (Smith, 1992).

*Description:* The tomb has a short dromos leading to a narrow entrance (1 m wide and 0.95 m high). The small chamber of the tomb has two irregular radiating loculi.

*Finds:* Big jars, cook pots, coffin nails, coffin rings, glass sherds, bronze bangle, a small unguentarium, an oil lamp, a gold earring, a small bronze bracelet, a crystal pendant, a spindle whorl, glass beads, and a metal ring.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 100.

## Tomb H31

*Source of information:* (Smith, 1992).

*Description:* The tomb has a dromos and antechamber around it with a niche. The stepped dromos leads to a rectangular chamber (3.5 m × 4.8 m). The chamber contained 8 chamber loculi and a sump in the middle (2.4 m × 3.9 m × 0.35 m).

*Finds:* Pottery sherds, wood and metal fragments from coffins, an iron ring with engraved gemstone, ring fragments, a bronze pin, two unguentaria, spindle whorls, and a bone fibula.

*Date:* Late Bronze/Early Byzantine

*Top plan page:* 102.

## Tomb H32

*Source of information:* (Smith, 1992).

*Description:* The tomb has a long dromos (2.60 m) that leads to an entrance of about 0.67 m. The chamber is rectangular in shape (2.60 m × 2.77 m) with 8 radiating loculi. The chamber is about 0.25 m below the level of the entrance.

*Finds:* An intact juglet, a wire bracelet, a spindle whorl, small beads, a small glass, pot sherds, earrings, metal rings, and an amethyst Bead.

*Date:* Early Roman/Byzantine.

*Top plan page:* 104.

## Tomb J1

*Source of information:* (Davis, 1983).

*Description:* The access of the tomb is a vertical shaft that was blocked by sealing stones. The entrance is about 1 m wide and 1.30 high. The chamber of the tomb is almost square and measures 3.40 m × 3.40 m. Eight loculi were radiating from the chamber, and stepped sump was found in the middle of the central chamber measuring 2.45 m on each side.

*Finds:* Plasters and paintings on the walls, iron nails and bronze straps.

*Date:* Late Roman.

*Top plan page:* 105.

## Tomb J6

*Source of information:* (Davis, 1985).

*Description:* The entrance of the tomb is about 1.5 m leading to a square chamber that measures 4.95 m × 4.95 m. The chamber has 6 loculi, four of them radiated from the southwest wall and 2 from the northwest wall. A recessed burial was found at the northeast wall.

*Finds:* A metal bracelet, a metal hinge spikes and iron nails for wooden coffins.

*Date:* Late Roman.

*Top plan page:* 106.

#### Tomb K1

*Source of information:* (Davis, 1985).

*Description:* Before the entrance of the tomb, there are 2 loculi in the west wall; these loculi contained disarticulated bones, probably served as ossilegium. The entrance is about 1 m wide that leads to a rectangular chamber (4.13 m × 2.95 m). The chamber has 15 radiating loculi and a Byzantine floor grave; most of them were sealed and plastered. Shallow trough graves had been cut in the floor of loculi 10, 11 and 18, and pillows in loculi 6, 8, 13 and 14. An oil lamp niche was found between loculi 7 and 8. The tomb was prepared in phases as indicated by the varied tool marks. Although the tomb is typically Late Roman, the major expansion and use took place during the Byzantine period.

*Finds:* Pottery sherds, oil lamps, beads, earrings, bracelets, coins, bowls, cooking pots, juglets, glass unguentaria, and 9 limestone busts.

*Date:* Early Roman/Byzantine.

*Top plan page:* 112.

#### Tomb J21

*Source of information:* (Davis, 1985).

*Description:* This is a small chamber tomb with 3 radiating and sealed loculi and a floor grave sealed with 5 rectangular stones. Sealing of the loculi probably took place during the Late Byzantine period. The entrance of the tomb is about 0.72 m wide and the chamber is 2.62 m × 2.60 m. although the tomb is relatively small, osteological analysis indicated 11 individuals.

*Finds:* A juglet, a lamp filler, a glass bracelet, animal bones of chicken and sheep probably indicating funerary food offerings, and a spatula, oil lamps.

*Date:* Early Roman.

*Top plan page:* 114.

#### Tomb J29

*Source of information:* (Al-Shorman, 2019).

*Description:* this is a small rectangular chamber tomb with 9 radiating loculi. the entrance of the tomb is about 0.79 m in the chamber is 3.2 m × 3.6 m.

*Finds:* Pottery fragments.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 107.

#### Tomb J36

*Source of information:* (Al-Shorman, 2021).

*Description:* this is a medium-sized chamber tomb with 11 radiating loculi and a sump in the center of the chamber. All of the loculi are single ones. The entrance of the tomb is about 0.9 m accessed through a 2 m doorway.

*Finds:* Robbed.

*Date:* Late Roman.

*Top plan page:* 108.

### Tomb J37

*Source of information:* (Al-Shorman, 2021).

*Description:* this is a medium-sized chamber tomb with 8 radiating loculi and a sump in the center of the chamber. Four of the loculi are double ones. The entrance of the tomb is about 0.52 m accessed through a 2.56 m doorway.

*Finds:* Robbed.

*Date:* Late Roman.

*Top plan:* 107.

### Tomb 41

*Source of information:* (Al-Shorman, 2019).

*Description:* this is a medium-sized chamber tomb with 4 radiating loculi (5.5 × 6.6 m). A chamber tomb is situated next to it where the wall that separates them had been collapsed. The entrance of the tomb is about 1.8 m wide. The tomb was found robbed and cleared.

*Finds:* robbed.

*Date:* Late Roman/Early Byzantine.

*Top plan:* 110.

### Tomb L3

*Source of information:* (Fuller, 1987).

*Description:* The entrance of the tomb is about 1.47 m wide leading to a small chamber (2.90 m × 3 m). The chamber has 10 radiating loculi and a sump in the middle.

*Finds:* Three Roman and Byzantine lamps, and pottery sherds.

*Date:* Early Roman/Byzantine.

*Top plan page:* 115.

### Tomb L5

*Source of information:* (Wineland, 2001).

*Description:* the tomb has f graves and an arcosolium. The entrance of the tomb is about 1.12 m leading to a rectangular chamber (6.61 m × 3.92 m) and 12 radiating loculi. The tomb is decorated with paint, carved columns and geometric patterns. The façade of the tomb has three figures, one over the entrance way, and one on either side of the entrance. The eastern wall of the tomb was collapsed. There is evidence of 8 stone sarcophagi in the central chamber. The tomb has a dated painted inscription that reads “Marcia daughter of Sosibios was buried on March 21, AD 151-152”. There is a fresco depicting two robed women appears above a painted column and a capital. Another fresco depicts birds and a rabbit eating grapes. There are portraits, presumably of the deceased, painted on the walls.

*Finds:* Eighty-five oil lamps, an iron signet ring, two limestone busts,

*Date:* Late Roman.

*Top plan page:* 116.

## Tomb L15

*Source of information:* (Fuller, 1987).

*Description:* The tomb was found intact. The entrance of the tomb is about 0.72 m preceded by 4 steps and a dromos. The chamber (2.57 m × 2.45 m) had one radiating double loculi and 4 smaller ones.

*Finds:* A burnt incense, a mortar, a grinder, oil lamps, a Roman jar, a cooking pot, a miniature bowl, a glass unguentarium, a glass vessel, wooden fragments, spindle whorls, a fibula, a bronze medallion, earrings, a bracelet, a disk, a bell, shells, glass beads, an iron signet ring with an oval stone engraved with the image of two grazing cows, and iron nails indicating the presence of wooden coffins. Loculus one contained the remains of a five year female child, spindle whorls, a bronze cosmetic spatula, bronze bell, earring, and cowrie shell. Loculus two had the remains of a wooden coffin, a 35-year-old female, spindle whorls, glass beads, and an iron signet ring with the image of two grazing cows. Loculus three contained the remains of three individuals, a female of 25-35 years, seven- to eight-year-old child, and an infant. The grave goods in this loculus include a bronze fibula, an earring, a ring, glass beads, a 4 BC to 6 AD bronze coin. Loculus four contained the remains of a 17-20-year-old female and a bronze coin. The grave goods in this loculi include a bronze bracelet, a ceramic juglet, a needle, an iron ring, and a glass unguentarium was found in the left hand of the deceased.

*Date:* Late Hellenistic/Early Roman

*Top plan page:* 117.

## Tomb L76

*Source of information:* (Al-Shorman, 2019).

*Description:* The entrance of the tomb is about 0.6 m wide and 1.22 m high with stone ledges on both sides. The chamber is small (3 m × 2.5 m) and has 3 large radiating loculi at the eastern wall and a chamber loculi at the northern wall. The tomb was disturbed and robbed in recent times.

*Finds:* Pottery sherds and iron fragments of a wooden coffin.

*Date:* Late Roman/early Byzantine.

*Top plan page:* 118.

## Tomb L17

*Source of information:* (Fuller, 1987).

*Description:* The tomb has 2 chambers, seventeen loculi, frescoes and a floor grave. Two of the loculi were sealed, plastered and painted.

*Finds:* The tomb was robbed where fragments of oil lamps were left.

*Date:* Late Roman/Byzantine.

*Top plan page:* Not drawn.

## Tomb L90

*Source of information:* (Al-Shorman, 2019).

*Description:* The entrance of the tomb is about 2.24 m that leads to an irregular chamber (6.75 m × a maximum width of about 4.5 m). The chamber has 6 loculi and an unfinished one at the western wall. Two small loculi were radiating from loculi 7 probably for children. The tomb was severely disturbed. Tomb robbers accessed the tomb via a hole in the floor of Tomb L87, which is located above loculus 7.

*Finds:* Pottery sherds, iron fragments, glass fragments and fragments of an iron bracelet.

*Date:* Early Roman.

*Top plan page:* 119.

## Tomb Q4

*Source of information:* Professor Michael Fuller, St. Louis Community College.

*Description:* The tomb is very large with 2 entrances and 2 chambers. It had 29 loculi, three burial chambers, four graves and three sarcophagi. It is of the painted tombs at the site.

*Finds:* Cleared by the Department of Antiquities of Jordan.

*Date:* Late Roman.

*Top plan page:* 120.

## **TOMB TYPE IB: CHAMBER TOMBS WITH TWO TIERS OF LOCULI RADIATING FROM THE CENTRAL CHAMBER**

### **Tomb H6**

*Source of information:* (Smith, 1989).

*Description:* The entrance of the tomb has a basalt door (1.2 m wide and 1.25 m high) and leads to a rectangular chamber (5.51 m × 4.41 m). The exterior of the door imitates wooden doors. The chamber had 2 tiers of loculi; the first tier had 10 loculi and the second tier had 9 loculi. The chamber had a floor grave. Some of the loculi were sealed, plastered and painted.

*Finds:* Pottery sherds, twenty-eight oil lamps, glass and metal fragments, a spindle whorl, a bronze ring, sixteen anthropoid busts, earrings, and beads. A preserved fragment of a funerary inscription indicates that a man named Dionysius was buried in this tomb. An inscribed sherd from a large bag jar reads “belong to Trajan”.

*Date:* Late Roman.

*Top plan page:* 122.

### **Tomb K4**

*Source of information:* (Fuller, 1987).

*Description:* The entrance of the tomb has a basalt door (0.88 m wide and 1.25 m high) leading to a rectangular chamber (5.63 m × 3.73 m). The chamber had 2 tiers of loculi; the first tier had 16 loculi and the second tier had 14 loculi. In addition, the chamber had 2 floor graves one on the west wall and the other on the south wall. Some of the loculi were found sealed with stones.

*Finds:* Sixteen Roman and Byzantine oil lamps, copper and bronze bracelets, bronze beads, and a gold hoop earring that was found associated with a female burial. Other finds include beads, fragments of iron bracelets, a bone pendant, a bronze cylinder, a silver cap for a tube, a bronze ring and pottery fragments.

*Date:* Early Roman.

*Top plan page:* 124.

### **Tomb L3a**

*Source of information:* (Al-Shorman, 2019).

*Description:* This tomb was excavated and cleared by the Department of Antiquities of Jordan. It was mapped by Al-Shorman (2019). The entrance of the tomb is 1.11 m that leads to a rectangular chamber (7.9 m × 5.21 m). The tomb had 2 tiers of loculi; the first tier contained 13 radiating loculi, while the second tier contained 12 loculi. Two floor graves, two sunken loculi and a sarcophagus lid were found in the central chamber.

*Finds:* The tomb was cleared by the Department of Antiquities of Jordan.

*Date:* Late Roman.

*Top plan page:* 125.

## **TOMB TYPE II: HORIZONTAL SHAFT TOMBS CUT INTO THE HILLSIDE, ENDING IN A LOCULUS OR CHAMBER**

### Tomb H5

*Source of information:* (Smith, 1989).

*Description:* The seal at the entrance of the tomb was broken. The tomb contained a single loculus 2.5 m long, 1.1 m wide and 0.9 m high.

*Finds:* Ribbed bag jar sherds and flat pieces of metal indicating a wooden coffin.

*Date:* Byzantine.

*Top plan page:* 127.

### Tomb H10

*Source of information:* (Smith, 1989).

*Description:* This tomb was described by Smith (1989) and drawn by Al-Shorman (1999). It is a horizontal shaft tomb that ends in a rectangular chamber (2.2 m× 0.7 m and 1.15 m high). It was cut for a single adult burial.

*Finds:* Pottery sherds.

*Date:* Late Bronze/Iron I

*Top plan page:* 128.

### Tomb H13

*Source of information:* (Smith, 1989).

*Description:* This tomb was described by Smith (1989) and drawn by Al-Shorman (2019). The entrance of the tomb is 0.7 m wide and 0.8 m high. The chamber is almost square with a side of about 1 m. The head of the chamber is also about 1 m.

*Finds:* Five metal rings, five juglets, a bowl, an oil lamp, a hollow ceramic object and a bronze dagger.

*Date:* Middle Bronze/Late Bronze.

*Top plan page:* 129.

### Tomb J7

*Source of information:* (Davis, 1985).

*Description:* This tomb was described by Davis (1985) and drawn by Al-Shorman (2019). It is mainly a small, rounded chamber with the entrance cut into the west side.

*Finds:* An iron ring and pottery sherds.

*Date:* Early Byzantine.

*Top plan page:* 130.

### Tomb J8

*Source of information:* (Davis, 1985).

*Description:* The tomb was described by Davis (1985) and drawn by Al-Shorman (2019). It is a horizontal shaft tomb that ends in a single loculus with ledges for sealing stones.

*Finds:* Pottery sherds.

*Date:* Byzantine.

*Top plan page:* 131.

#### Tomb J12

*Source of information:* (Davis, 1985).

*Description:* This tomb was described by Davis (1985) and drawn by Al-Shorman (2019). The entrance of the tomb was sealed with stones and leads to a small chamber, which is rounded on all sides except the west one. It was cut for one adult burial.

*Finds:* An iron spike.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb J26

*Source of information:* (Al-Shorman, 2020).

*Description:* the tomb has a small rectangular chamber with an irregular entrance lined up with hewed rectangular stones. The entrance is about 0.6 m wide, and the height of the chamber is about 0.7 m.

*Finds:* Robbed.

*Date:* Early Byzantine.

*Top plan page:* 132.

#### Tomb J27

*Source of information:* (Al-Shorman, 2020).

*Description:* This tomb was found intact and revealed 2 skeletons laying in an extended position on the back, a male and a female. The female has a bronze ring in one of the fingers. The entrance of the tomb is about 0.70 m wide, and the maximum width is about 0.65 m. The height of the tomb is about 0.95 m at the entrances and slopes to the back reaching 0.6 m at the end.

*Finds:* Bronze ring, pottery cooking pot.

*Date:* Late Roman/Early Byzantine.

*Top plan:* 133.

#### Tomb J28

*Source of information:* (Al-Shorman, 2020).

*Description:* It is a horizontal shaft ending in a single chamber, the tomb was full of dirt. The roof has a circular void probably intended to be used a cistern, but no plaster was found on the walls. The width of the entrance is 0.78. the tomb has another collapsed entrance at the northern wall.

*Finds:* Pottery sherds.

*Date:* Late Roman.

*Top plan:* 135

#### Tomb J38

*Source of information:* (Al-Shorman, 2021).

*Description:* It is a horizontal shaft ending in a very small chamber, the tomb was full of dirt, and probably not finished. The entrance is 0.71 m wide and 0.75 m height. The tomb is accessed via a short doorway and 3 steps. It is similar to Tomb L18 a Late Roman/Early Byzantine tomb from the same site.

*Finds:* Pottery sherds.

*Date:* Late Roman.

*Top plan:* 136

#### Tomb L18

*Source of information:* (Smith, 1990).

*Description:* It was a child's tomb. The tomb has a dromos (0.70 m) that leads to a rounded chamber of about 0.55 m.

*Finds:* No bones or grave goods were recovered probably due to robbing.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 137.

#### Tomb L74

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb is a horizontal shaft ending in a single chamber, it has 2 stone ledges for sealing stones that were found fallen in the dromos. The chamber is rectangular in shape; 1.75 m wide, 1.38 m long and 1.40 m high. The entrance is 0.62 m wide and 2.2 m high.

*Finds:* Bone fragments, pottery sherds and iron fragments for a wooden coffin.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 140.

#### Tomb L77

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb is a horizontal shaft ending in a single chamber (1.5 m × 1.18 m). The dromos has 2 stone ledges for sealing stones, the entrance is 1.94 m wide and 1.25 m high.

*Finds:* Bone fragments and pottery sherds.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 141.

#### Tomb L86

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was found open. It was robbed in modern times probably after constructing the road parallel to wadi Quailbeh. The entrance of the tomb was collapsed (1 m). It leads to a rectangular chamber (2.57 m × 2 m). The tomb contained 3 floor graves: two at the east wall and one at the south wall.

*Finds:* Cleared and robbed.

*Date:* Roman/Byzantine.

*Top plan page:* 138.

### TOMB TYPE III: CHAMBER TOMBS WITH ADJOINING ARCHED-ALCOVES (ARCOSOLIA) CONTAINING SUNKEN OR TROUGH GRAVES

#### Tomb J3

*Source of information:* (Davis, 1983).

*Description:* The tomb has a small chamber with 3 arcosolia, where a grave was cut at the base of each arcosolia. The tomb was extensively robbed, and the entrance has mixed pottery sherds from the Early Roman to the Umayyad period. However, the base of the arcosolia yielded pottery that were dated to the Byzantine period, which suggest a different chronology other than that indicated by Davis (1983).

*Finds:* Pottery sherds, a bracelet, a ring, a small spatula, beads and animal bones with a metal ring around.

*Date:* Early Byzantine.

*Top plan page:* Not drawn.

#### Tomb J4

*Source of information:* (Davis, 1983).

*Description:* The tomb was robbed and kept open. There were 3 small crosses that had been carved above the entrance of the tomb, which is similar to Tomb 5 at Pella that was dated to the Byzantine period. The tomb contains a single chamber with 3 arcosolia in each of three walls. There is a trough grave at the base of each arcosolium, where 2 of them had carved pillows. The entrance of the tomb is about 0.70 m wide and 0.73 m high. Four small steps are leading to the chamber. Davis (1983) suggested a first use during the Late Roman period (early 4<sup>th</sup> century AD), which is unlikely because there were no evidence and at the same time the entrance of the tomb has carved crosses.

*Finds:* Oil lamps.

*Date:* Early Byzantine

*Top plan page:* 143.

#### Tomb J13

*Source of information:* (Davis, 1985).

*Description:* The tomb has a small chamber with 2 fine-finished arcosolia. Davis (1985) dated the first use to the Late Roman period but without evidence. However, the ceramic evidence pointed to the use during the Early and Late Byzantine periods.

*Finds:* Byzantine oil lamps, glass fragments, bowls, bracelets, beads, a gold earring, and bronze bells.

*Date:* Early Byzantine period.

*Top plan page:* 145.

#### Tomb L2

*Source of information:* (Fuller, 1987).

*Description:* This tomb was found intact. The chamber contains 3 arcosolia, where one of them was unfinished. The entrance is 1.33 m that was found sealed with 3 stones.

*Finds:* Seven Byzantine oil lamps, coins, chain bracelet, glass beads, iron rings, bronze and iron bracelets, a glass lamp filler, a glass double kohl tube and a glass funnel mouth unguentarium.

*Date:* Byzantine.

*Top plan page:* 147.

#### Tomb L10

*Source of information:* (Fuller, 1987).

*Description:* A chamber tomb with 3 arcosolia.

*Finds:* Pottery sherds, Byzantine oil lamps, glass fragments, bronze pendants, a coin, an iron bracelet, a bronze bracelet, ring fragments, small bone inlays and iron coffin ring fragments.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb L21

*Source of information:* (Smith, 1990),

*Description:* The chamber of the tomb has 3 arcosolia and 3 trough graves at each base. The entrance is about 0.95 m wide and 0.80 m high. Each trough grave has a stone-cut pillow.

*Finds:* An oil lamp, beads, a bronze ring, clothing fasteners, a fibula, bronze bangles, glass fragments and a piriform pendant.

*Date:* Byzantine.

*Top plan page:* 148.

#### Tomb H38

*Source of information:* (Smith, 1992).

*Description:* The tomb has a stepped dromos (2.57 m) with ledges for sealing stones on both sides. The entrance is about 0.98 m wide leading to a rectangular chamber (3.58 m × 3.63 m). The tomb has 8 radiating loculi, where loculi 7, 9, 12 and 14 are standard in size, while loculus 8 is large (2.30 m × 3.75 m) and probably cut from a series of pre-existing loculi. loculus 10 is also large (3.19 m × 2.25 m) and cut from 3 pre-existing loculi. Loculi 11 and 13 had been modified or expanded from standard single loculi to double or chamber loculi. The tomb was reused during the Late Roman and Byzantine periods.

*Finds:* An oil lamp, bone fragments, coffin metal fragments, gold earrings, pottery sherds, coins, rings, and an amethyst gemstone.

*Date:* Early Roman.

*Top plan page:* 155.

#### Tomb L79

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb is a horizontal shaft that ends in a rectangular chamber with 3 irregular arcosolia and 3 graves at the base of each. The entrance of the tomb is stepped; 0.5 m wide. The average depth of the graves was 0.70 m.

*Finds:* Bone fragments and pottery sherds.

*Date:* Byzantine.

*Top plan page:* 149.

#### Tomb L81

*Source of information:* (Al-Shorman, 2019).

*Description:* This tomb is similar to Tomb L79 but more precisely hewn. It is a horizontal chamber with 3 graves arranged on each side. The dromos has 2 stone ledges for sealing stones. The entrance is about 0.5 m wide and 0.65 m high.

*Finds:* Pottery sherds and bone fragments.

*Date:* Byzantine.  
*Top plan page:* 150.

#### Tomb L82

*Source of information:* (Al-Shorman, 2019).

*Description:* This tomb is similar to Tomb L81. It is a horizontal chamber with 3 arcosolia and a grave at base of each. The dromos has 2 stone ledges for sealing stones. The entrance is about 0.5 m wide and 0.65 m high. The side arcosolia were too small and probably used as child burials.

*Finds:* Pottery sherds and bone fragments.

*Date:* Byzantine.

*Top plan page:* 151.

#### Tomb L84

*Source of information:* (Al-Shorman, 2019).

*Description:* A chamber tomb with 3 arcosolia and 3 trough graves at each base. The entrance is about 0.63 m wide. The tomb was severely disturbed.

*Finds:* Pottery sherds, an oil lamp and glass fragments.

*Date:* Byzantine.

*Top plan page:* 152.

#### Tomb N1

*Source of information:* Department of Antiquities of Jordan and Al-Shorman (2019).

*Description:* The tomb was excavated by the Department of Antiquities of Jordan in 2019 and drawn by Al-Shorman (2019). The tomb was intact and revealed a mosaic floor in front of the main entrance of the chamber. This mosaic contained a shaft grave that was sealed with 4 rectangular sealing stones. The entrance of the chamber tomb was small (0.45 m wide and 0.70 m high). The chamber contained 3 arcosolia with 3 trough graves.

*Finds:* Pottery sherds and human bones.

*Date:* Byzantine.

*Top plan page:* 153.

## TOMB TYPE IV: CHAMBER TOMBS CONTAINING BOTH ARCOSOLIA AND LOCULI

### Tomb L8

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb is located by the road near wadi Quailbeh. The entrance and the associated wall were found collapsed due to road works. The chamber is rectangular in shape measuring 7.25 m long and 5.5 m wide. The tomb has 5 first tier loculi and one second tier loculi. A recessed grave was found carved at the southern wall of the chamber. It has a large alcove occupies the eastern wall of the chamber and contained two niches.

*Finds:* Not excavated.

*Date:* Late Roman.

*Top plan page:* 172.

### Tomb H60

*Source of information:* (Mare, 1997).

*Description:* The entrance of the tomb is about 1.30 m wide leading to a rectangular chamber (5.0 m × 3.75m). The chamber contained 5 arcosolia, 2 standard loculi, one lower level loculi, a niche, a floor grave on the east of the chamber, three trough graves at the base of arcosolium 15, and one trough grave at the base of arcosolium 5. Arcosolium 15 retained parts of many frescoes and a painting of young woman with a medallion and an inscription that conveyed a message of good cheer to the woman. The entry way to arcosolium 5 is ornamented on each side with carved figure of lions/lionesses and angel type sphinxes and wreaths.

*Finds:* Not available.

*Date:* Late Roman.

*Top plan page:* 156.

### Tomb L4

*Source of information:* (Al-Shorman, 2019).

*Description:* This tomb was cleared by the Department of Antiquities of Jordan. The fieldwork during the season of 2019 only documented the tomb. It is one of the complex and largest tombs at the site. The entrance of the tomb is 0.62 m wide that leads to a rectangular chamber via 3 steps (7.77 m × 6.80 m). The chamber contained a rectangular sump (6.40 m × 5.97 m). Two graves were cut at the eastern side of the sump. The tomb contained a large arcosolium at the eastern wall with 4 first tier loculi and 2 upper tier loculi. There are 2 burial chambers on each side of the arcosolium, where the southern one has 3 short loculi. The second tier loculi has 18 standard loculi except for loculi 43, which is a double loculi. The second tier loculi number 37 was expanded to include 2 trough graves. The tomb contained parts of survived frescoes.

*Finds:* Not available.

*Date:* Late Roman/Byzantine.

*Top plan page:* 157.

### Tomb L11

*Source of information:* (Fuller, 1987).

*Description:* This chamber tomb consists of 2 loculi cut in the south wall and one arcosolium cut in the east wall. The tomb is a typical Byzantine tomb, which resembles the Byzantine tombs in Type III.

*Finds:* One complete bone and pottery sherds.

*Date:* Early Byzantine.  
*Top plan page:* 158.

#### Tomb L69

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was not excavated because it was severely disturbed by robbers and damaged. The tomb was full of dirt and used recently as a dumb area. The entrance of the tomb is 1.83 m leading to a rectangular chamber (9.70 m × 4.80 m). The northeastern wall has a large alcove with 2 standard loculi and a niche. It has 7 first tier loculi and 9 second tier loculi. The southwestern wall was collapsed.

*Finds:* Not excavated.

*Date:* Late Roman.

*Top plan page:* 159.

#### Tomb L70

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was robbed through a hole made by the robbers in its roof. The tomb was severely disturbed from inside and full of dirt. The entrance of the tomb is about 1.33 m wide and 0.70 m high. The entrance leads to a rectangular chamber (9.0 m × 4.90 m) with two tiers of loculi and a large alcove at the north wall. The alcove has one trough grave at the eastern side and unfinished one at the western side. Traces of wall painting were found inside the alcove.

*Finds:* Pottery, glass, and metal sherds.

*Date:* Late Roman.

*Top plan page:* 161.

#### Tomb L72

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was not excavated, it was opened, robbed and severely disturbed. The entrance is about 1.80 m wide leading to a rectangular chamber (6.80 m × 4.85 m). The chamber has an alcove at the eastern wall and 2 tiers of loculi. The first tier has 10 standard loculi, while the second tier has 9 loculi. The alcove has 3 loculi as first tier ones and a fourth as a second tier loculi. Two stone sarcophagi were found in the chamber.

*Finds:* Not excavated.

*Date:* Late Roman.

*Top plan page:* 164.

#### Tomb L75

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was not excavated, opened, robbed, and severely disturbed. The entrance of the tomb is about 1.75 m leading to a rectangular chamber (5.47 m × 4.05 m). The north wall has a large alcove with 2 tiers of loculi and a third tier of niches. The east and west walls have 2 tiers of loculi. The chamber contained 4 stone sarcophagi.

*Finds:* Not excavated.

*Date:* Late Roman.

*Top plan page:* 165.

## Tomb L89

*Source of information:* (Al-Shorman, 2019).

*Description:* The tomb was not excavated, opened, robbed, and severely disturbed. The entrance of the tomb is about 2 m wide and leading to a rectangular chamber (8.18 m × 5 m). The northeast wall of the chamber contained 2 tiers of loculi; the first tier has 3 loculi and the second tier has 5 loculi. The northwest wall of the chamber contained 2 arcosolia; each has 3 trough graves at their bases. Architecturally, these loculi are typically Byzantine and thus were added or expanded from single loculi during the Byzantine period. The southeast wall is more complicated, where it contained two tiers of loculi and an arcosolium with 4 trough graves and 5 loculi.

*Finds:* Not excavated.

*Date:* Late Roman/Byzantine.

*Top plan page:* 167.

**TOMB TYPE VA: VERTICAL-SHAFT TOMBS WHICH WIDEN OUT AT THEIR BASE TO ACCOMMODATE ARCOSOLIA WITH TROUGH GRAVES AND LOCULI**

Tomb L6

*Source of information:* (Fuller, 1987).

*Description:* This tomb is a deep shaft (3.9 m deep) with 3 loculi; one opens off the north wall and two open off the south wall.

*Finds:* Pottery and glass sherds.

*Date:* Byzantine.

*Top plan page:* 171.

## **TOMB TYPE VB: VERTICAL SHAFT NARROWING TO FORM A LEDGE ENDING IN A SINGLE BURIAL OR LOCULUS**

### Tomb H8

*Source of information:* (Smith, 1989).

*Description:* This is a shaft grave that measures 2.15 m × 0.97 m. The shaft is 0.6 m deep below the topsoil, the grave is 0.9 m deep below the sealing stones. The grave was sealed with 4 rectangular sealing stones perpendicular to the length of the grave. These stones were roughly uniform in having a 0.20 m thickness and length of 0.85-0.90 m. The grave has 2 sealing ledges of about 0.15 m in width.

*Finds:* One unguentarium.

*Date:* Hellenistic.

*Top plan page:* 175.

### Tomb H9

*Source of information:* (Smith, 1989).

*Description:* This is a shaft grave that measures 2.13 m × 0.70 m. The grave is 0.90 m deep. Only 3 sealing stones sealed the grave and left about 0.38 m uncovered.

*Finds:* Skeletal remains of 2 adults and an infant.

*Date:* Hellenistic.

*Top plan page:* 176.

### Tomb H20

*Source of information:* (Smith, 1990).

*Description:* This is a vertical shaft that ends in a single loculus. The shaft is 1.26 m deep, the loculus is 2 m long, 0.78 m wide and 0.67 m - 0.80 m high. There were two sealing ledges at the end of the vertical shaft for sealing stones; no sealing stones were found due to robbing.

*Finds:* Ivory spoon and pottery sherds.

*Date:* Roman period.

*Top plan page:* 177.

### Tomb H23

*Source of information:* (Smith, 1990).

*Description:* This is a vertical shaft that ends in a single grave of about 1.40 m × 0.45 m. The depth of the grave is about 0.75 m. This grave was smaller than other typical shaft graves, which indicates the use for a subadult.

*Finds:* Pottery sherds.

*Date:* Roman/Byzantine.

*Top plan page:* 178.

### Tomb H24

*Source of information:* (Smith, 1990).

*Description:* This is a vertical shaft grave 2.10 m long and 0.76 m wide. It has 2 sealing ledges where each one has a width of about 0.14 m. The depth of the grave is 0.33 m - 0.42 m.

*Finds:* Bronze bell and a glass bead.

*Date:* Roman/Byzantine.

*Top plan page:* 179.

Tomb H29

*Source of information:* (Smith, 1992).

*Description:* It is a vertical shaft grave that was sealed by 4 boulders. The length of the burial chamber is 1.95 m and the width is 0.40 m. The depth of the grave is 0.90 m.

*Finds:* Pottery unguentarium.

*Date:* Roman.

*Top plan page:* 180.

Tomb H30

*Source of information:* (Smith, 1992).

*Description:* This is a deep shaft grave near the wadi. The length of the burial is 2.25 m and the width is 0.85 m. The depth of the shaft is 1.32 m ending in 2 ledges of about 0.14 m wide each. The depth of the grave is 0.95 m.

*Finds:* Pottery sherds.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 181.

Tomb H33

*Source of information:* (Smith, 1992).

*Description:* This tomb is a shaft grave 1.75 m long and 0.57 m wide. The depth of the grave is 0.42 m.

*Finds:* Fragment of a metal ring and a poorly preserved a bone splinter.

*Date:* Late Roman.

*Top plan page:* 182.

Tomb H34

*Source of information:* (Smith, 1992).

*Description:* A vertical shaft grave where the shaft is 0.74 m wide and 1.90 m long, it extends below the surface by about 0.24 m. The shaft narrows to 0.53 m wide, forming the ledge for sealing stones. The depth of the grave is 0.70 m.

*Finds:* Ivory fragments, a silver ring, a juglet and pottery sherds.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 183.

Tomb H35

*Source of information:* (Smith, 1992).

*Description:* It is a shaft grave (2.15 m × 0.75 m) with 2 sealing ledges (0.12 m wide each). The depth of the grave is 0.94 m.

*Finds:* Pottery sherds.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 184.

#### Tomb H37

*Source of information:* (Smith, 1992).

*Description:* It is a shaft grave (2.05 m × 1.06 m) with sealing ledges (0.13 m wide on each side). The maximum depth of the grave is 0.75 m.

*Finds:* No bones or grave goods.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 185.

#### Tomb H42

*Source of information:* (Smith, 1996).

*Description:* It is a shaft grave 2.10 m × 0.36 m set to a depth of 0.60 m.

*Finds:* No grave goods; dated based on style.

*Date:* Late Roman/Byzantine.

*Top plan page:* 186.

#### Tomb H51

*Source of information:* (Smith, 1996).

*Description:* The shaft is 1.9 m × 0.52 m and 1.7 m deep with an offset burial chamber that measures 2.05 × 0.58 m.

*Finds:* Bowl and oil lamp

*Date:* Late Roman/Byzantine.

*Top plan page:* 198.

#### Tomb H52

*Source of information:* (Smith, 1996).

*Description:* The shaft is 1.75 m × 0.54 m and 1.3 m deep with an offset burial chamber that measures 1.66 × 0.35 m.

*Finds:* Robbed.

*Date:* Early Roman

*Top plan page:* 199.

#### Tomb J9

*Source of information:* (Davis, 1985).

*Description:* It is a shaft grave (2 m × 0.7 m) with sealing ledges. The depth is about 0.65 m. The burial chamber housed 2 females.

*Finds:* Five juglets, pottery sherds.

*Date:* Byzantine.

*Top plan page:* 187.

#### Tomb J10

*Source of information:* (Davis, 1985).

*Description:* It is a shaft grave (1.80 m × 0.74 m) with sealing ledges. The depth is about 0.70 m.

*Finds:* Small lamp fragment.

*Date:* Byzantine.

*Top plan page:* 188.

#### Tomb J11

*Source of information:* (Al-Shorman, 2019)

*Description:* It is a vertical shaft grave with 1.80 m long and 0.76 m wide. The depth of the grave is about 0.70 m.

*Finds:* Metal fragments and broken nails, which indicates that a wooden coffin was placed in the grave.

*Date:* Byzantine.

*Top plan page:* 189.

#### Tomb J14

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave of about 1.82 m long and 0.60 m wide and a shaft of about 0.80 m. The depth of the grave is 0.64 m; each is 0.15 m wide. The shaft ends in 2 sealing ledges.

*Finds:* Skeletal remains of a 20-25-year-old female of about 1.59 m in height, oil lamp and terra sigillata bowl.

*Date:* Early Roman.

*Top plan page:* 190.

#### Tomb J15

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave with stone ledges along the length of the burial (2.04 m × 0.72 m). The depth of the grave is 0.70 m. It was cut for an adult female.

*Finds:* A bell, a bronze ring, and beads.

*Date:* Byzantine.

*Top plan page:* 191.

#### Tomb J18

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave that was found undisturbed and covered with limestone slabs.

*Finds:* Skeletal remains of an adult male.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb J22

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave with a depth of about 0.70 m.

*Finds:* Pottery sherds.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb J23

*Source of information:* (Davis, 1985).

*Description:* This is very narrow shaft grave (0.29 m wide) without blocking stones. The grave contained an extended articulated skeleton of a 25-35 years-old adult.

*Finds:* Skeletal remains.

*Date:* Byzantine

*Top plan page:* Not drawn.

#### Tomb J24

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave with sealing stones. The burial was that of a female aged 25-35 years old.

*Finds:* An oil lamp.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb J25

*Source of information:* (Davis, 1985).

*Description:* It is a vertical shaft grave that housed a female of about 17–25-year-old with fetal bones still located in the pelvic region.

*Finds:* an iron nail, a seashell, a bone spindle with a small wheel, a bronze ring, several spindle whorls, and an oil lamp.

*Date:* Byzantine.

*Top plan page:* Not drawn.

#### Tomb L19

*Source of information:* (Smith, 1990).

*Description:* It is a vertical shaft grave 2.2 m long and 0.75 m wide. The grave has 2 sealing ledges of about 0.10 m in width each. The depth of the shaft is 1.20 m, and the depth of the grave is 0.55 m.

*Finds:* Pottery sherds.

*Date:* Late Roman/Byzantine.

*Top plan page:* 192.

#### Tomb L20

*Source of information:* (Smith, 1990).

*Description:* It is a vertical shaft grave that preceded by a dromos. The measurements of the tomb are 1.4 m × 0.62 m × 0.72 m. The tomb was interpreted by Smith (1990) as a secondary burial or by Wineland (2001) as an ossuary.

*Finds:* A nail head, a small glass bottle and an iron ring.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 193.

## Tomb L87

*Source of information:* (Al-Shorman, 2019).

*Description:* It is a vertical shaft graves that was full of dirt with no bones or grave goods. The length of the tomb is 1.74 m and the width is 0.70 m. The depth of the grave is 1.5 m. the shaft of the grave contained 3 steps. The floor of the grave was found broken by tomb robbers to access Tomb L90.

*Finds:* Empty.

*Date:* Byzantine.

*Top plan page:* 194.

TOMB TYPE VC: TOMBS ARE VERTICAL SHAFT ENDING IN A SINGLE CHAMBER

Tomb J5

*Source of information:* (Davis, 1983).

*Description:* It is a vertical shaft ending in a single chamber, the tomb was originally sealed with 4 rectangular stones, the shaft has stone ledges on the northern side only. The width of the entrance is 1.35 m, and the length is 2.5 m. A burial was found in the entrance and explained as a tomb robber who died while attempting to climb out of the tomb.

*Finds:* Pottery sherds.

*Date:* Late Roman.

*Top plan page:* 197.

Tomb L7

*Source of information:* (Fuller, 1987).

*Description:* It is a chamber tomb with one floor grave.

*Finds:* Pottery sherds, oil lamps, the chamber contained skeletal remains of a 20–25-year-old female and the grave contained the remains of a 30–35-year-old male.

*Date:* Byzantine.

*Top plan page:* 200.

Tomb L16

*Source of information:* (Fuller, 1987).

*Description:* It is a vertical shaft that ends in a chamber.

*Finds:* Pottery sherds, unguentaria, coffin nails and braces and skeletal remains of 4 individuals.

*Date:* Late Hellenistic/Early Roman.

*Top plan page:* 202.

## **TOMB TYPE VD: EITHER STONE SARCOPHAGUS IN THE OPEN AIR OR BURIED IN THE GROUND**

### Tomb K2

*Source of information:* (Davis, 1985).

*Description:* It is a buried sarcophagus of fine workmanship typical to the Roman period. The setting of the sarcophagus was made by cutting the bedrock close to the surface. The front of the sarcophagus was decorated with low relief featuring 2 draped cords. The lid of the sarcophagus was fixed to the body with the use of 4 spikes.

*Finds:* Robbed.

*Date:* Roman.

*Top plan page:* 204.

### Tomb L66

*Source of information:* (Al-Shorman, 2019).

*Description:* It is a stone sarcophagus that was found on the surface of area L.

*Finds:* Empty.

*Date:* Roman.

*Top plan page:* Not drawn.

## TOMB TYPE VI: NATURAL CAVES USED AS BURIAL SITES

### Tomb J32

*Source of information:* (Al-Shorman, 2020).

*Description:* This is a natural cave without loculi, the tomb was severely disturbed.

*Finds:* Robbed and not excavated.

*Date:* Late Roman/Early Byzantine.

*Top plan page:* 206.

### Tomb L73

*Source of information:* (Al-Shorman, 2019).

*Description:* This is a natural cave with 6 loculi, the tomb was severely disturbed.

*Finds:* Robbed and not excavated.

*Date:* Roman/Byzantine.

*Top plan:* 207.

### Tomb L68

*Source of information:* (Al-Shorman, 2019).

*Description:* Natural cave.

*Finds:* Robbed and not excavated.

*Date:* Roman/Byzantine.

*Top plan page:* Not drawn.

### Tomb L67

*Source of information:* (Al-Shorman, 2019).

*Description:* Natural cave.

*Finds:* Robbed not excavated.

*Date:* Roman/Byzantine.

*Top plan page:* Not drawn.

## **TOMB TYPE VIII: MASONRY ABOVE GROUND-BUILT TOMBS**

Tomb L12

*Source of information:* (Al-Shorman, 2019).

*Description:* Remains of a hewn stone wall above the bedrock.

*Finds:* Not applicable.

*Date:* Roman.

*Photograph page:* 208.

## TOMB TYPE IX: COLONNADED TOMBS

### Tomb L13

*Source of information:* (Fuller, 1987).

*Description:* It is a large chamber tomb with 2 columns in the front yard of the tomb, which is accessed by 5 steps. The yard contained 3 radiating loculi, where the south has two sunken graves. The entrance of the tomb is 1.07 m wide, and the height is 2.13 m from inside. The chamber of the tomb contained 7 loculi and 2 others as second tier loculi. The east wall of the chamber contained an arcosolium with 2 parallel graves at the base. The chamber also contained 2 built-in stone sarcophagi. There are 2 raised relief ionic columns in the middle of the chamber and another 2 in the arcosolium. The entrance had carved figures. The tomb revealed a minimum of 93 individuals.

*Finds:* Two busts, pottery sherds and iron ring with the seal of a bearded man face.

*Date:* Late Roman/Byzantine.

*Top plan page:* 210.

## **TOMB TYPE X: COLUMBARIA**

### **Columbaria H61**

*Source of information:* The columbaria was found and photographed by Prof. Michael Fuller, St. Louis Community College.

*Description:* It is a huge columbarium with hundreds of niches. The niches were carved in the three walls of the columbarium with an average size of about 0.2 m × 0.2 m and an average depth of about 0.2 m - 0.3 m.

*Finds:* Robbed.

*Date:* Roman.

*Photograph page:* 212.

## **TOMB TYPE XI: CHAMBER TOMBS THAT LEADS TO A LOWER TUNNEL-LIKE CHAMBER WITH LOCULI ON BOTH SIDES RADIATING FROM THE CHAMBER – ONE TIER**

Tomb J33

*Source of information:* (Al-Shorman, 2021).

*Description:* The tomb (J33) is surrounded by other smaller and less complex Late Roman tombs as well as a huge water cistern. The first chamber of the tomb was robbed but the chamber with loculi was found intact. It is a horizontal chamber tomb with two chambers: the first is almost rectangular in shape that is accessed via a wide entrance. The excavation in the first chamber revealed human bone fragments and iron nail fragments, which indicate the presence of wooden coffins. The recovered pottery points to a Late Roman tomb. The first chamber has a ground entrance that leads to another chamber about 2 m below the first one. The second chamber contains 22 loculi, 11 on each side, and a grave in the northeastern wall. All the loculi have ledges for stone slabs. This chamber was never used, where the niches for oil lamps were clean of smudge. However, old oil lamp niches were plastered and found on both walls probably during the process of construction. The main door of the tomb was built of hewed rectangular stones, one both side and then closed by a stone door as evidenced by the presence of a rectangular stone base. The recovered objects were found in the 1<sup>st</sup> chamber and include pottery sherds (most of them are dated to the LR but there were few which were dated to ER), iron nail fragments, glass fragments and human bones, and teeth but broken and comingled. The skeletal remains represent adults, children, and newly born individuals. The first chamber has an altar proceeded by an arcosolia of about 30cm in depth. The floor on the second chamber has a sump of about 30cm in depth. The tomb was carved in soft limestone, where the width of the chamber is narrow, and the roof is gable in shape to bear the excessive weight above. The roof of the various loculi was arched to bear the above weight. The Late Roman period witnessed a climax of prosperity compared to the Early Roman period, which was reflected in the complex and ornate tombs (Karasneh and Dahash, 1993; Chapman, 2011). The tomb was abandoned before using the second chamber, mainly towards the end of the Late Roman period, another tomb (J38 a few meters north) was also an unfinished tomb and belong to the period.

*Finds:* not used.

*Date:* Late Roman.

*Top plan page:* 215.

## BURIAL PRACTICES AT ABILA

The early burial practice studies that attempted to understand the social organizations of past communities were carried out by Worsaae (1843) and Kroeber (1927). The leap in such studies appeared after the introduction of the term social persona by Binford (1971), which is a composite of social identities maintained in life and recognized as appropriate for consideration after death. Tainter (1978) proposed that the form of burial practices may mirror the complexity of society, and that a greater amount of energy is expended on the burials of higher social-ranking individuals. In addition, grave goods may also symbolize authority and ranking (Frankenstein and Rowland, 1978). The spatial distribution or clustering of tombs within the cemetery may reflect the social organization of the community, for example Coles and Harding (1979) inferred the clustering of the Early Bronze Age cemeteries in central Europe to kinship. Death and its attributes, including burial types, are evolving cultural elements (Metcalf and Huntington, 1991), which is evident upon tracking burial practices through time (Al-Shorman and Khwaileh, 2011). These attributes are still reflected in the same structure that once existed in life. For example, the sociological school viewed death as a social process, not as an event, and as a transitory life scheme of rite de passage (Hertz, 1960; Van Gennep, 1960); an extended mourning period is, accordingly, an adjustment for the living. The composites of death must have a function within society, although some of them might not be visible archaeologically. The tomb type and size might be a symbol of the living; a fancy tomb has been regarded as a symbol of the high status of the builder or the deceased. Mortuary variability is culturally linked and expressed as a product of composites of intertwined natural and social elements.

### CHRONOLOGY

The Necropolis of Abila extends east along Wadi Quailbeh comprising four hills: H, J, L, and K. The Necropolis was first used during the MB/LB period then the Hellenistic period in area H (Fig. 19). The various excavations at the site revealed tombs that span the period from the Middle Bronze Age to the Late Byzantine period. The tombs have no particular orientation or size. The Necropolis is located far from the urban areas as the Romans saw the bodies of the dead as polluting (Salzman, 2007). Most of the excavated tombs were dated to the Roman and Byzantine periods, accounting for 58% and 35%, respectively (Table 17). Due to the higher cost of tomb construction for the living, the Roman poor and slaves shared the same tomb where they used to pay its cost on a regular basis (*collegia funeraticia*) (Al-Shorman, 2007).

*Table 17: Number of tombs according to period and location.*

Area	MB	LB	IA	Hel	Rom	Byz
H	1	1	0	2	23	4
J	0	0	0	0	3	16
K	0	0	0	0	3	0
L	0	0	0	2	26	12
N	0	0	0	0	0	1
Total	1	1	0	4	55	33

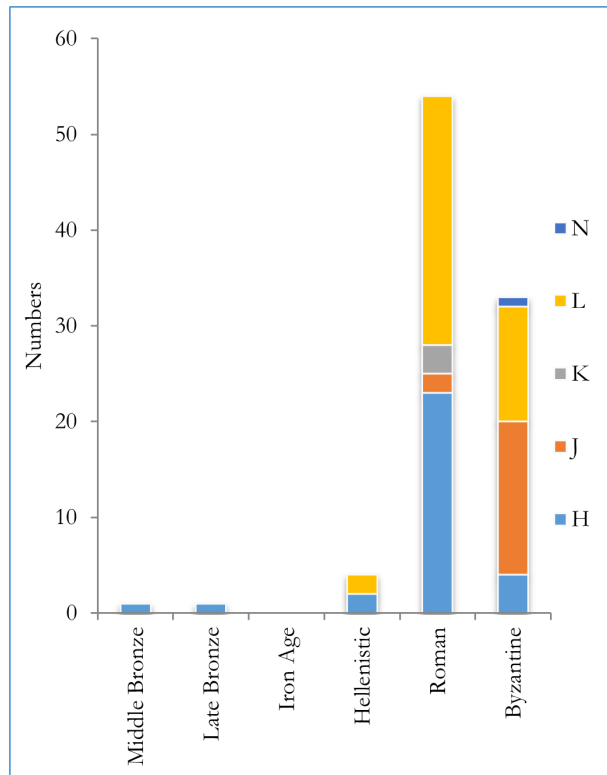


Figure 19: The location of tombs according to period.

## CONSTRUCTION METHOD OF TOMBS

The site's geology was a determinant factor in selecting the location, orientation, and size of tombs. The tombs were carved in a soft limestone layer, where the harder stone layer was left above to make the roof; this was evident in other Roman sites like Ya'mun (Al-Shorman et al., 2007). However, the presence of natural cracks and faults worked as obstacles during the carving process, where in some cases, walls and roofs had collapsed (e.g.: Tomb J42 in Figure 50). The carving tools were chisels and axes, where their marks were imprinted on the walls and roofs. During the construction process, water was used to wet the rocks, which eased the carving process and reduced the amount of dust. For this purpose, many plastered cisterns were found in areas L, J, and H close to tombs. Water was also used for preparing the plaster of the tombs' interior. There are a few ornate tombs that contained frescoes that required water during preparation and application. The tombs with multiple interments (loculi and graves) were carved as rectangular prisms first (natural caves were used as well), where they started at the shortest dimension by establishing the door; then the interior design (arcosolium, loculi, and alcoves) was marked with a red color on the façade and then carved.

The first tier of loculi is carved in a number that equals the number of family members, or probably upon the arrival of a new interment. Tombs with fresco were all plastered; such tombs are dated to the Late Roman period, which may suggest wealth and higher social status (Chapman, 2011). The needed stones for the construction of the tombs (slabs and sarcophagi) were quarried from rocks close to the tombs. However, the presence of basalt sarcophagus in some of the tombs indicates a different

quarrying location as the lithology of the site does not include basalt. The craftwork of the basalt sarcophagi was finer compared to the locally made limestone ones, which reflects the skill of the craftsmen. This is also applicable to the basalt doors that sealed some of the large tombs. The use of sarcophagi began with the reign of Trajan 98 AD to 117 AD and became popular from the 2<sup>nd</sup> to 4<sup>th</sup> centuries AD (Nock, 1932).

Some of the large tombs had spaces for more loculi or had unfinished ones, which explains the interment time. The various attributes inside large tombs were not carved at the same time but were added later as needed. Most of the additions occurred during the Byzantine period. This assumption is supported by the presence of more Byzantine burials outside the Roman Necropolis, west of Umm al-Amad Church. The width and depth of the Roman loculi were about 80 cm (2.5 Roman Feet) and 220 centimeters (7.5 Roman Feet) respectively, while the width and depth of the Hellenistic ones were about 50 centimeters (25 Greek Fingers) and 180 cm (90 Greek Fingers) respectively, and 60 cm and 180 cm for the Byzantines. This is another clue to identifying tomb reuse, an example is Tomb L13, where the loculi outside the tomb's door match the Byzantine measurements, Tomb H1 is another example. In the Roman tombs, the loculi were not carved at the same time or by the same craftsmen, otherwise they would have the same depth and width.

Starting from the Early Roman period, the craftsmen and masons were local Arabs, as evidenced by the paintings that walled up Beit Ras Roman tomb. Their skills in carving were far below those in Rome. The situation continued and reached its maximum during the 3<sup>rd</sup> century AD, where there was a pause in monumental architecture and sculpture. As a result, artisans and skilled craftsmen were unable to find work, and the inherited tradition of expertise was on the verge of disappearance. As a result, the Late Roman period had difficulty locating artisans, allowing artists to start over, although their early efforts were rudimentary (Jones, 1963). The local artisans were instructed to carve tombs that looked like those in Rome, but the results were tombs that weren't rectilinear, and the spaces between tombs were so narrow that many tombs were accidentally opened to adjacent others while carving. A good example was found in area L, where a Late Roman shaft grave accidentally intruded with the roof of a loculi in an Early Roman tomb L88.



*Figure 20: A late Roman shaft grave opened to the roof of first loculi from the right of an early Roman tomb.*

## **BURIAL PRACTICES**

The tombs contained different types of burials, including loculi (first and second tiers), sunken graves, arcosolium, chambers, and stone sarcophagi, and wooden coffins. There is evidence of Greek elements such as inscriptions and coins in most of the recovered tombs. The Hellenistic and Roman tombs were

found concentrated in areas H and L, while the Byzantine tombs were concentrated in areas J and L. Accordingly, the Necropolis of Abila started in area H and then in area L. The Byzantines utilized these areas and buried the commoners in area J. Most of the Byzantine tombs in area J are single shaft graves with little if any grave goods.

The pre-Hellenistic period revealed one Late Bronze Age/Iron Age tomb (Area H), one Middle Bronze Age/Late Bronze Age tomb (Area H) and an two Iron Age jar burials (Area AA in Tell Abila), one of them was for a male in his mid-twenties (Chapman et al., 2006). The site was not densely occupied during these periods due to the unfavorable climate conditions that prevailed, especially during the Middle Bronze and Iron Ages (Al-Shorman, 2002). The various chronological data of Abila show that Abila was abandoned from the Iron Age II (ended in 332 BC) to the end of the Late Hellenistic period (192 BC); almost 142 years. The site of Khirbat 'Ataruz was abandoned during the same period. During the late Hellenistic and early Roman eras (ca. 200 BCE-100 CE), the Hellenistic inhabitants of the tell reused the older Iron II buildings and constructed additional walls, rooms, and bath systems with plastered stairs, but not during the Early Hellenistic period (Bates, 2013). The archaeological excavations at the Yasileh site did not reveal pottery from the Early Hellenistic period (Al-Muheisen, 2008). The Iron Age II witnessed a significant desertion. By the end of the Persian period, around 70% of all Iron II sites had been abandoned. Ninety-three percent of the sites were abandoned in the Ghor, along the Dead Sea escarpment, north of the Mujib, and in Wadi Hasa (Green, 2013).

The Hellenistic tombs were few compared to the Roman and Byzantine ones. Only four tombs were dated to the Late Hellenistic period; three of them were vertical shafts and one was a chamber tomb with six loculi. It is apparent that Abila was abandoned during the Early Hellenistic period. The date of the tombs indicates that the Hellenistic settlement at Abila started during the late 'Late Hellenistic' period and lasted for about 129 years. This assumption is supported by the uneven response to the introduction of Greek culture in Jordan, where the impact of the Greek world was merely superficial (Tidmarsh, 2004). The grave goods were almost absent in the Hellenistic shaft graves and were probably reused for more than one burial during the same period. A parallel example was found in Tell esh-Shunam, where the recovered graves were Late Hellenistic (de Vries and Bikai, 1993). In Natfieh, the recovered tombs were dated to 90 BC-20AD by <sup>14</sup>C, and thus, excluding their use during the Early Hellenistic period (Al-Bashaireh et al., 2011).

The variation in the tomb typology was very prominent during the Early Roman period, which was probably triggered by the flourishing commercial trade (Mare, 2001) and became pronounced during the Late Roman period. This prosperity was also noticed in many other rural sites not far from the Decapolis cities in Jordan. The exceptional quality of some of these tombs lends credence to the idea that wealth was available to at least certain members of the social order. As we traveled from the Decapolis to the countryside, the number of high-quality tombs declined (Rose et al., 2007). The variation in tomb types and grave goods reflects the complexity of society and the social hierarchy that probably took place during the Late Roman period. As mentioned previously, high-class people were buried in elaborate and ornate tombs, while the poor were buried in less elaborate and single graves. The fancy tombs were often plastered and decorated with frescoes. The fresco in Tomb L5 that depicts two mourners were probably symbolize a constant reminder of the grief of those who had buried their dead in the tomb.

Some of the tombs had antechambers, probably for family meetings that occurred during the commemoration of the dead. These tombs were distributed over the four areas of the Necropolis, but not area N, which was absolutely Byzantine. Some of the tombs were family tombs and contained both sexes and different age groups. The Roman polyandria tombs were either found in the Necropolis or close to Wadi Quailbeh. Greek funerary inscriptions were very common in the Roman tombs and accompanied by portraits and frescoes. Most of the shaft graves in the Necropolis of Abila were found

at lower elevations, near Wadi Quailbeh, thus inferring the very low social status of the deceased. According to Mare (2001), the radiating loculi and central sump of the Roman tomb are imitations of living in a Roman house, with a compluvium pool in the atrium and rooms radiating off a courtyard. The sealed loculi allowed family visits soon after interment in comfort for cult worship. Grave goods that accompanied the deceased were either used by the mourners who frequently visited the tombs or intended to be used in the afterlife, as evidenced by the presence of a bowl and an oil lamp in Tomb H51, which is a small shaft grave dated to the Early Roman period.

Cremation was practiced during the last century of the Roman Republic (509–27BC). The poor, slaves and freedmen built communal repositories for the ash urns of their dead, each occupying its columbarium (Nock, 1932). Columbaria are small niches carved into the bedrock façade, which were popular in early imperial Rome and defined as places featuring inset burial niches holding cinerary urns (Borbonus, 2014). No more columbaria were built after the time of Hadrian (138 AD). The practice of cremation had stopped due to the decreasing levels of urbanization and changes in attitudes to the afterlife (Nock, 1932). At the Roman tombs of Kenchreai in Greece, the urns with cremated remains were deposited in small niches cut into the upper part of the chamber walls of the tombs (Ubelaker and Rife 2007; Rife et al., 2007). The Necropolis of Abila revealed only two cases of cremation in the recovered skeletal materials but were inferred by Kyle (1992) as being caused either by a household fire or an offering to Molech.

Many niches were found in the Late Roman tombs L69, L70, L75, and L 88, where they sometimes contained busts. The fundamental role of funerary busts was to represent the *nephesh*, the soul of the deceased (Colledge, 1976), and they took the role of individual portraits, though they usually provide only a distant resemblance (Sokolowski, 2014). The busts usually accompanied cinerary urns that were deposited in the niches of large tombs (Trentinella, 2000). According to Greenewalt (1977), some of the niches in the walls of the tombs might have been used to house standing ostothacea, where they were observed in loculi and chamber tombs in Rhodes (Fraser, 1977). According to Wineland (2001), the busts indicate familial, or more likely, business and trade connections because the shape of the bust that was recovered from Tomb L13 resembles the bust of a Gandharian Buddha.

Abila revealed several rock-cut pits in the tombs which could be regarded as a simple form of ostothacea and served as cremation receptacles (Ahrens, 2015). Fuller (1987) suggests that the niches in Columbarium H61 were used for lamps and small offerings left by mourners who did not want to enter the nearby tombs, which is unlikely. The columbaria contain very small niches that do not fit even small cinerary urns. However, the function of Abila's columbarium is debatable due to its presence of small and shallow niches. Similar columbaria in Jordan and Palestine were interpreted as dovescotes for raising doves as sacrifice animals during the Roman period (Kakish, 2012). Similar niches were found on the anterior façade of the Garden tomb in Jerusalem and interpreted as holding roof support beams (Tvedtnes, 1981) as the Roman tombs were often beautified by commemorative gardens (Brundrett, 2011).

The Byzantine tombs were not as elaborate as the Roman ones; a new social class probably emerged during the Byzantine period, or that the funeral custom was guided by Christianity towards its end. The Byzantines reused the preceding Roman tombs and added new burials such as loculi and graves or modified and expanded pre-existing architectural elements. According to Smith (1992), the double loculi in Tomb H38 were expanded from two single ones and confirms the observation that double loculi (chamber loculi) came after the standard width of loculi; in other words, during the Late Roman and Byzantine periods, which is another method of tomb dating based on their typologies. The Byzantines needed more burials, which indicated a larger population size and/or a higher mortality rate. A plausible cause of high mortality was the plague that raved through the region in 542 AD and wiped out much of the population on repeated occasions (Stathakopoulos 2008; Kennedy 2007). It continued

through the early 7<sup>th</sup> century AD, leading to massive deaths (Conrad 1986). Unfortunately, plague does not affect bone and cannot be identified skeletally (Aufderheide and Rodríguez-Martín, 1998). Another cause of high mortality could be the very high fatality of earthquakes that affected the region, especially in the year 551 AD (Russell, 1985; Amiran et al., 1994).

The variation in the Byzantine tombs is less prominent compared to the Roman ones. The most common burial type during the Byzantine period was type III: chamber tombs with adjoining arched-alcoves (arcosolia) containing sunken or trough graves, and type IV: chamber tombs containing both arcosolia and loculi. These types were probably used for the interment of elite people. The vertical shaft tombs are concentrated mostly in area J, which probably used to burry the less affluent people. Based on the date of the tombs and the data on tomb reuse, it is apparent that the number of the population during the Byzantine period was the highest. In addition, the number of people from lower social classes was also high. In other words, less social complexity is expected during the Byzantine period. The Byzantine people used the previous Roman tombs and modified their architecture by adding new burial chambers and/or sunken graves. In some cases, they added loculi outside the entrance of the tomb; an example is the colonnaded tomb. The practice of collecting bones from previous burials and storing them together was common during the Byzantine period; an example was found in Tomb K1, which is an Early Roman tomb that was expanded during the Byzantine period, and Tomb L20 which is a Late Roman/Early Byzantine. According to *Codex Theodosianus*, the tomb and the body are considered *locus religiosus* and must not be violated according to *violatio sepulci* (Brent, 2016). In the second half of the third century AD, *violatio sepulci* extended to the body and the profanation of cadavers became a crime in civil law (Thomas, 2004; Rebillard, 2009). This strongly suggests that collecting and storing bones from previous burials was a Byzantine burial practice.

The recovered grave goods from the Roman tombs were probably intended for use in the afterlife and, at the same time, to embody age, sex, or profession. A 2<sup>nd</sup> century AD clay figurine of a drunken Dionysos was discovered in one of the tombs. The deity leans on a child for support; his robe falls about his legs, and a panther at his feet consumes the wine spilled from his cup. This figurine implies that the dead was a Dionysiac cult follower who envisioned a happy afterlife (Ovadia and Mucznik, 2015). Most of the females were buried with spindle whorls, glass unguentaria, and personal jewelry and accessories. A good example is Tomb L15. Tomb J27 revealed a bronze ring with a polished brown stone that has an engraving showing a priest throwing incense onto a burner and a man playing the flute (Fig. 21).



Figure 21: The recovered ring from tomb J27.

Coins as grave goods were also common and probably put in the mouth of the dead imitating the Greek burial practices. From the 5<sup>th</sup> century BC until the 2<sup>nd</sup> century AD, the practice of placing a coin in the mouth of the corpse was widespread to compensate the ferryman Charon for transit across the Styx River to the underworld (Prowse, 2014). Incense burners (*accerae*) were usually used in funerals, where on the day of the funerary procession, the family members followed the procession path and were joined by musicians, professional mourners (*praeficae*) chanting funeral dirges, and incense carriers (Clancy, 2019). Incense burning was a necessary act for each part of a festival: procession, prayer, and sacrifice. Additionally, incense was utilized in rituals conducted at banquets and wedding ceremonies, as well as in initiations, divination, and purifications (Verbanck-Pierard, 2017).

The grave goods during the Byzantine period were mostly personal items like rings, bracelets, earrings, etc. The grave goods during this period were differentiated according to the sex of the deceased, where for example, male burials had clothing fasteners while female burials had jewelries. It was not uncommon to find Christian and pagan symbols in the Byzantine graves, as was the case in Tomb L8 at Abila and Tomb 7 at Pella (Fuller, 1987). The Greek and Roman burial practices were rites of passage that signified the transition between the states of life and death. The Roman burial practices were governed by laws, unlike the Byzantines' which were mostly directed by Christianity.

## THE SKELETAL REMAINS

The acidity of the sediments and sediment-bone matrixes from the tombs of Abila ranged between 7 and 7.5 respectively, which is normal to slightly basic, and thus preserves skeletal materials. However, the excavated skeletal materials from the various seasons at Abila were fragmented and comingled due to four major causes. First, in antiquity and recent times, robbers mixed up the various loci and strata and considered the skeletal material not important. Tomb robbing was very common during the classical period; a human skeleton was found in the entrance of tomb J5, which was probably an ancient tomb robber who died while attempting to climb out of the tomb (Davis, 1983). Second, the earthquake of 748 AD was devastating and damaged most of the burials. Third, there is a difference in preservation within and between burials (Haskins, 1988). Another problem was the wooden coffins, which decayed quickly after burying, exposing the corpse to the surrounding burial environment, such as high relative humidity, Tomb J33 is one such example.

The preservation condition of the skeletal materials recovered from Abila stands as an obstacle in the face of determining age and sex. In addition, it was almost impossible to determine the number of individuals per each tomb, loculi, or grave. One of the best excavated tombs that revealed articulated skeletons is Tomb H2. The tomb contained six loculi, where each contained a single inhumation with the body fully extended. The head was positioned near the entrance, a practice that was also noticed in the Roman cemetery at Dura-Europos (Hopkins, 1979) and Beit Zar'a (Khadija, 1974). According to Davis (1983), this pattern varied when wooden coffins were utilized because the body was not visible to better orient the corpse. In Tomb K1, pillows had been cut in the rear of four loculi, thus indicating a variety of extended positions.

Locus 5 in Tomb K4 contained 9 skeletons, locus 3 contained one disarticulated skeleton, and locus 4 contained a few bones and bone fragments. These loculi were interpreted by Davis (1985) as a secondary burial, which is unlikely. These loculi were short and rectangular in shape and located outside the tomb, probably used as a repository for collecting skeletons previously buried inside the tomb; to clear more space for new burials during the Byzantine period. Tomb reuse during the Byzantine period was very evident and indicated by pottery, oil lamps and architecture. The diversification in skull morphology in Tomb K1 refers to a broad use of the tomb by more than one family (Davis, 1985). However, family tombs were very common even during the Late Hellenistic period; an example is Tomb L15, which has 5 loculi, where the first loculi contained the remains of a five-year-old child, loculi 2 contained the remains of a 25-35-year-old female, and locus 3 contained the remains of a 25-35-year-old female accompanied by a 7-8-year-old child and an infant. Locus 4 contained the remains of a 17-20-year-old female, and a 17-25-year-old female in loculi 5 (Fuller, 1987). Tomb L16 is Late Hellenistic/Early Roman but not a family tomb as it contained the remains of three robust adult males (probably soldiers) buried in wooden coffins and a juvenile on top of them (probably buried in a later period). Two of them were 25-30 years old, while the third was 35-45 years old (Fuller, 1987).

The 1986 season of excavation at Abila revealed skeletal remains of about 247 individuals. Higher mortality rates of infants and young adults were noticed. The Late Roman tomb H6 revealed a total of 74 individuals, equally divided between adults and sub-adults, a high infant mortality rate was also noted (Mare, 1991). These findings strongly suggest a disease that killed these age groups before leaving marks or traces on the bones. In other words, the disease process was so fast that an acute infectious disease might be blamed. The pathological lesions of the adults were few and included vertebral osteophytosis and osteoarthritis in the hands and feet. On the other hand, dental caries and periodontal disease were very common. In addition, enamel hypoplasia and Harris lines were also frequent, indicating childhood stress. An unusual case of ankylosis of the patella to the femoral condyles associated with osteomyelitis was noted (Haskins, 1988). One cannot generalize a statement about the

types of diseases and their frequencies that affected the people during the Roman period because the tombs were later reused by the Byzantines.

The osteological report for the years 1982-1984 by Kick (1985) on area J (shaft graves and single chamber tombs dated to the Byzantine period) estimated the number of individuals to be 134, equally divided between males and females. Their ages ranged between 0-50 years old, where most of them died before the age of 35 years. The pathologies include osteoarthritis in the long bones and vertebrae, dental caries, periodontal disease, rib fractures, tibia fractures, and a mandibular fracture that was partially healed. The buried individuals in area J were members of a lower Byzantine social class who suffered from degenerative joint diseases during their lives, were subjected to interpersonal violence, and died at younger ages. The 1984 excavation revealed a case of eburnation of the distal end of the femur, osteophytosis in the thoracic and lumbar vertebrae, fused vertebrae, lipping in the ulnar semilunar notch, dental caries, and periodontal disease. In the Byzantine tomb J25, a 17-25-year-old female was found with fetal bones still located in the pelvic region; the cause of death of this pregnant woman was not determinable (Davis, 1985). Tomb J33 revealed fetal bones of one individual probably entered recently (Al-Shorman, 2021).

The excavation in the 1988 season revealed skeletal remains of 210 individuals, mostly dated to the Byzantine period. In three instances, newborn skeletal remains were found to be comingled with the bones of young adults. It was presumed to be cases of maternal death. Other reported pathologies include vertebral osteophytosis in both sub-adults and adults, a case of skull fractures in a young adult, a healed rib fracture in a child, and tibial osteomyelitis in a young adult (Kyle, 1988). The report points to a probable case of trepanation in a skull of a young adult, but the photographs strongly indicate a case of multiple myeloma. The collected skeletal data during the 1988 season referred to a very high infant mortality rate and estimated the average life expectancy to be 23 years old. Kyle (1990) analyzed the recovered human bones from the 1990 season. He estimated the total number of individuals to be 158 (47% are children up to 16 years old). In his study, the pathologies included cranial trauma to the left side caused by a sharp cylindrical tool and blunt force trauma to the right side of an adult male. He also noticed a healed unset femur fracture. Cervical osteophytosis was very common in adults and teenagers. The very high mortality rate of infants and children was interpreted as being caused by infectious diseases, while in adult males as acts of violence and war.

The 1992 season of excavation revealed vertebral osteophytosis in two adults and a probable case of tuberculosis. The report pointed again to a high child mortality rate due to infections (Kyle, 1992). The diseases discovered in Abila's Byzantine skeletal materials attest to the socioeconomic stratification. Infectious diseases raved through the city and harvested the souls of the young. However, the region was ravaged by a deadly plague in 542 AD (the Plague of Justinian), which wiped out much of the local population repeatedly (Kennedy, 2007; Stathakopoulos, 2008) and continued until the beginning of the early seventh century (Conrad, 1986). The same plague probably contributed to the depopulation and instability of the community of Umm el-Jimal before its total abandonment in the 8<sup>th</sup> century AD (Brashler, 1995; de Vries, 1995). Nabulsi and Humbert (1996) noted that most of the burials at the site of Khirbit As-Samra were child burials, indicating an epidemic that caused a very high mortality rate, where the average age at death of the adults in the cemetery was 22 years (Nabulsi, 1996). Another bewildering epidemic probably ravaged the region and continued until the end of the Byzantine period.

The 2019 season of excavation revealed a new intact tomb in area N that was excavated by a team from the Department of Antiquities of Jordan: Tomb N1 is located in a civic area with multiple rooms. It was found in one of the rooms that has a shaft grave sealed with four rectangular stones (Fig. 15). The floor of the room leads to a *chamber tomb with 3 adjoining arched-alcoves (arcosolia) containing 3 sunken graves*. One of the rooms has a mosaic floor that depicts a pregnant woman sitting close to a river and holding a branch of a palm tree and filling a basket with fruits (Fig. 16). The scene is pictured by a river with a

duck and a fish, and a blackbird in the background. The basket in the scene may represent an offering of fruits in giving thanks to God, which parallels the mosaic of the Chapel of the Priest John in Khirbet el Mukhayyat in Jordan (Hunt, 1994). The bird endorses the funerary context in that it represents the souls of the blessed who took a flight to paradise, it parallels the mosaics found in the basilica of the prophet Moses at Mount Nebo (Piccirillo, 1976).

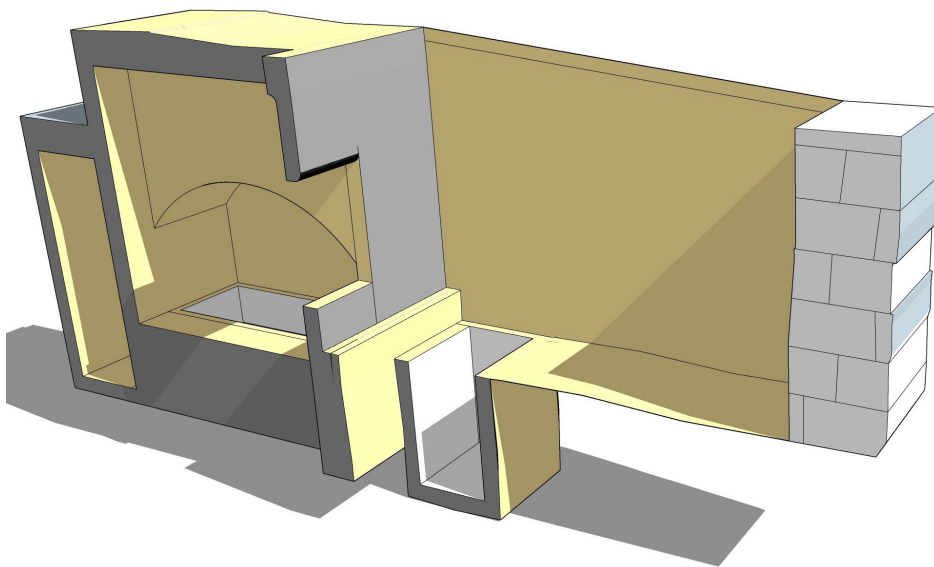


Figure 22: Longitudinal cross section of Tomb N1. Drawn by Abdulla Al-Shoramn.



Figure 23: Mosaic floor of area N.

Most of the recovered mosaics in Jordan are floors of churches, chapels, and sanctuaries. They cover the period from the 1<sup>st</sup> century BC to the 8<sup>th</sup> century AD (Piccirillo, 2003), which strictly indicates that the room was initially constructed as a chapel. The mosaic pavements are a particular phenomenon of the Late Antique/Early Christian world and epitomize the economic prosperity of society (Merrony, 2001). Accordingly, the tomb probably belonged to high-status individuals, religious ones, or probably a family tomb. Furthermore, it is located in the urban area, outside the Necropolis of Abila, which again signifies the social status of the deceased and probably a change in burial practices.

The entrance of Tomb N1 was small (0.45 m wide and 0.70 m high). The chamber contained 3 arcosolia with 3 trough graves. The recovered pottery assemblage from the tomb points to a Late Roman/Early Byzantine period (324-491 AD). The shaft grave (no. 5) revealed 5 individuals suggesting tomb reuse while graves 8, 9 and 10 were found empty; the site was probably abandoned before these graves were in use. Due to the similarity in the recovered pottery assemblages from the room, the shaft grave, and the chamber tomb, it is reasonable that they were constructed during the same period. The tomb revealed 5 individuals, 2 females, one male and 2 subadults. All the recovered individuals died at younger ages; between 2-40 years old. The adults in this tomb had endured stressful daily activities marked by osteophytosis and Schmorl's nodes.

Joint lesions such as osteophytosis and Schmorl's node were reported from many Byzantine sites in Jordan, such as Sa'ad (Alkoufahi, 2000), Khirbit Yajuz (Al-Shorman, 2006), Umm el-Jimal (Cheyney et al., 2009), and Hesban (Stirling, 1978). Almuhiessen and El-Najjar (1994) reported higher frequencies of vertebral osteophytosis from the Byzantine Yasileh. Although the joint disease is multifactorial in its etiology, the reported cases from the Byzantine Jordan assume an arduous and laborious activity pattern as an etiology; the prolonged and heavy workloads contributed to the very high frequency of degenerative joint disease (Dabbs, 2019). The daily activity pattern during the Byzantine period became strenuous compared to the preceding Roman period, which implies a socioeconomic change.

One of the females in Tomb N1 exhibited Klippel-Feil syndrome, which is a birth defect that is characterized by the abnormal fusion of two or more cervical vertebrae (Fig. 24). Although the exact cause of Klippel-Feil syndrome has been elusive, genetic influence cannot be excluded (Aufderheide and Rodríguez Martín, 1998; Barnes, 1994). Individuals with Klippel-Feil syndrome exhibit limited neck mobility, accompanied by abnormal curvatures in the spine and other skeletal deformities (Rodríguez Martín, 1995) such as spina bifida and scoliosis (Fabra and Salega, 2016). Due to the absence of hypertrophic bone formation on both vertebrae, diffuse idiopathic skeletal hyperostosis (DISH) is unlikely (Kieffer, 2017). Similar findings, although not diagnosed as Klippel-Feil syndrome, were reported previously from the same necropolis at Abila (Harold, et al., 1985), the cemetery of Queen Alia International Airport (Frohlich, 1978), and Jerash (Hendrix, 1998).



*Figure 24: Klippel-Feil Syndrome. Photographed by Hussien Deebajah.*

Another rare pathology in Tomb N1 is a trauma to the left side of the face long time before death, which resulted in mandibular condyle aplasia (Fig. 25) (Shivhare et al., 2013). As for trauma during the

Byzantine Jordan, the Robebus Chapel crypt at Mt. Nebo (530 AD) revealed healed rib, skull, and forearm fractures, often linked with interpersonal violence. Most intriguing were the punched-out circular voids in the skulls of 5 individuals, while the ribs of one individual had 2 cm long pieces of bone removed by a sharp rectangular tool (Keller and Tuttle, 2010). Fractures in the ribs, sternum, vertebrae, and sacrum were abundant in the skeletal remains of the Byzantine sites of Queen Alia International Airport (Frohlich, 1978), Umm Qais (Henke and Wahl, 1990), and Jerash (Hendrix, 1998). Healed fractures in the skull, radius, ulna, ribs, and clavicles were also reported from Khirbit Yajuz (Al-Shorman, 2003). However, the region witnessed several earthquakes from the second to the mid-8th century (363, 419, 498, 551, and 747 AD), which caused massive destruction, injuries, and deaths (Russell, 1985; Amiran et al., 1994).



*Figure 25: Mandibular condyle aplasia. Photographed by Hussien Deebajah.*

Periodontal disease and dental wear were evident in Tomb N1 but unexpectedly without dental caries. The oral health in this group indicates a diet that was probably of less carbohydrates but at the same time nutritionally inadequate due to the presence of cribra orbitalia, which is a non-specific indicator of stress caused by anemia (Zarin et al., 2016). “Cribra orbitalia has been linked to a variety of nutrient deficiencies such as iron, vitamin B12, and folic acid, and probably often results from multifactorial nutrient deficiencies, as these types of malnutrition tend to co-occur” (Juengsta, 2018). In TpmB N1, two of the recovered individuals showed cribra orbitalia lesions; an adult and a subadult (Fig. 26). Cribra orbitalia in Byzantine Jordan was reported from similar sites including Ya’mun (Alobiedat, 2006; Al-Shorman, 2007) and Khirbit As-Samra (Nabulsi and Humbert, 1996). The subadults were also less fortunate as they suffered both anemia and periostitis in the femur and humerus (Fig. 27). Periostitis, by itself, is not diagnostic of any specific condition (Weston, 2012). Periostitis of long bones was reported from Khirbit As-Samra (Nabulsi and Humbert, 1996) and Khirbit Yajuz (Al-Shorman, 2003). Although periostitis is not pathognomonic (Baker et al., 2020), it can be seen in congenital syphilis and yaws, where the long bones are the most affected (Giacani and Lukehart, 2014). The lesion appears as newly formed granular bone mostly at the midshaft, which makes the bone surface irregular (Lewis, 2018). The majority of the children affected by congenital syphilis usually develop symptoms by the time they are 8 weeks old or by 2 years of age (Hollier and Cox, 1998) (Ortner, 2003). The skull of individual no. 5

(1-2 years old) looks normal, and thus, was not affected (if congenital syphilis is considered) as it is usually not involved in early congenital syphilis (Steinbock, 1976). However, periostitis of the lower limbs could be caused by leprosy, traumatic injury, or treponemal infections (Baker and Bolhofner, 2014). “Individuals with at least one tibia, and one other long bone, or with the cranium preserved, are minimally observable for the presence or absence of treponemal disease” (Baker et al., 2020). Most of the burials at site-B of Khirbit as-Samra are child burials indicating a high child mortality rate probably due to an infectious disease similar to the cases of Tomb N1 (Nabulsi and Humbert, 1996), the average age at death was about 22 years old (Nabulsi, 1996).



Figure 26: Cribra orbitalia. Photographed by Hussien



Figure 27: Periostitis of subadult femur and humerus. Photographed by Hussien Deebajah.

The urban centers of the Byzantine Jordan, such as Abila, enjoyed a better quality of life and thus better health compared to the rural settlements. The rural people were living at the edge of subsistence and poverty. Malnutrition and anemia were predominant among children compared to the preceding Roman period (Wilson, 2014). Many Byzantine sites witnessed a very high occurrence of child burials, indicating a high child mortality rate. Although previous studies pointed to prosperous rural communities that managed to pass through the economic stagnation of the Byzantine period (Rose, El-Najjar, and Burke, 2007), they had to endure epidemics and chronic diseases. As rural communities, their daily life pattern was harder and manifested in the form of osteoarthritis. Furthermore, the harsh climate conditions during the latter phases of the Byzantine period (Al-Shorman, 2002) provoked the prevalence of these diseases, where their technological innovations in the face of climate deterioration were modest. A warmer and drier climate means fewer crop yields for rural agriculturalists, which may exacerbate malnutrition and a lower quality of life.

Osteomata was seen in one of the individuals in Tomb N1, which is a benign tumor of no consequence (Roberts and Manchester, 1999). The prevalence of tumor lesions was significantly low during the Byzantine period due in part to improper diagnoses and the less ubiquitous risk factors compared to modern ones. However, the Byzantine people were not immune to tumor lesions, where for example, a pituitary tumor was reported from a Byzantine site in Mafraq (Al-Shorman, 2018). The Byzantine people might have tumors that did not leave osteological lesions or probably terminated their lives before reaching their bones.

According to Kick (1985), Davis (1985), Haskins (1988), Kyle (1988), Kyle (1990), Mare (1991), and Kyle (1992), the age at death of the recovered Byzantine skeletons at Abila was 23-35 years old, with a very high infant and child mortality rate. The pathologies include osteoarthritis in the long bones and vertebrae, dental caries, periodontal disease, rib fractures, long bone fractures, skull fractures, and mandibular fractures. Newborn skeletal remains were found to be comingled with the bones of young adults and presumed to be cases of maternal death. In antiquity, the medical practices were unable to span the peoples' longevity and thus population fecundity. This would be a sufficient interpretation of the short life span of the buried individuals at the Necropolis of Abila.

## THE FALL OF ABILA

In their seminal paper on the causes of past societal collapse, Weiss and Bradley (2001) blamed abrupt and prolonged droughts. They claimed that the social and technological innovations of the collapsed societies were modest to counter the rapidity and amplitude of such a climate, which led to the consequent disruptive agricultural foundations. Contrary to this claim is the collapse of the 13<sup>th</sup> and 14<sup>th</sup> dynasties of ancient Egypt albeit the total dependence on the Nile. The power of these dynasties progressively waned due to plague and famine (Bietak, 1991; Ryholt, 1997), which paved the road for the Hyksos to establish the 15<sup>th</sup> dynasty in 1650 BC (Redford, 1992). The deterioration in the past climate was mainly natural but anthropogenic in the aftermaths. Besides climate change, Weiss (2016), Kaniewski et al. (2015), and Diamond (2005) proposed other causes: environmental problems, maladaptation, trade failure and/or violence. In more complex societies, collapse was viewed as a maladministration as for example the collapse of the Western Roman Empire, Southern Lowland Maya and Chacoan society. Tainter (1988) attributed these collapses to the declining marginal returns on investment in complexity. In this regard, Scheffer (2016) argued that societies tend to resist change until it is too late for smooth adjustments, and that elites may prefer the status quo, thus delaying societal change. In reviewing the collapse of the Roman Empire, the Old Kingdom of Egypt, and the pre-Columbian societies of the U.S. Southwest, Lawler (2010) pointed out that decline and transformations, rather than climate change, were the true culprits behind societal collapse. However, archaeological evidence and historical documents tell us that it is usually a plethora of factors that contributed to collapse, and rarely abrupt (Butzer, 2012). The following section applies this model to the archaeological site of Abila.

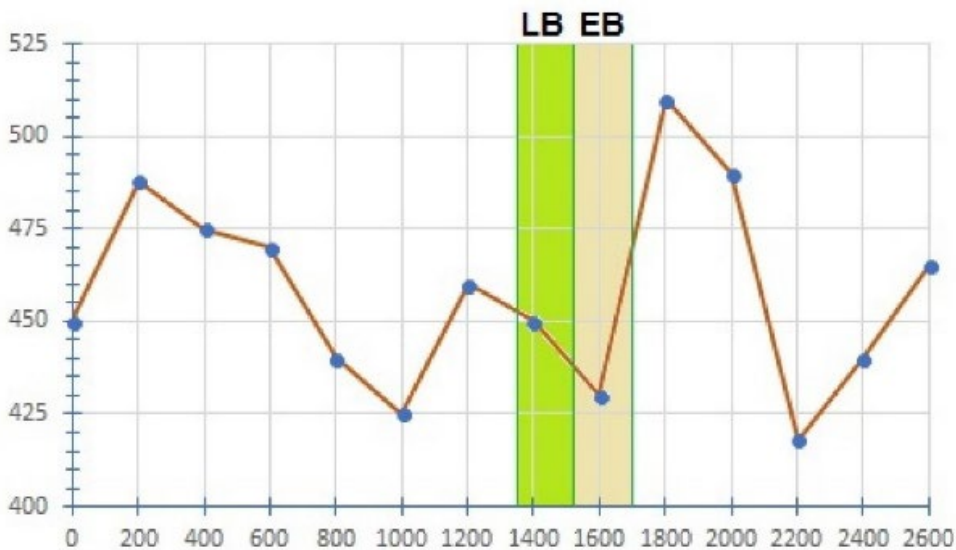


Figure 28: Modeled precipitation history, Irbid/Jordan, EB is Early Byzantine and LB is Late Byzantine.

## THE FALL OF THE BYZANTINE JORDAN

The 4<sup>th</sup> century AD was a period of prosperity and stability, which witnessed the building of churches and a remarkable population growth (Bar, 2004). In the 5<sup>th</sup> century AD, the region suffered a catastrophic economic decline as evidenced by the paucity of coinage from many sites, population expansion, and over exploitation of the land (Safari, 1998). However, few of the rural sites in the Late Byzantine period remained economically prosperous and wealthy due to trade and diversification in crop production (Rose, El-Najjar, and Burke, 2007). Nevertheless, the Late Byzantine period was an economic downturn period (Costa, 2010). Internal turmoil was also persistent throughout the 6<sup>th</sup> century AD, caused by the Lakhmids of Mesopotamia (Parker, 1986) and the Sasanians (Romano, 2004). Most of the military sites along the *Limes Aabicus* had been abandoned by the early 6<sup>th</sup> century AD, suggesting increased imperial reliance on Saracen allies and a weak central administration (Breznai, 2007). On the eastern Kerak, there was a complete abandonment of military sites even before the beginning of the 6<sup>th</sup> century AD, between 491-640 AD (Parker, 2006). Another example is the site of At-Tuwana, which was flourished during the Early Byzantine period but was abandoned in the Late Byzantine period (Fiema, 1995). The lack of security, especially along the *Limes Arabicus* during the 6<sup>th</sup> century AD, caused wide-spread abandonments, which at the same time were triggered by the harsh climate of the *Limes Arabicus* zone. There was a great deal of change in the urban centers, where for example the city of Gerasa became more utilitarian in appearance, they built potter's furnaces in the sanctuary of Artemis, and shops and public buildings were used as stables (Liebesschuetz, 2015).

Contrary to the preceding wet Roman period (Al-Shorman, 2002), a sharp drop in the Dead Sea level happened between the Late 5<sup>th</sup> and Late 8<sup>th</sup> centuries AD, indicating a drought (Enzel et al., 2003; Frumkin et al., 1991). This event coincided with the collapse of agricultural, water-harvesting Byzantine society, and the Arab conquest. In addition, the dust-veil of 536 AD that coincided with this period killed crops in the Mediterranean and probably enhanced the arrival of plague in 542 AD (Baillie, 1991 and 1994). During this period (Late Byzantine), the new settlements (406 sites) were receded to the west, compared to the more expanded Early Byzantine ones (570 sites), occupying areas with an average annual rainfall of more than 350 mm (Fig. 29); assuming a slight difference between current Jordan's climate and the Late Byzantine one (Al-Shorman, 2002). Many of the sites that were established during the Early Byzantine period were abandoned between the 5<sup>th</sup> and 8<sup>th</sup> centuries AD (288 sites, 49%); aridity was a major cause but one among others.

Based on the Archaeoclimate Model, the amount of precipitation for the city of Irbid/Jordan during the Byzantine period dropped to about 430 mm annually compared to the wet Roman period. Aridity continued throughout the following Islamic period and persisted until today except for a slight improvement during the Mamluk period. The Early Byzantine sites that survived the aridity of the Late Byzantine period were either located in areas that received sufficient amounts of rainfall or had a self-sufficient economy, such as Bersinia in the north (Al-Shorman and El-Khoury, 2011). The sites that were in the arid zone, like Umm el-Jimal, adapted to the harsh climate through rainwater harvesting (Abdelkhaleq and Ahmad, 2007), and the trade and hospitality industry (Al-Shorman, 2017). Comparable results were reported by Breznai (2007) that the abandonment of most sites in Jordan in the Late Byzantine period followed a period of dense settlement in the Early Byzantine period. Moreover, the region as mentioned previously was devastated by a serious plague in 542 AD and continued through the early 7<sup>th</sup> century AD.

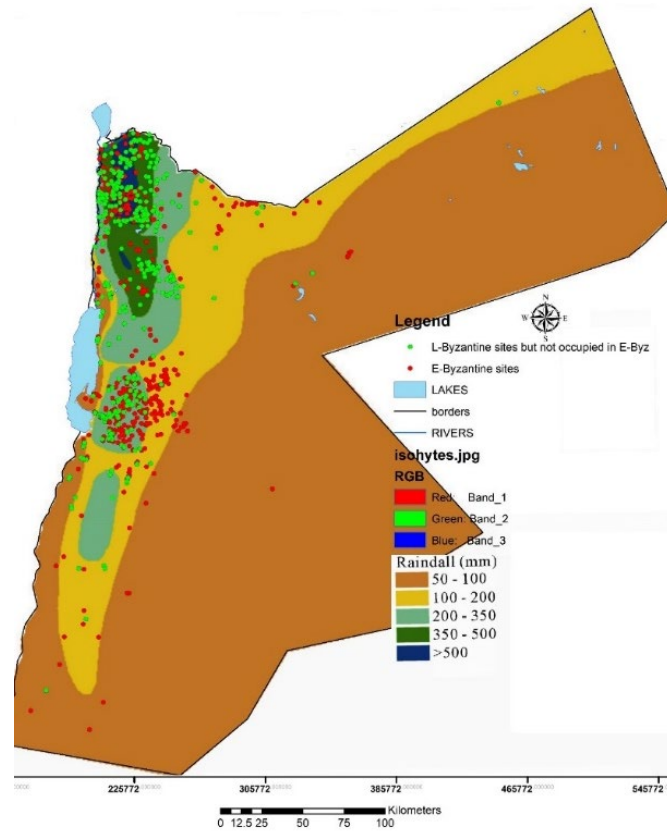


Figure 29: The spatial distribution of the Early and Late Byzantine sites in Jordan against the rainfall isohyets.

During the Byzantine period, the region was struck by a number of earthquakes, including those in 363, 419, 498, 502, 551, 580, 633, 637, 641, and 747/748 AD (Russell, 1985; Degg, 1990). The most destructive was the one in 551 AD (Russell, 1985; Degg, 1990; Amiran et al., 1994). This earthquake destroyed Petra where Gibson (2002) stated that “On 9 July 551, a devastating earthquake reduced most of what remained of Petra to heaps of rubble. It was never rebuilt, and soon the bishops departed, and all records came to an end”. There was a general trend of developing civil and domestic architecture (Gilento, 2015) and rebuilding churches after this earthquake (between 550-650 AD), such as the cathedral of Umm el-Jimal, where the first phase of construction occurred early in the 6<sup>th</sup> century (before the earthquake of 551 AD), and the second phase occurred after the earthquake and included the rebuilding of the arched side-aisle partition (Al-Bashaireh, 2017) probably to withstand potential earthquakes. A number of churches were also rebuilt after 551 AD and include 8 churches in Khirbet es-Samra (Deserumaux and Humberst, 1990), two churches in Hayyan al-Mushrif (Al-Muheisen and Tarrier, 1995), and 13 churches in Rihab (Al-Housan, 1999). The Byzantine church of Tell Hesban was also destroyed by the same earthquake and rebuilt afterward (Storfjell, 1983).

Although 6 of these earthquakes occurred during the Late Byzantine period, the settlement pattern remained confined to the areas of ground acceleration between 9 and 7 (Fig. 30), which are the most destructive according to the U.S. Geological Survey. It seems that the choice of settling in these areas was favored over the aridity of east Jordan despite the repetitive occurrence of earthquakes. This decision probably emphasizes the economic stagnation during the Late Byzantine period as well. Although there is archaeological evidence of earthquakes in the second century from the sites of Jerash (Kraeling, 1938), Hesban (Mitchel, 1980) and Petra (Kirkbride, 1960; Parr, 1960; Hammond, 1965;

Hammond, 1977), only the 363 AD-earthquake was reported archaeologically from Petra (Russell, 1980) and the 633 AD-earthquake from Qasr Tilah (Haynes et al., 2006). However, several historical accounts mentioned the earthquakes of 419, 498, 502, 551, 580, and 633 AD (Russell, 1985). Figure 30 shows the distribution of the Early and Late Byzantine sites in relation to ground acceleration, where 9 denotes a ground acceleration of earthquakes between 0.65-1.24 m/s<sup>2</sup>, 8 denotes a ground acceleration of earthquakes between 0.34-0.65 m/s<sup>2</sup>, 7 denotes a ground acceleration of earthquakes between 0.18-0.34 m/s<sup>2</sup>, and 6 denotes a ground acceleration of earthquakes between 0.092-0.18 m/s<sup>2</sup>.

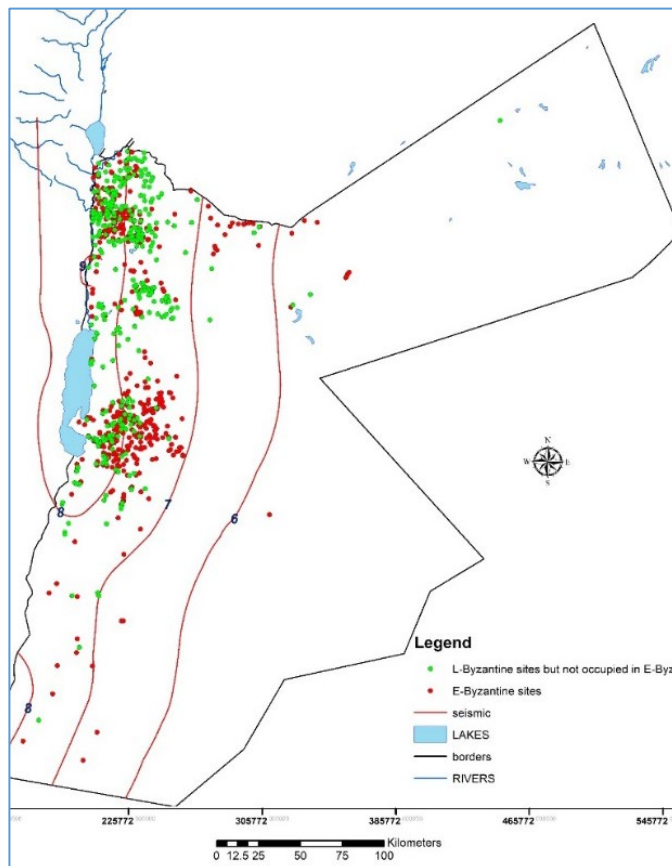


Figure 30: Ground Acceleration map of Jordan.

The seventh century AD witnessed the Persian invasion (614-627 AD), followed by the Muslim conquest of 640 AD, which marked the end of the Byzantine Empire (Parker, 1999) then the Byzantine army withdrew from *Palsetinia and Arabia*. The above events were far beyond the Byzantines' adaptation. The passivity in front of these felons torn the society apart, which was triggered by the remoteness from the center of the Byzantine Empire. However, early Islamic pottery (Umayyad) did not have any different traits from the Late Byzantine period, which confirms the continuity of the Byzantine tradition during the Early Umayyad period from 640 AD to 750 AD (Sauer, 1986), or in other words, the continuation of the collapse. The long-debated riddle behind the collapse of the Byzantine Jordan is no more persistent. Archaeologists, climatologists and historians should not put the blame on the shoulders of droughts alone; societal collapse should be revisited on a geographical basis. Despite the greatness of the Byzantine Empire and its powerful control over the East, it was not immune to the vulnerabilities that led to its end. The Byzantine Jordan ended in 640 AD, announcing a new era in the history of the region. The collapse was gradual but intensified in the late antiquity due to the intertwined variables of epidemics, earthquakes, economic failure, droughts, invasions, violence,

maladaptation, and undoubtedly, multicultural persistence. Abila of the Decapolis was one of the cities that endured these felonies.

### **THE FALL OF ABILA OF THE DECAPOLIS**

In general, the factors that drove societal collapse were diverse, sometimes intertwined, but always geo-specific. Based on the findings from the Necropolis of Abila, it seems that there was some cultural discontinuity after the end of the Byzantine period, where Umayyad burials were not reported. Only tombs J21 and L11 were proven to be used during the Umayyad period based on pottery findings but with speculation. The 6<sup>th</sup> century AD marked the beginning of abandonment of the site and reached its maximum during the 8<sup>th</sup> century AD. Triggered by the earthquake of 747/748 AD, climate deterioration during the 10<sup>th</sup> century AD contributed to the abandonment of the site and probably the whole Decapolis region (Luke et al., 2005); plague and tuberculosis were among the causes (Brashler, 1995). The very high rate of infectious diseases during the Byzantine period of Abila increased the mortality rate among fetuses, infants and subadults. At the same time, the adults were suffering degenerative osteoarthritis, maternal death and interpersonal violence. The average age at death in the Byzantine Abila was estimated to be 22.6 years (Kyle, 1988), which unquestionably contributed to the stunted productivity, and consequently abandonment of agriculture. The result was land degradation that led to the abandonment of the site (Luke, 2003). The latter was triggered by prolonged droughts (Schmidt et al., 2006). No major resettlement took place after the Decapolis abandonment in the 10<sup>th</sup> century AD (Hoffmann and Kerner, 2002). The Decapolis cities suffered from the climate deterioration during the Late Byzantine period, which caused aridity and a change in socio-economic strategies from agriculture to nomadism (Luke et al., 2012). In addition, the Persians invaded Abila in 614 AD and destroyed most of the buildings such as the church in area A, and then contributed to its abandonment (Wineland, 2001).

The necropolis of Abila pointed to an increase in the lower social class during the Byzantine period. Abila's society was ethnically, linguistically, and religiously diverse, although regionalism was almost absent in the archaeological records (Parker, 1986). The excavations of the Late Byzantine churches at Abila demonstrate that the Christian population was divided by sectarian opinion, where multiple churches were needed to meet their needs (Wineland, 2001). Such diversity would have triggered societal instability. On the other hand, social stratification was very prominent and clearly reflected in the tombs. This stratification might have caused social disparity and weakened the social inclusion of the lower social class. As one of the Decapolis cities in Jordan, Abila must have been affected by the general socio-economic and political situations that persisted at the end of the Byzantine period. In other words, Abila not only endured the previously mentioned internal factors, but also external ones.

## BEYOND THE TOMBS

During the classical period, the people of Abila buried their dead in the necropolis located east of Wadi Qwailbeh on the edge of the urban area, which was a featuring funeral practice in the Decapolis cities (Smith, 1992). The Decapolis burials include caves, graves, and burial grounds as reported from the cities of Gadara, Philadelphia, Pella, Arabella, and Capitolias (Baker, 1988; Khouri, 1988; Weber, 1990; Haron et al., 2019). However, there is evidence that the Byzantines buried their dead in the urban area as well. The Necropolis started as a small one during the Middle Bronze Age and then expanded with time to occupy four hills by the end of the Byzantine period. The Necropolis became more integrated into the living Abila during the Roman period. The 14 tomb types of Abila can further be grouped as graves dug to accommodate single individuals and polyandria designed to accommodate a group of individuals but both groups were not separated from each other's. The variation in tomb typology was triggered by the advantageous use of faults and bedding plains. These tombs do not follow a consistent pattern except for type III. The geographical layout of the tombs suggests that the masons attempted to make use of all available space, as seen by the presence of small burials interspersed amid larger tombs. Because of the high value of the Necropolis property, it is almost probable that secondary uses were made of the surface area and open space accessible in the central chambers of large tombs.

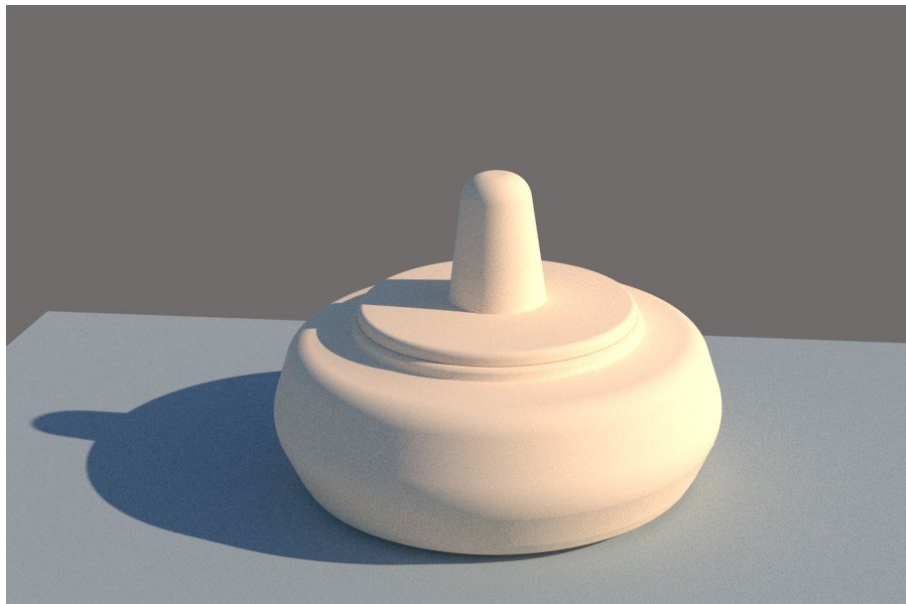
Apart from the tombs, the Necropolis features several installations that benefited Abila's society throughout their funerary customs. Epitaphs (e.g.: Tombs H1, H6, and Q4), portraits (e.g.: Tomb H 60), busts (e.g.: Tomb H31), sculptures (e.g.: Tomb H 60), and antechambers (e.g.: Tomb J 33) were intended for the living. The antechambers and central chambers were places for visitors for remembrance and feasts (Toynbee, 1971), which were evidenced by the presence of cooking pots and oil lamp niches. These elements are considered as a metaphor for the high status of the owner and for maintaining the continuity of social equilibrium. Death causes disequilibrium after which equilibrium should be restored through ceremonies and specific burial practice. The Necropolis of Abila served as a remembrance place for families to remember their beloved ones, where funerary portraits on plastered walls, busts and sculpture were very common. Funerary inscriptions were also common and meant to convey messages to the heirs, "Cheer up no one is immortal". In addition, the Necropolis was a place for feasts as evidenced by the presence of used cooking pots, unguentaria, and oil lamps. Tomb reuse was not uncommon although it was not acceptable in Rome where laws prohibited this custom. It became evident towards the end of the Byzantine period which was marked by a population decline and political instability, as evidenced in Tomb J21 and H32 (Davis, 1985), where the skeletons were rapidly disposed in previously existing tombs.

It is probable that the Necropolis was a convenient place for social outcasts, although it was unusual and socially not acceptable at that time, taking Gadara as a parallel example where the case is mentioned in the New Testament (Smith, 1992). It's possible that the Necropolis served as a sanctuary for refugees and oppressed people as well. Because of the Necropolis's relative seclusion, it was an ideal location for engaging in socially undesirable acts. Further uses of the Necropolis were practiced with different degrees of approval as the divide between those who were buried, and the contemporary population increased; newer generations cannot simply recognize their ancestors' tombs.

The surveys during the seasons of excavations in 2019, 2020, and 2021 revealed tens of cisterns in the Necropolis that range in capacity from 150-700 m<sup>3</sup>. The exact date of these cisterns is unknown, but they most likely predated or were contemporaneous with the Roman period as they did not intrude previously existing Roman tombs (Smith, 1992). To offer broader catchments, the cisterns in the upper sections of the Necropolis occupy rather flat areas. Such a huge capacity indicates a large-scale animal husbandry and/or agriculture as the Necropolis is far from Abila's water system. The main water resource is the perennial spring, Ain Qwailbeh, which is annual and fluctuates seasonally. Harvesting

rainwater across catchments in the Necropolis provided an alternative water supply during the drier years. The huge cisterns were located on the upper border of Wadi Qwailbeh and received water that ran off the crops. One of the cisterns in Area J is rectangular in shape, 8 meters × 3.5 meters with a depth of about 6 meters. It is accessed via a circular shaft in the roof and a rectangular entrance on its western wall, leading to 7 stairs. In the center of the urban area, a Byzantine cistern was found to be a modification of an earlier period tomb as the loculi were walled up and walls were sealed with hydraulic plaster (Smith, 1992). The need for more cisterns increased during the Late Byzantine period, suggesting climate deterioration and a higher population. Water cisterns, plastered water reservoirs, and animal water troughs were also common in area H (Mare, 1998). The cisterns in the urban area of Abila and the spring in Wadi Qwailbeh supplied water for agricultural and domestic purposes, which strongly suggests that the cisterns on top of the Necropolis were mainly dug for funeral purposes. The second water tunnel west of Wadi Qwailbeh, which is dated to 568 AD (Van Eldern, 1989), accidentally intruded upon previously existing tombs in area K (Fuller, 1985). Concerns about disturbing cemeteries were overshadowed by the necessity to provide water to the city during the Late Byzantine period.

The excavations of 2019-2021 revealed many grinding stones, mortars, and pestles either from tombs or around them. A Late Roman/Early Byzantine clay oven (Tabun) was found in area J on a slope facing west for bread production, probably during feasts (Figs. 31 and 32). The Tabun sits on stones with a circular opening in its floor, probably implying that it is portable and could be relocated upon necessity. Its proximity to Tomb J33 suggests that bread was provided to the tomb's masons, as the tomb had not previously been used. Mare (1999) reported an oven in area H at the head of the olive press's stairs. Potts et al. (1985) reported similar clay ovens from Iron Age Pella, which are similar to modern ones in rural Jordan (McQuitty, 1984). A similar tabun was recovered from one of the rooms from Ayn Gharandal, a Late Roman auxiliary fort in Wadi Araba but not portable (Key, 2017).



*Figure 31: 3d model of the Tabun.*



Figure 32: The Tabun of area J.

Other installations include stairways to access the burial areas, pottery kilns, stone quarries, and platforms cut into the bedrock. A subterranean olive press was found in area H, where two oil storage cisterns were found inside (Mare, 1999). One of the uses of the produced oil was as fuel for oil lamps inside tombs; it was probably class B oil. Olive presses were very common during the Roman period stressing on the economic importance of olive cultivation and oil production (Ali, 2014) using the available spaces at the Necropolis.

Traces of a chapel were also found in area J close to tomb J29 (Al-Shorman, 2020). However, the total number of churches at the site is 5 (Chapman and Smith, 2009). Open spaces were probably utilized as pastures, horticulture fields, and gardens. Other activities include tomb robbing, tomb reuse, occult meetings, sheltering fugitives, and dumping refuse (Smith, 1992). In 1998, Harold Mare excavated a vaulted arch structure in the saddle between area J and area L, which was more than 25 meters long and about 5 meters wide, oriented on an east-west axis that opened to the west. The walls are preserved up to a height of to 2.4 m. The hall was paved with rectangular stones. The architectural details of the structure point towards the possibility that it was originally constructed as a venue for municipal emperor worship (Smith, 2010). This proposition was supported by the Greek inscription that was found in Palmyra where the translation reads “to the thundering god (Zeus) for the safety of Trajan Hadrian Sebaste the Lord. Agathangelos of Abila of the Decapolis build this vaulted arch and set up this bench, out of his own expense, in the year 445 (and) the month of Leos”. The chronological indications on the inscription identify the monument dedication period as August/September of 134 AD.

Terrace walls were constructed above the entrances of the various tombs to hold the eroded dirt from blocking the entrances. This practice is very common in area J due to the very steep slopes. In front of the graves, there are terrace walls that might have served as funeral gardens or gathering areas for mourners.

The Necropolis of Abila was an active area for funeral, memorial, industrial, agricultural, and other less acceptable and illicit activities (Smith, 1992). It was considered a valuable property and was recycled

throughout the history of its use. Although the Necropolis is far from the urban area, it probably witnessed regular and dynamic activities during the Roman period. However, the Byzantine population who were less affiliated with the Romans utilized the Necropolis differently, especially knowing that population decline, and turmoil prevailed towards the end of the Late Byzantine period. Another abrupt sociopolitical change probably happened towards the end of the Late Roman period; the second chamber of Tomb J33 had never been in use, the rubble of the excavated tomb was found blocked its entrance, which attested to the above assumption. Despite the various uses of the Necropolis of Abila, its location and the architecture of the tombs ensured a proper shelter for the dead from those whose actions were not modified by social taboos or threats of retribution.



*Figure 33: Terrace walls above the entrance of tombs.*



*Figure 34: The quarry of area J.*

## ABILA: THE WHOLE STORY

Despite the huge amount of archaeological evidence on Abila, the entire story of the site has yet to be recounted. More fieldwork is needed, particularly at Tell Abila, where the site's story is thought to be started. The Necropolis of Abila has a lot to narrate about the inhabitants' culture and biology, and about how they thrived and waned. Although the site's history is thought to have begun in the Paleolithic, the earliest and most extensive material culture was discovered in the Middle Bronze Age.

Before the arrival of the first residents, the area was most likely used by wandering shepherds with their flocks living a simple nomadic life with little if any material culture behind. Fuller (1987) suggested that Abila was occupied during the Paleolithic period owing to water availability, although there is little evidence to support this claim. The same is applicable to the Neolithic period, for which no archaeological strata have been assigned to this period yet, although Abila is only 10 kilometers from the Natufian site of Ain Rahub. The Chalcolithic ceramics that were found during the previous surveys were mixed with Bronze Age strata, and no domestic installations have been reported yet. Ceramics started to be found in a stratified context during the Early Bronze Age along with domestic installations. Qutshan in 1959 was sure that one of the many tombs he excavated at Abila belonged to the Early Bronze Age but unfortunately no records were available. The absence of Early Bronze Age tombs indicates a very low population, probably a small group rather than a community, assuming there was one at all. It is probable that the site was a wandering area during the above periods.

During the beginning of the Middle Bronze Age, Jordan was a collection of small village communities strewn across the Jordan Valley (Bourke, 2013). In the Middle Bronze Age III, most of the settlements, ca. 1600 BC, were in the highlands, including Abila (Bourke et al, 2006). As a small settlement, Abila by then might have been affiliated with larger towns like Pella, especially after the latter witnessed abandonment during the MB II (Bourke et al., 2006) due to a series of earthquakes (Lazar et al., 2020). The first Middle Bronze Age settlers inhabited Tell Abila in small tribal numbers, exploiting the rich resources in the vicinity autonomously. They occupied a small area, lived in modest dwellings, and buried their dead in few tombs with a wide variety of ceramic wares of a domestic type. There was little if any exposure to the surrounding world. During this period, the Egyptians settled internal disputes, especially in the outlying northern areas, which encouraged trade and prosperity. Before being hit by abrupt and repeated droughts, the region had a brief period of prosperity then the people were compelled to migrate in large numbers and diversify their subsistence economy between agriculture and animal husbandry, which led to a decrease in population (Al-Shorman, 2002).

By the beginning of the Late Bronze Age, the climate had improved, and the population had grown, as evidenced by the increased number of tombs in comparison to the Middle Bronze Age. Kafafi (1984) reported the presence of more than 20 tombs with ordinary discoveries, scarabs and locally made pottery. Nearby, the recovered grave goods from the Late Bronze Age tomb in Sahem, a few kilometers from Abila, represent people who could afford to purchase imported jewelry, gilded bronze daggers, and Egyptian recurved knives. The recovered clay figurines from Sahem depict the Egyptian goddess Hathor and the Canaanite goddess Asherah (Fischer, 1998). Compared to the wealthy grave goods from Sahem's tombs, Abila remained almost isolated during this period. Most of the Late Bronze Age towns were destroyed and abandoned by the end of this period, although the exact cause is still mysterious. The culture remained almost the same with little influence of the Egyptian culture compared to the other Late Bronze Age sites in the Jordan Valley. However, by the end of the 13<sup>th</sup> century BC, the area east of the Jordan River had escaped the Egyptian imperial authority.

The Iron Age Abila is a continuity of the Late Bronze Age. It was noticed that regional variations were evident in many of the sites far from the center of administration of Ammon, Moab, and Edom (Bienkowski, 2001). During the Iron Age II the settlement size had increased, but unfortunately, with the scarcity of tombs, a phenomenon that prevailed all over the area of modern-day Jordan. The shortages in Iron Age tombs were probably attributed to tomb reuse and the political instability of the region (Al-Shorman, 2007), where the people might have chosen new destinations to settle in. In addition, jar burials were quite prevalent throughout the Iron Age Abila and were recovered from Tell Abila, not the Necropolis (Chapman et al., 2006). According to Kletter (2002), the rarity of Iron Age I graves is a result of poverty, the absence of elite social groupings, and the brief duration of the period. In comparison to Bronze Age customs, Faust (2004) asserts that the burial hiatus is more clearly associated with egalitarianism and simplicity. The city wall was probably constructed during this period (Mare, 1993), which means an intensive occupation but declined by the end of the Iron Age IIIC/Persian period where the pottery assemblages were rare (Wineland, 2001). Abila was probably abandoned during the period from the end of Iron Age IIIC to the end of the Early Hellenistic period. Aramaic eventually supplanted local Ammonite, Moabite, and Edomite languages as the main written language (Jouvenel, 2013).

Before the beginning of the Hellenistic period, the region's inhabitants were mainly Arabs; Herodotus identified Arabia as the region between the eastern shore of the Nile delta and the area of southern Palestine (Jouvenel, 2014; Cimadomo, 2019). During the Hellenistic period, the Near East was inhabited by Arabs, and Aramaic was the dominant written language (Graf, 2003). The first Hellenistic settlement was also on top of Tell Abila. Little if any evidence of Hellenistic occupation was found in Tell Umm Al-amad. The Hellenistic burials were only found in area H opposite Tell Abila. Such a limited settlement indicates a lower population number compared to the Roman period. Being part of the league of the ten cities during the Early Hellenistic period was debatable since Pliny omitted the city of Abila from the listing, and Ptolemy included it in his second-century enumeration (Parker, 1975). Accordingly, the first Greek inhabitants of Abila were not soldiers but ordinary immigrants from the nearby Decapolis cities, probably Pella, which is very evident based on the recovered skeletal materials from the Late Hellenistic Tomb L15 that contained females and infants, and the Hellenistic Tomb H9 that contained two adults and an infant. The tomb housed individuals of both sexes and various age groups. After entry into the Decapolis league, the excavations revealed no evidence of Arabs as inhabitants. The Hellenistic culture was eventually foreign but absorbed and assimilated the local culture by imposing its power and authority. The language was most likely the most influential carrier of traditions, customs, and social systems in the Late Hellenistic period.

Most of the Decapolis cities were initially established in the 3<sup>rd</sup> century BC by the Greek settler-soldiers of the Ptolemaic and Seleucid kingdoms (Khoury, 1985) but not Abila, which was probably established during the Late Hellenistic period and lasted for about a century and a half. The population of the established Greek cities emigrated from Greece or parts of the Greek world as veterans of the conquest armies or immigrants brought in thousands. The purpose was to build new towns, to fortify those already in existence, to discharge troops whose period of service was up, to allot them land on which to settle, and to reinforce the new regimes who then become the dominant elite groups (Tcherikover, 1959; Wilcken, 1972; Hause and Maltby, 2004). Emigrants were separate from the native population (Victor, 2010; Tsafirir, 2011). These cities became centers for the diffusion of the Greek language, culture, and architecture throughout the region. The locals in these cities used to speak koine, "the common tongue," a kind of colloquial Greek. For most of the local population outside these cities, Hellenistic civilization remained exotic and foreign. The society was divided into either a small ruling minority of Greek origin, native people who had adopted Greek culture as mentioned above, or the great mass of the people who continued to live in rural villages and clung to their traditional way of life. The locals were engaged in farming or as workers in the Greek cities and spoke Aramaic. According to Cimadomo (2019), the Decapolis cities were established to fortify Greek-influenced culture against the indigenous

people. This probably interprets the scarcity of rural Hellenistic sites in Jordan. The Hellenistic Kingdom of Syria had collapsed due to chaos, civil wars, and Nabatean control by Aretas III two decades before the entrance of Jordan into the Roman world (Kennedy, 2004). Abila must have witnessed chaos and lost control by then.

In 65 BC, Pompey's army ordered Aretas to withdraw his army east of the Jordan River, establishing a new power in the region. A new era of Romanization had started, and Abila became reoccupied again by the Romans, primarily soldiers of the 12<sup>th</sup> legion of the Roman army *Legio XII Fluminata* (6500 soldiers). They utilized previous Hellenistic tombs in Area H upon their arrival. As soldiers' families immigrated and joined them, family tombs began to appear shortly after in Abila. They used Area L extensively starting near Wadi Qwailbeh first. The Roman upper class desired to be integrated into Greek culture and be instructed in Greek mythology (Cameron, 2004), they used the site extensively where evidence of settlement was found in Tell Umm Al-amad and Tell Abila. The Roman tombs were found distributed all over the areas of the Necropolis (K, L, J, and H).

The Romans reused the pre-existing Hellenistic tombs, where they aimed to build on the preceding Hellenistic culture not only in death matters, but also in all social aspects. They maintained the Greek language and culture, where nearly all business was conducted in Greek koine (Millar, 1993; Kaizer, 2007). In the area of Jordan, the Greek language remained in use even during the seventh century AD by Christians, when Arabic was dominating (Bader, 2016). The 7<sup>th</sup> century churches in Jerash and Amman were decorated with mosaic inscriptions in Greek verse (Cameron, 2012). The Romans quarried the stones to construct their funeral structures and tombs from the hard limestone in the Necropolis, where quarries were abundant all over the Necropolis. They also built the vaulted arched bridge to connect the urban area to the Necropolis. The workers were local Arabs and used their animals (donkeys and camels) to carry the quarried stones to the construction site. The Roman painted tomb from Beit Ras revealed wall paintings of two stonecutters with texts that had been written in the local language of Aramaic but using Greek letters; these texts translate "*I am cutting (stone)*" and "*Alas for me! I am dead*" (Testard-Vaillant, 2018). The paintings and the text indicate that the masonry works of the tomb were performed by the locals who spoke Aramaic and were used by the Romans as forced laborers and treated with humiliation. The painting also shows a Roman soldier beating a worker and calling him "*Stupid*". Another worker expressed his feelings at work, saying, "*I am bored*" (Haron et al., 2019). It was not uncommon that such heavy and dangerous masonry works resulted in injuries and deaths, which is also depicted in the tomb's paintings. The material culture of the Necropolis of Abila did not reveal any Arab identity; the Romans of Abila probably adopted the *Terra nullius* model (Gosden, 2004), where colonizers do not recognize pre-existing cultures. However, Cimadomo (2019) mentioned that acculturation was gradual, a progressive process which involved language, art, religion, architecture, and material culture.

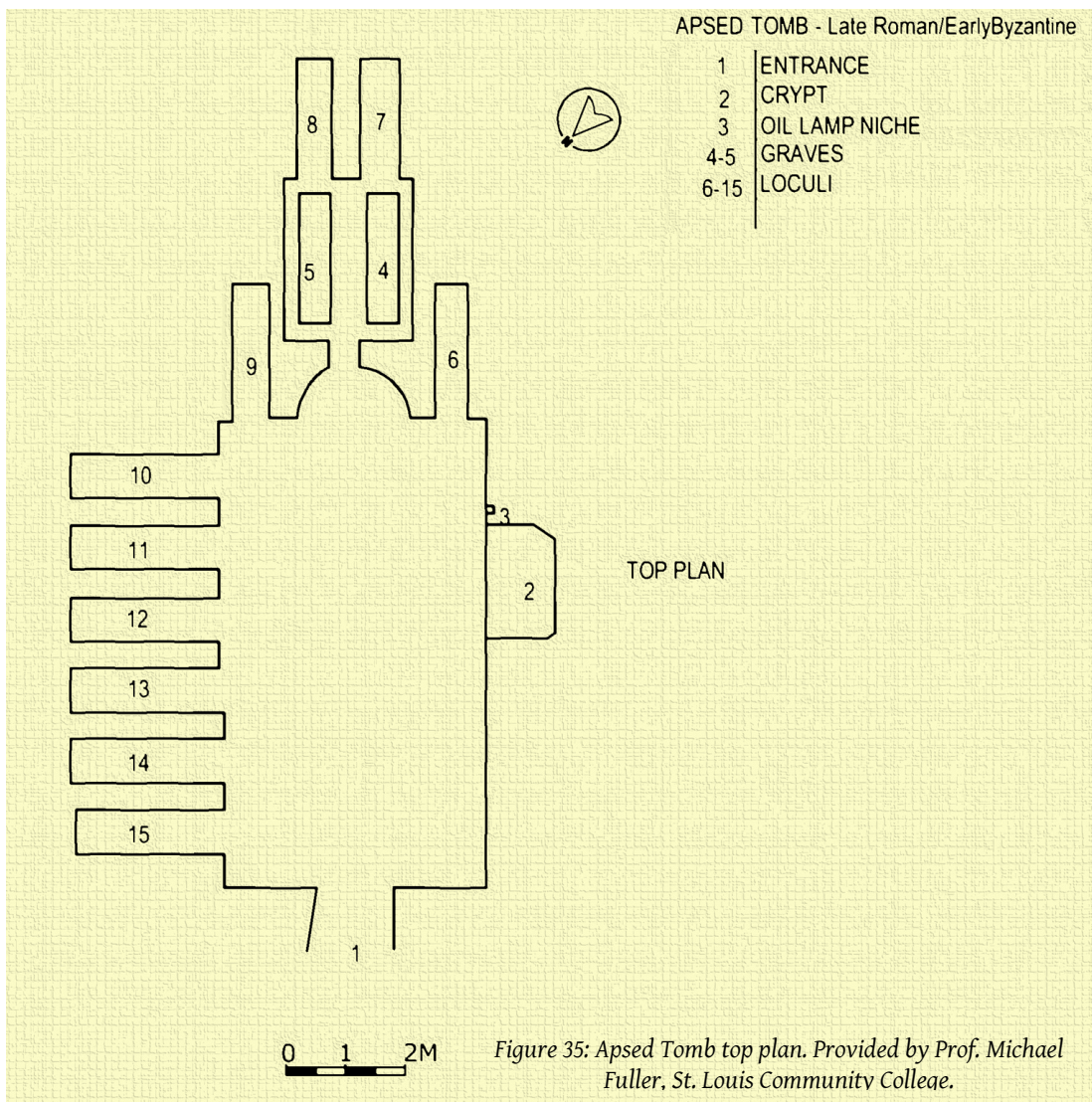
The Byzantines expanded their settlements west of Tell Umm Al-amad and built new burials within these settlements. Moreover, they reused the previous Roman tombs and established new ones, especially in area J. Sectarianism, political instability, pandemics, earthquakes, and the Islamic conquest were among the factors that terminated the Byzantine period. Most of the architectural achievements in Abila took place during the Byzantine period, including the churches, where the construction stones were either quarried locally or imported from Turkey and Greece. The basalt was most likely sourced from nearby basalt flows outcropping in the northwestern part of Jordan (Al-bashaireh and Lazzarini, 2016). The cultures mentioned above were so dominant that few funerary Aramaic inscriptions have been discovered so far. One of these inscriptions was found at Khirbet es-Samra, dated to the Byzantine period and translates to "*Year 457. Of Silas*"; the name Silas was ubiquitous in the Near East during that time (Nabulsi and Macdonald, 2014). The archaeological site of Wadi Salma in northeastern Jordan revealed inscriptions written in Aramaic with Greek letters (Al-Jallad and Al-Manaser, 2015). It is

plausible that the local people rebelled against acculturation; the Aramaic inscription could have been a form. However, none of these sites was part of the Decapolis cities.

The inhabitants of the Decapolis cities were Greeks and Romans. The Arabs were laborers and were not buried in the Greek or Roman Necropoleis. For example, the inscription on the lintel of Tomb 7 at Pella mentioned the names of the deceased and their professions as soldiers (Smith, 1973). Several funerary inscriptions that have been recovered from Gerasa attest to the service of the deceased as auxiliaries and legionnaires. These inscriptions indicate that the burials belong to Roman soldiers but not local Arabs. The recovered Greek texts from the Abila were epitaphs that mention Greek names and the date of death. One of the examples is the one found in Tomb Q1, which translates to "*Be brave, Lucian, no one lives forever*".

The above assumption regarding the Greek epitaphs can be applied to the inscriptions found in many areas of Jordan, especially the north. To mention but a few, the tombstone that was found in al-Mazar and translates to "*Be of good cheer, Annias, nobody is immortal, year 204. Age 40*" (Bader and Habash, 2005). The inscription from Samad translates to "*(...)stros, daughter of (...)dalos, 40 years*", and "*Chasetos, son of Areisos*" from Mugheir al-Serhan. A tombstone was found at an-Naqa cemetery in Ghor es-Safi in southern Jordan with a Greek inscription that translates to "*One God, the Lord of all. A monument of Arrianos, son of Abdalgos. Having died at the age of 35, in the month Hyperberetaios, in the year 355 [= AD 461], on the 20th day. Be of good cheer! No one (is) immortal*" (Bader and Habash, 2012). The tombstone of Umm el-Jimal translates to "*Masikh, also called Suma, [son of] Rawah, all [his] years [were] 40*" (de Vries, 1993). The epitaph's style and the deceased's name point to Roman burials rather than local ones. Social stratification was remarkably prevalent among the Graceo-romans at Abila.

## PLANS OF TYPE IA



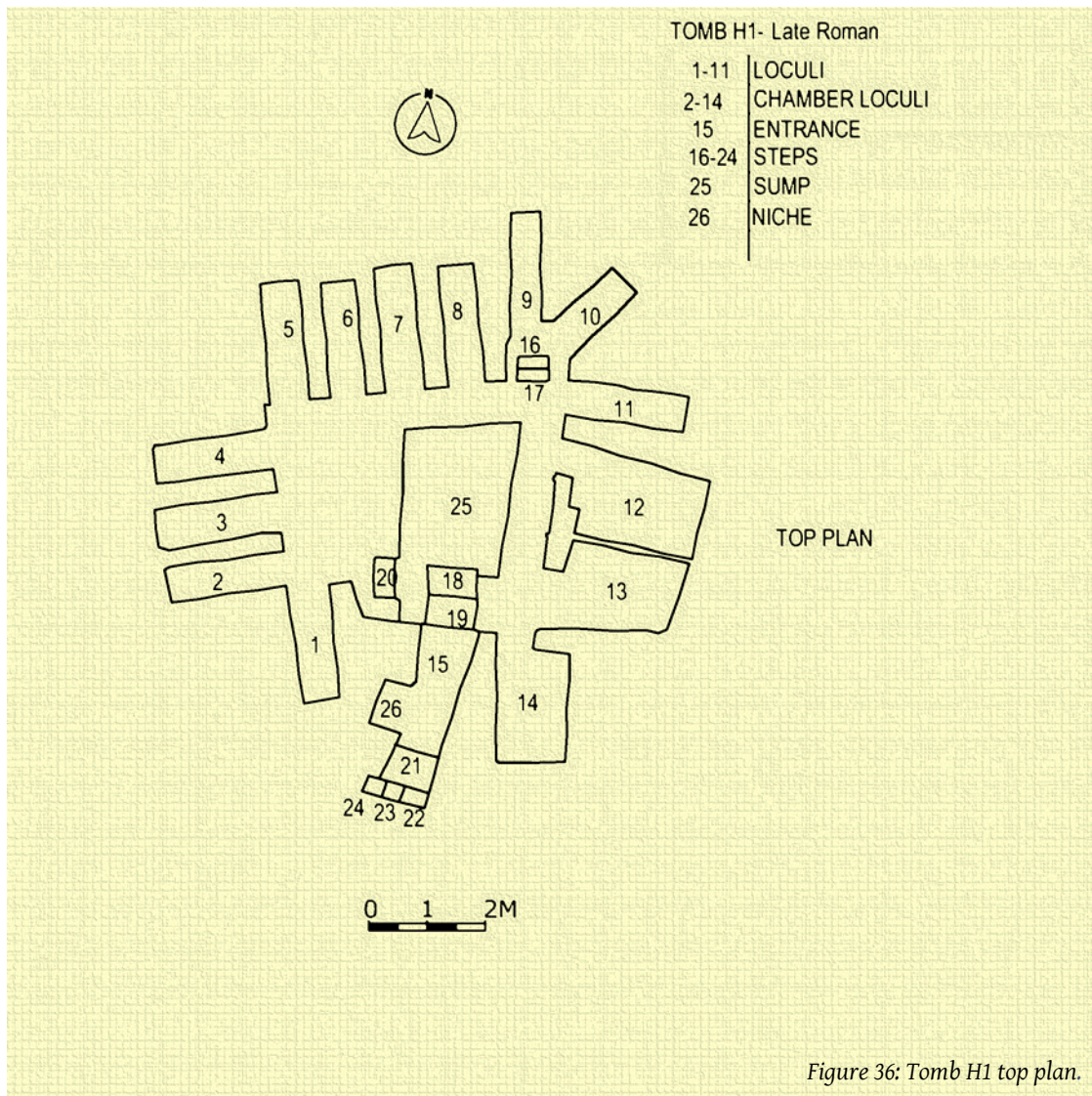


Figure 36: Tomb H1 top plan.

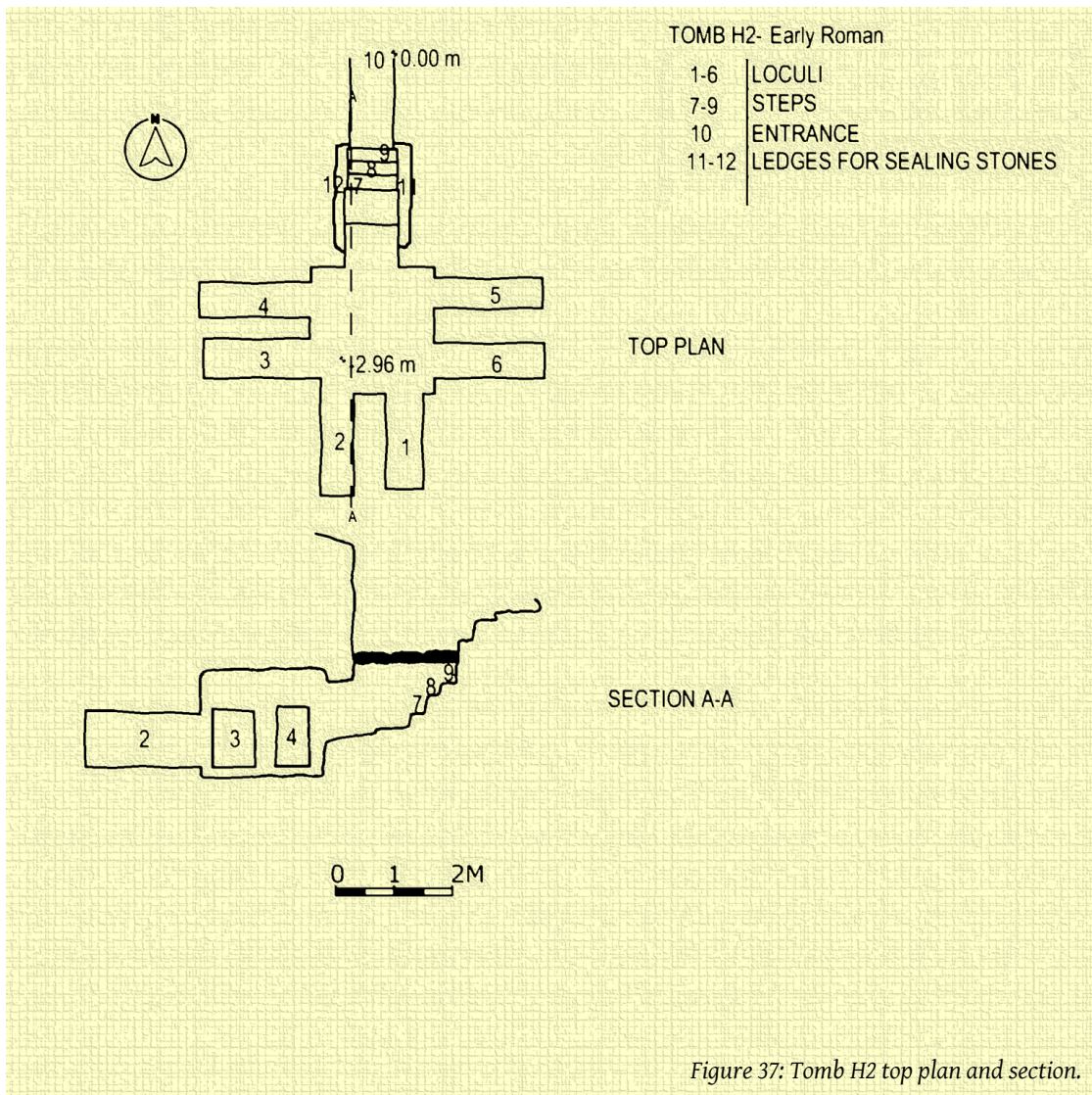
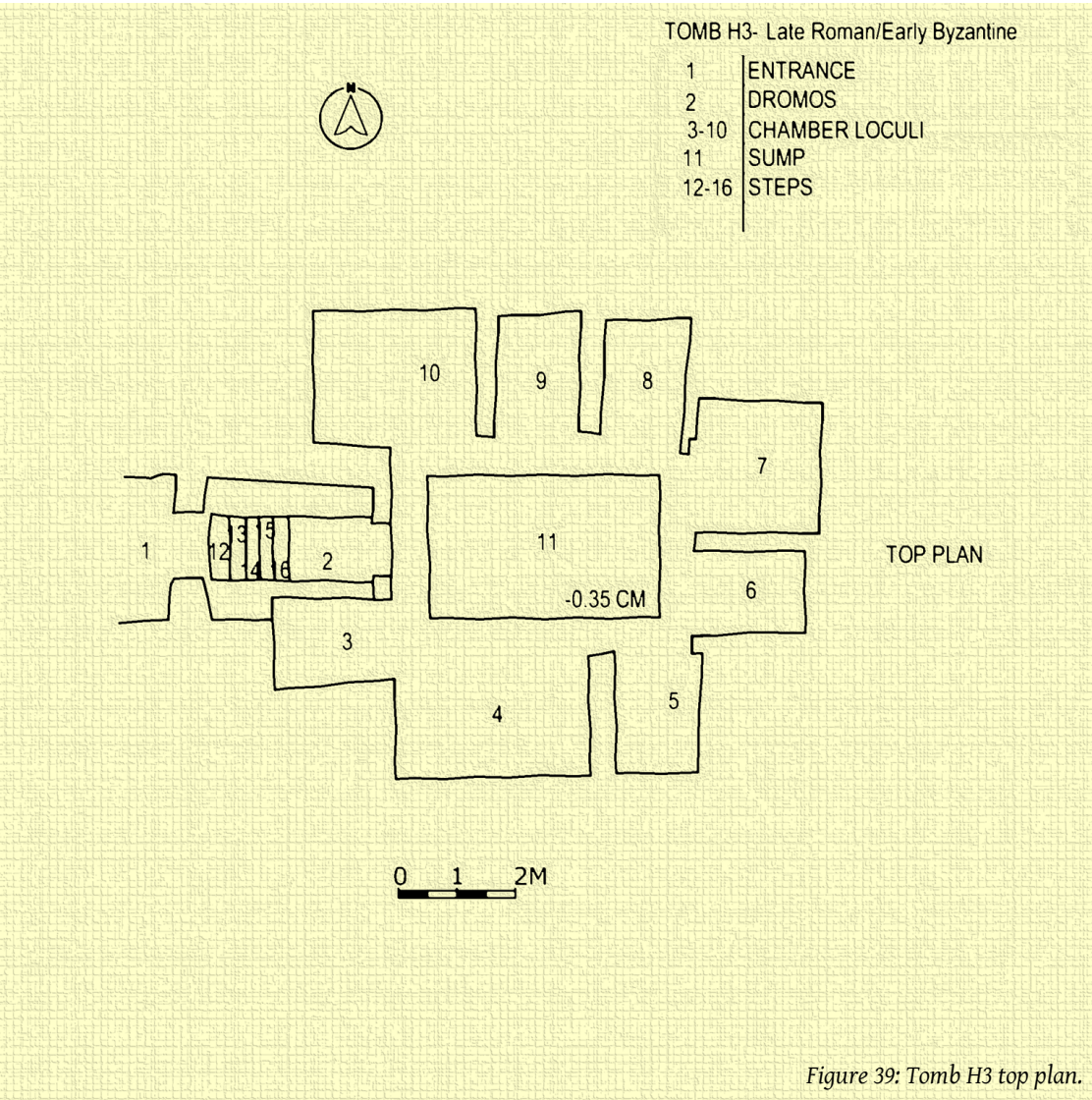
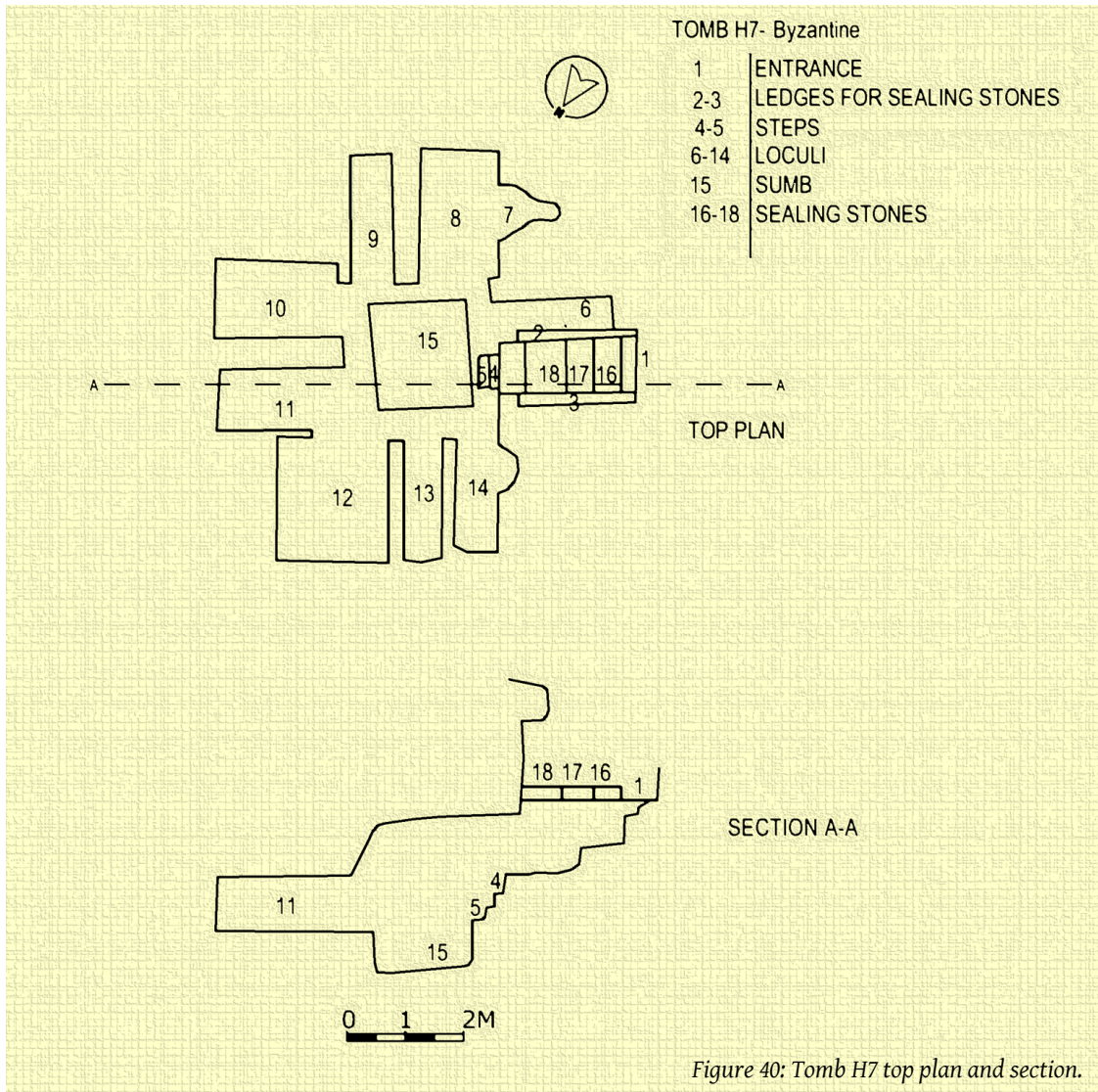
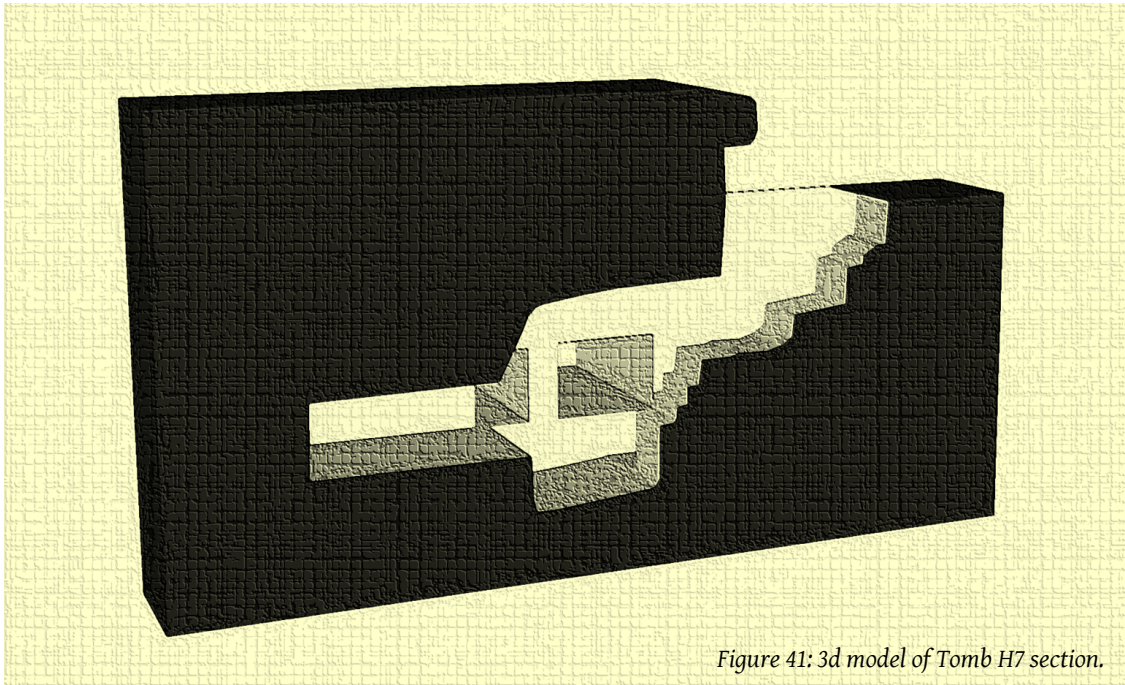




Figure 38: A 3d model of Tomb H2 section.







*Figure 41: 3d model of Tomb H7 section.*

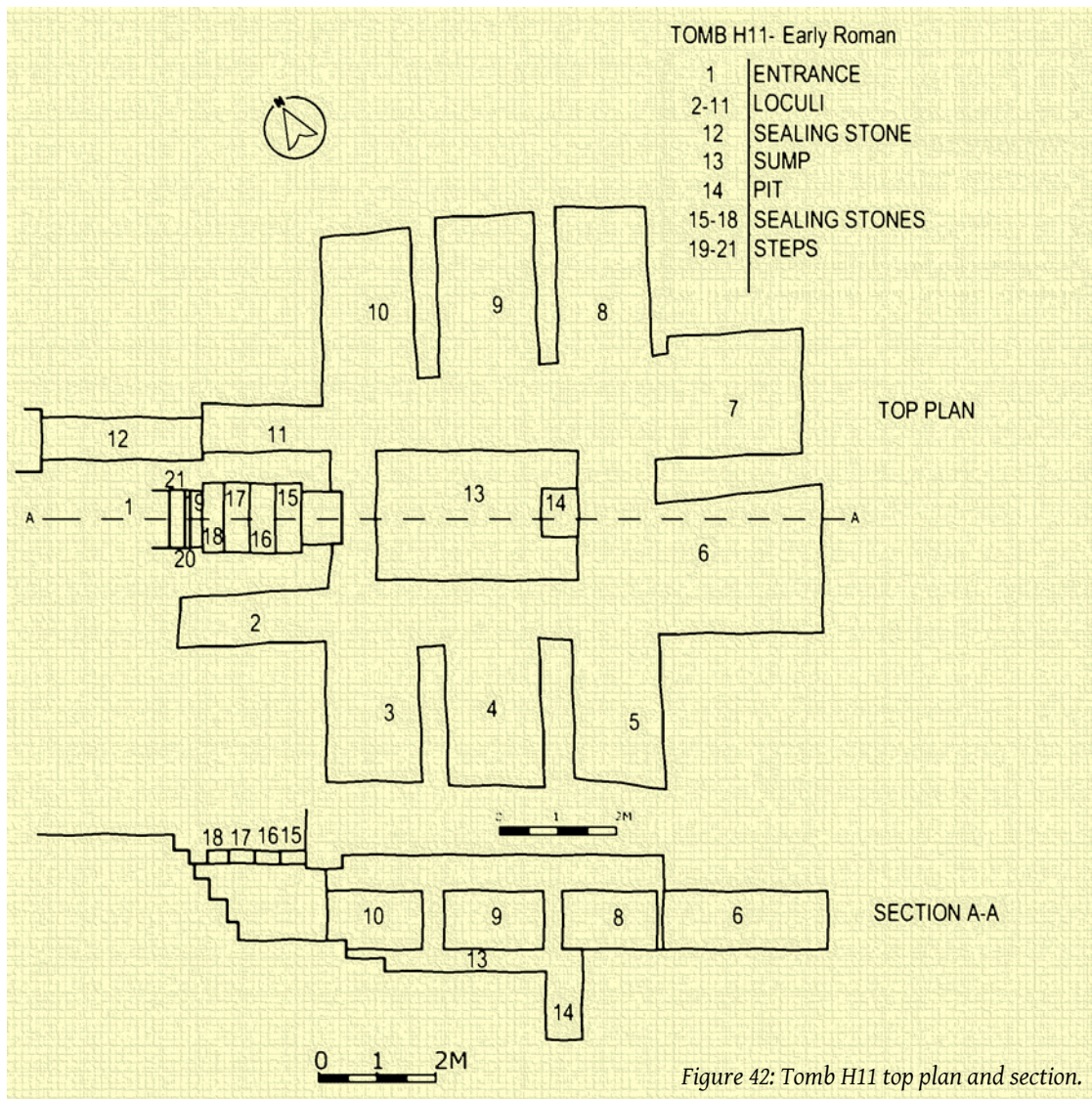
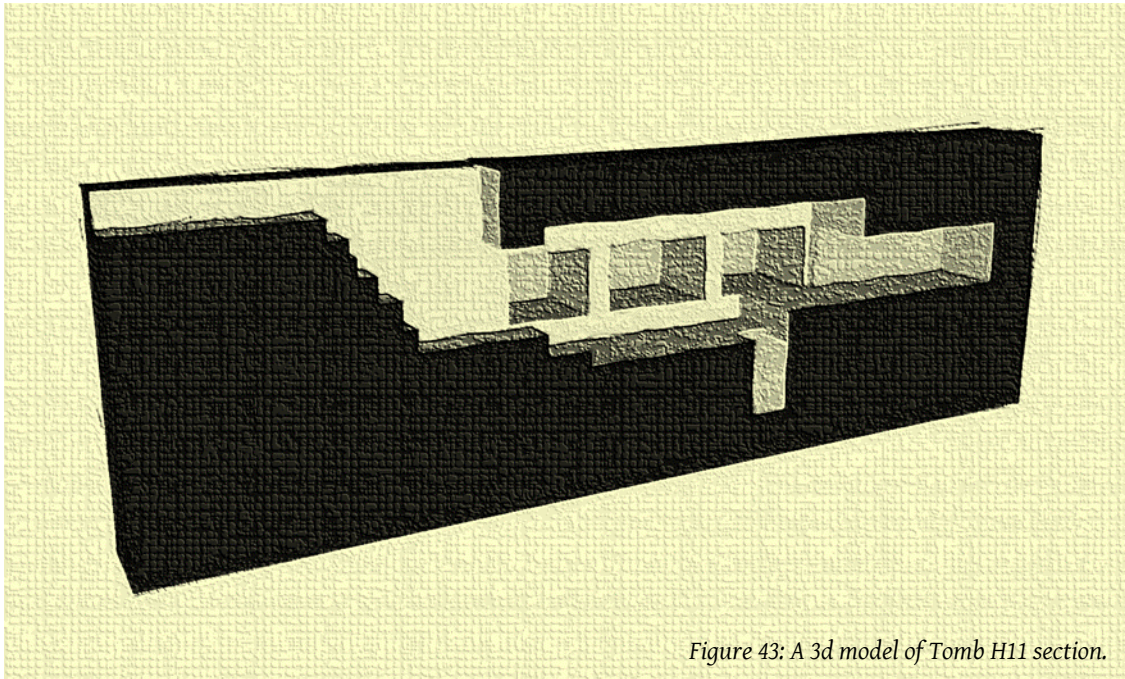
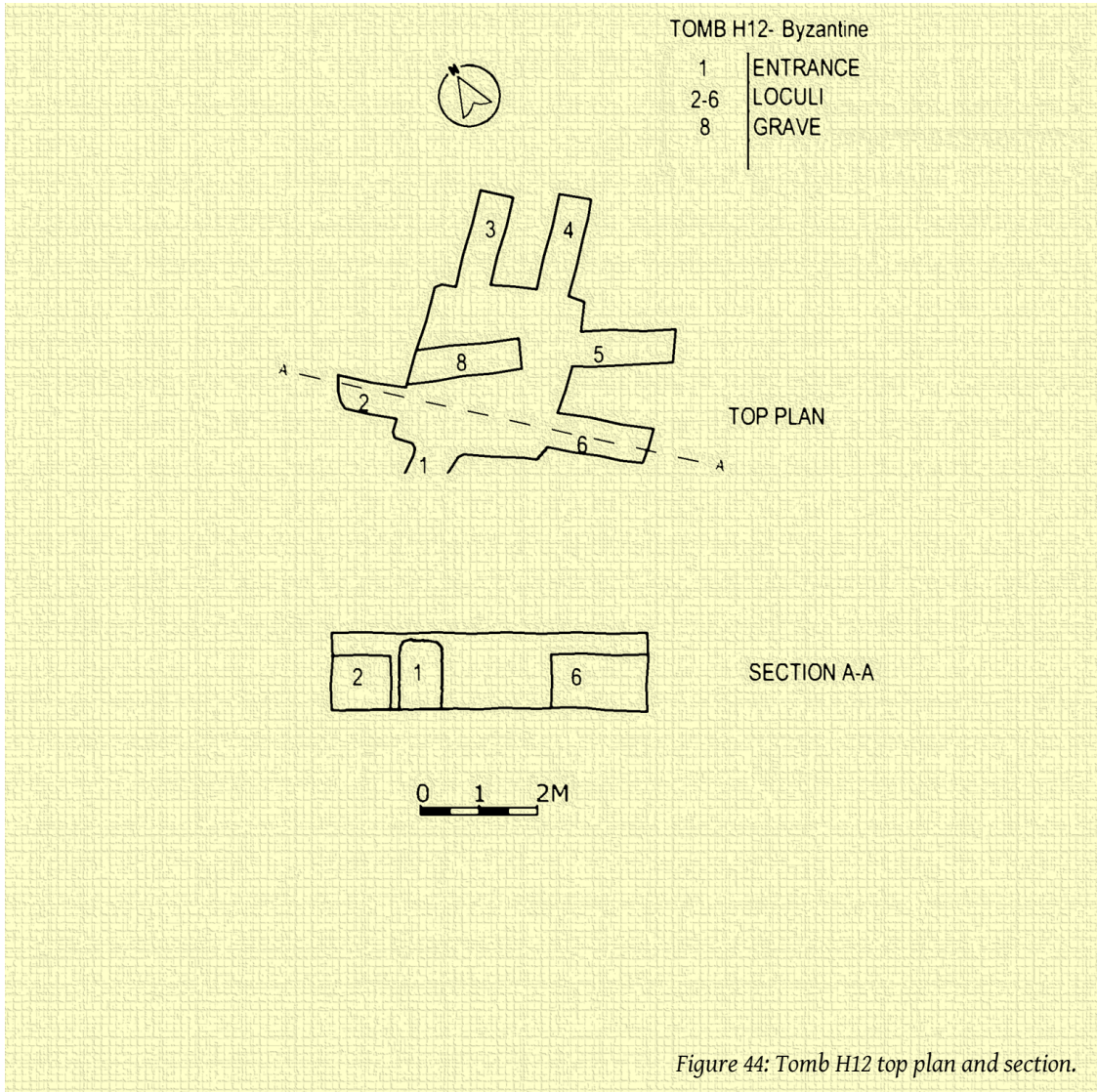
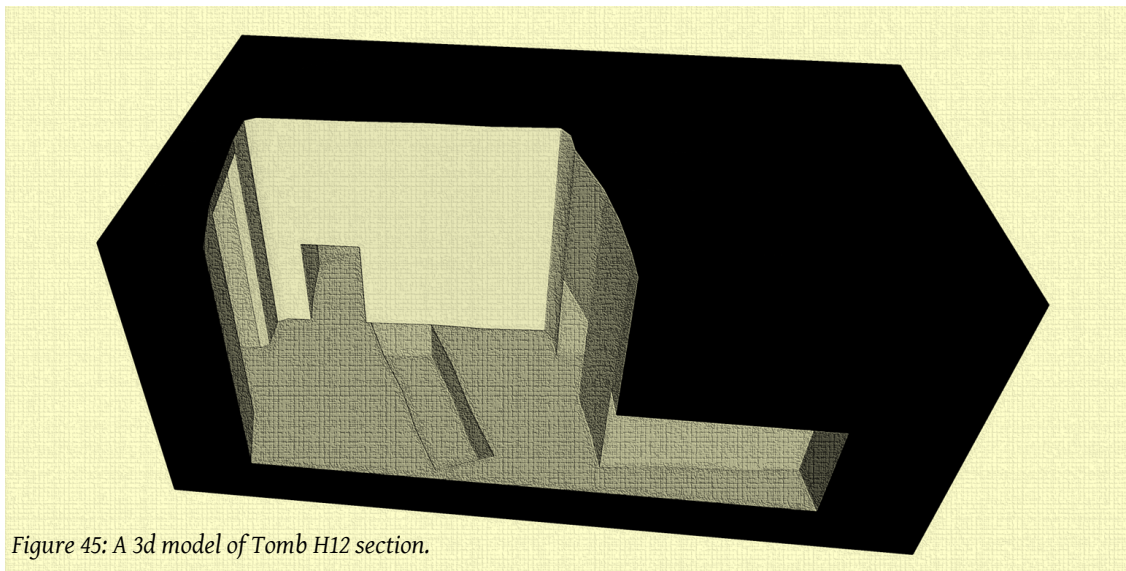


Figure 42: Tomb H11 top plan and section.

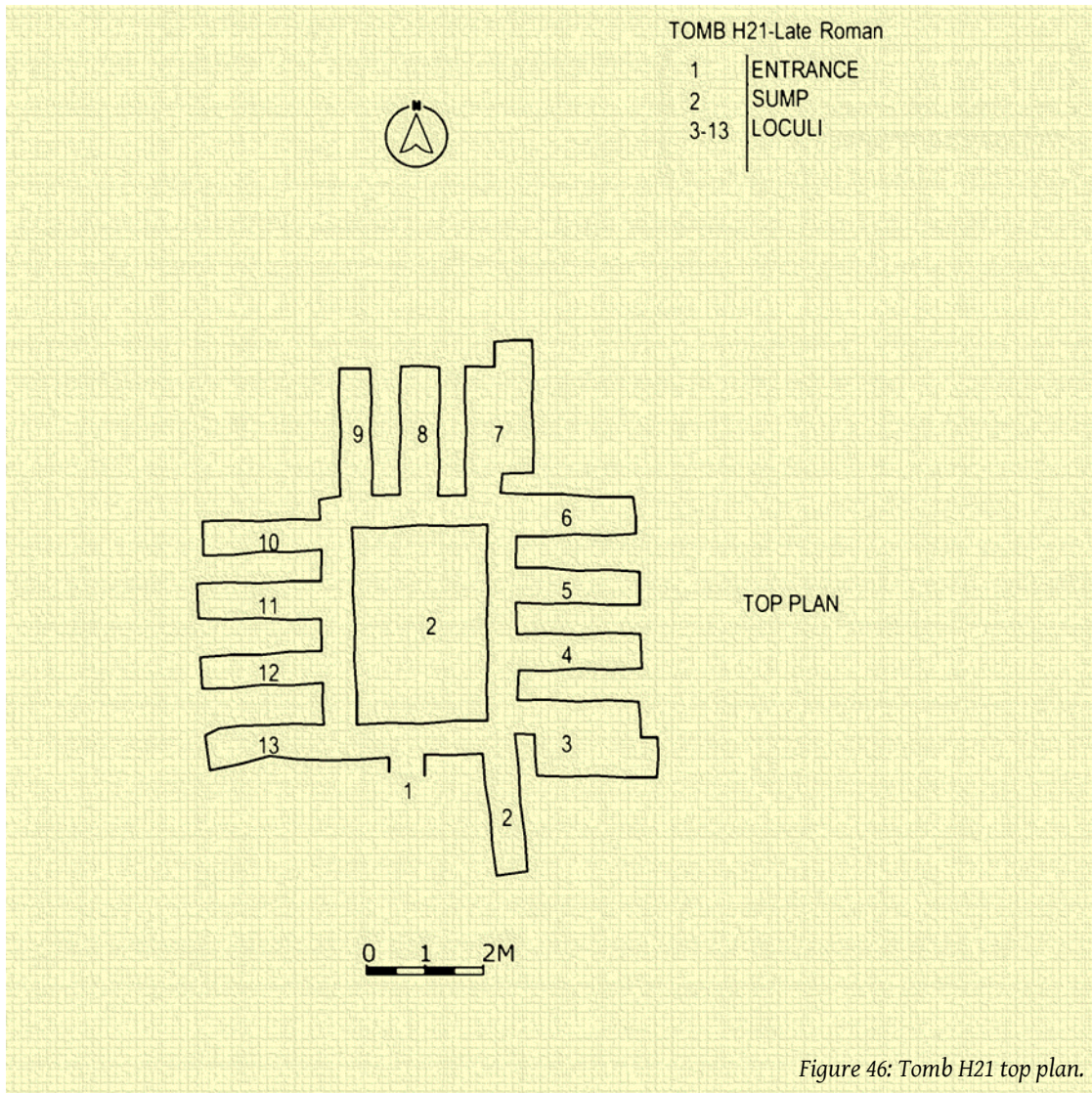


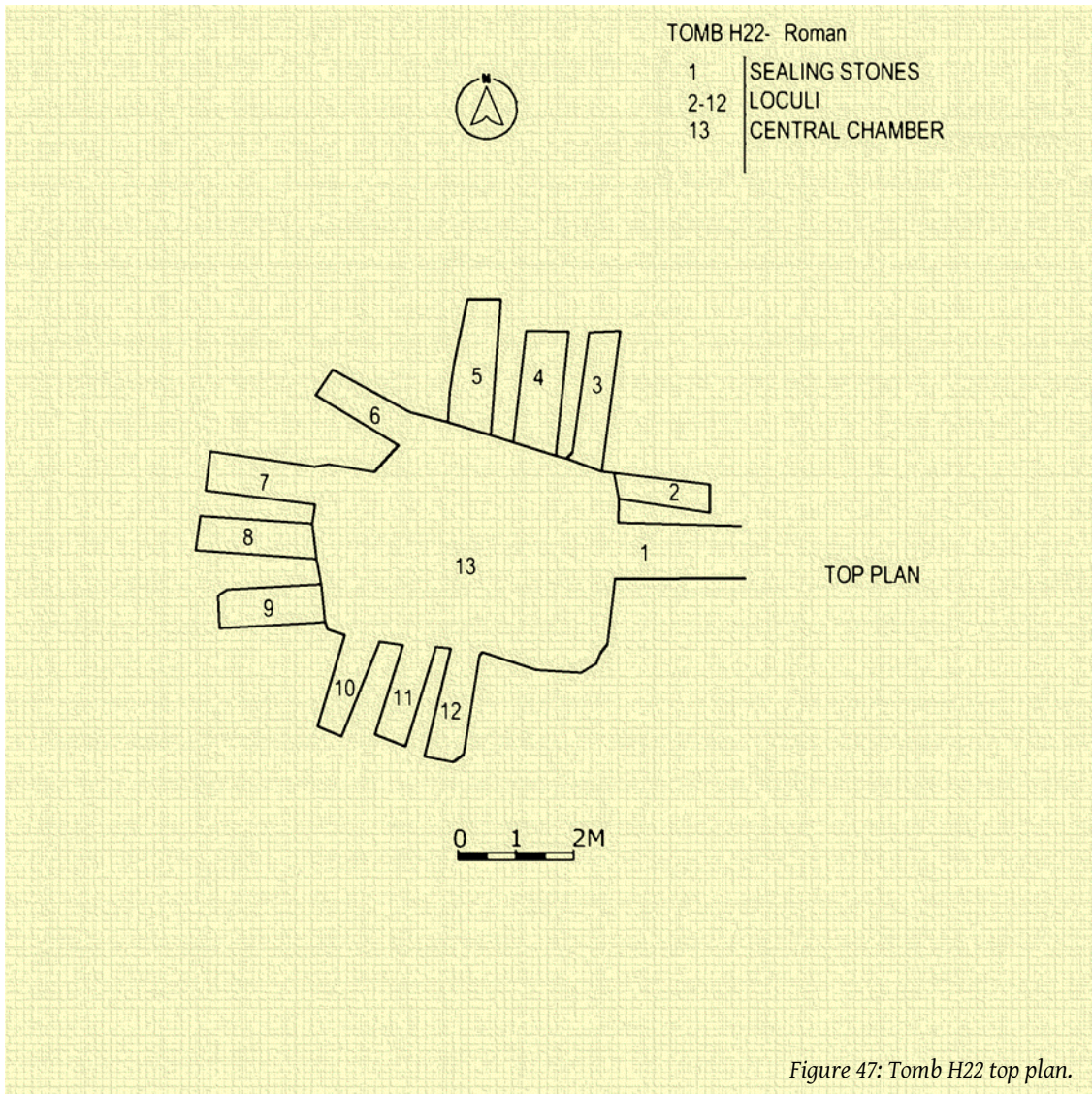
*Figure 43: A 3d model of Tomb H11 section.*





*Figure 45: A 3d model of Tomb H12 section.*





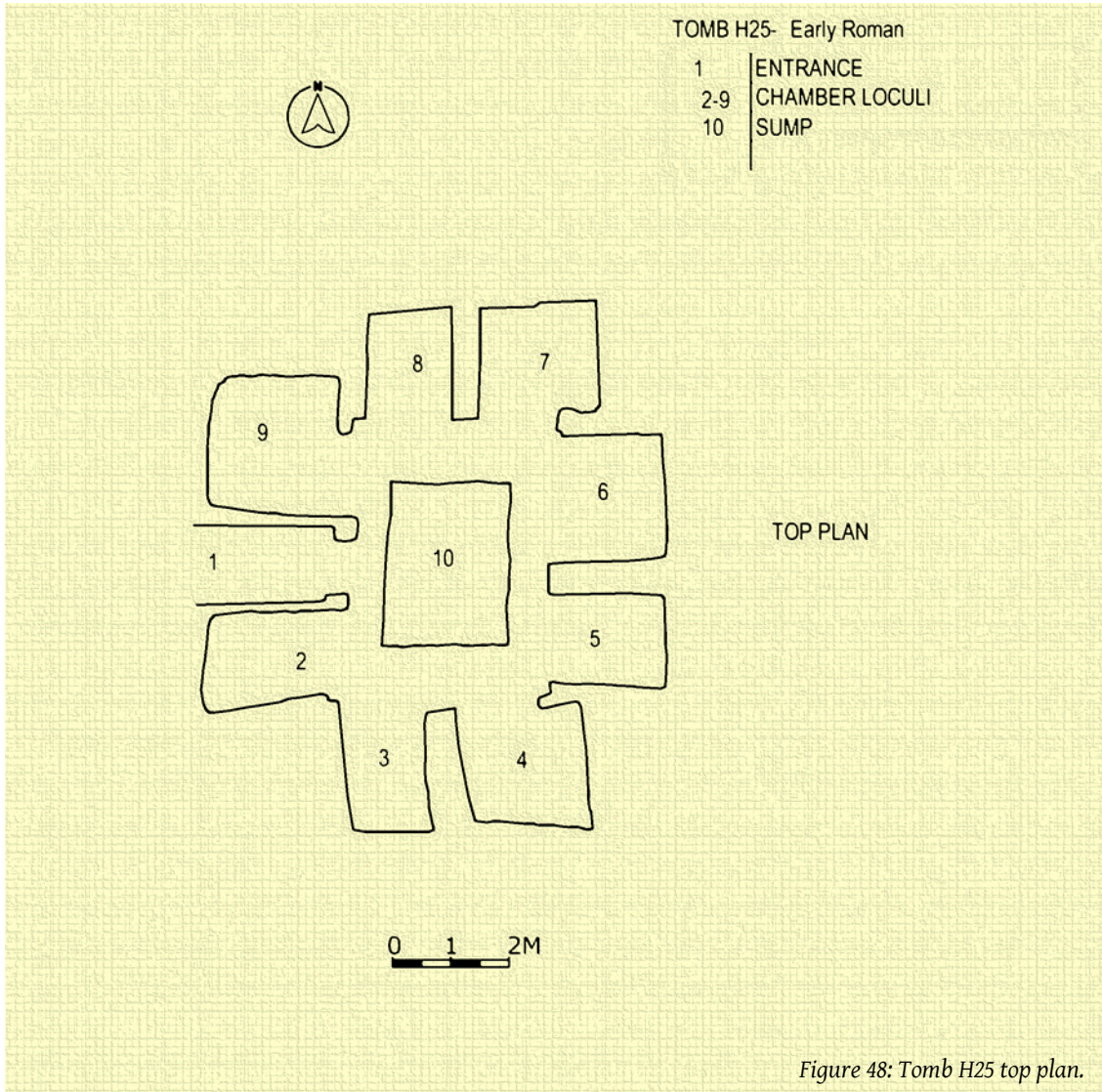
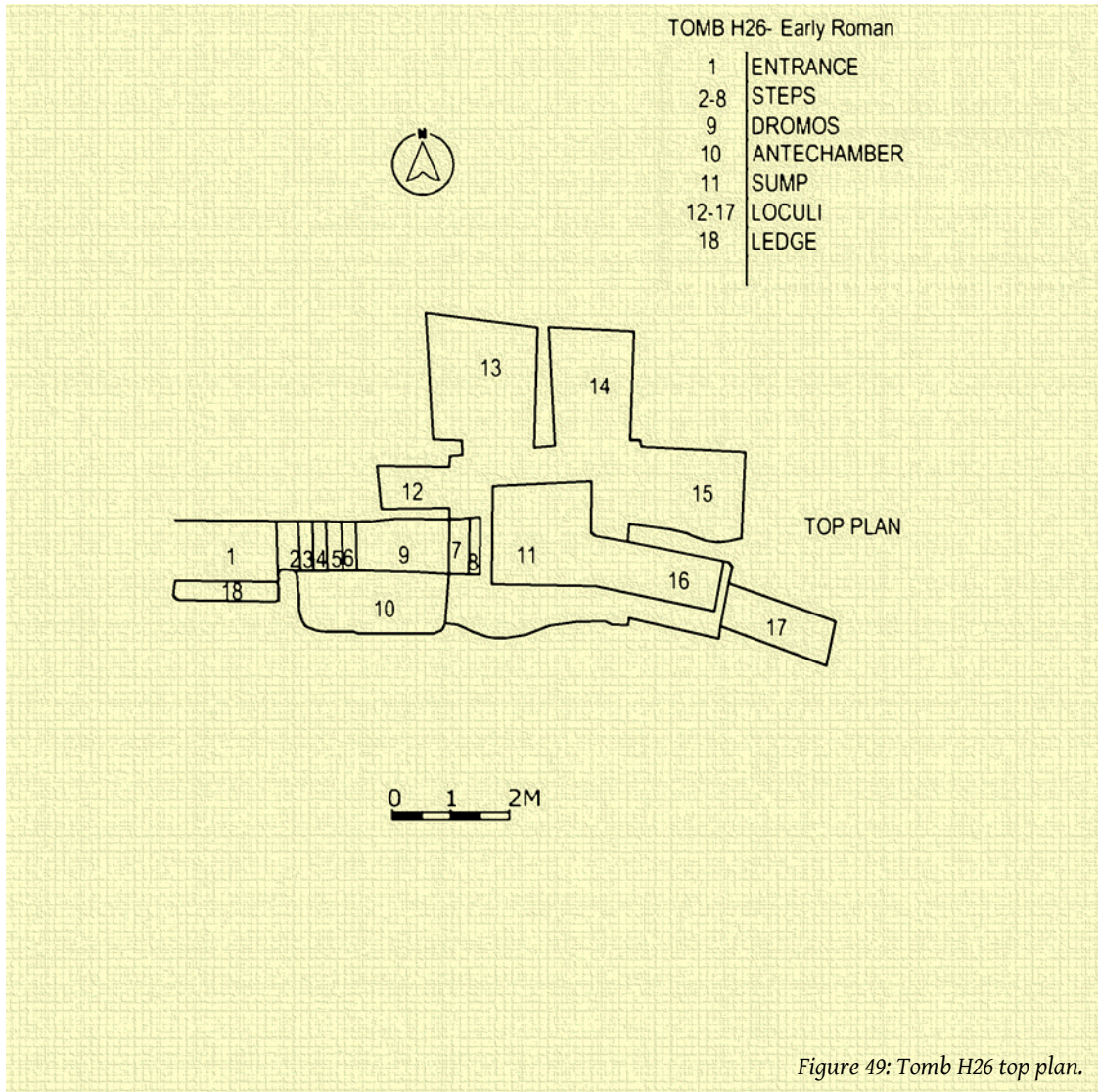


Figure 48: Tomb H25 top plan.



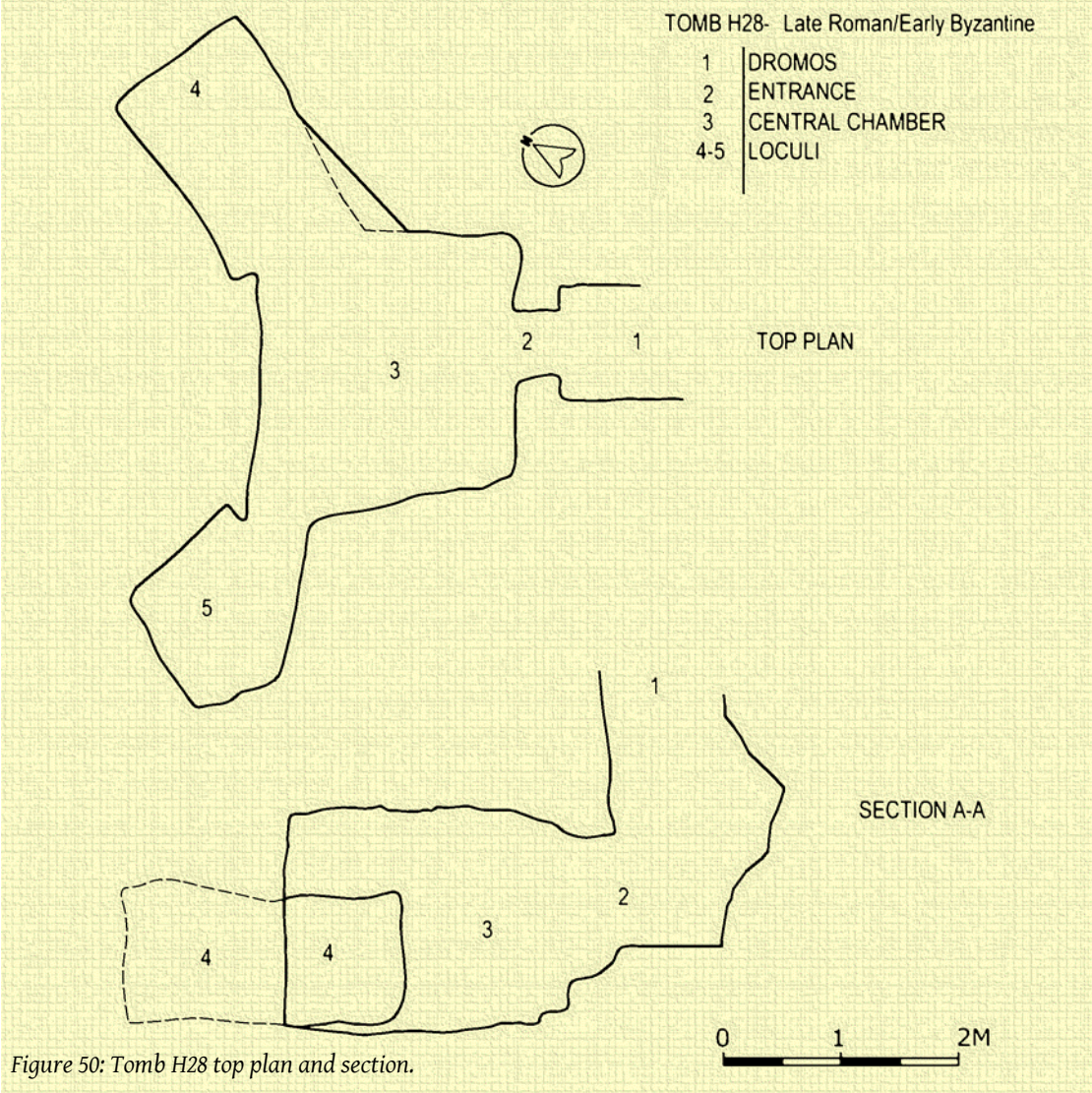
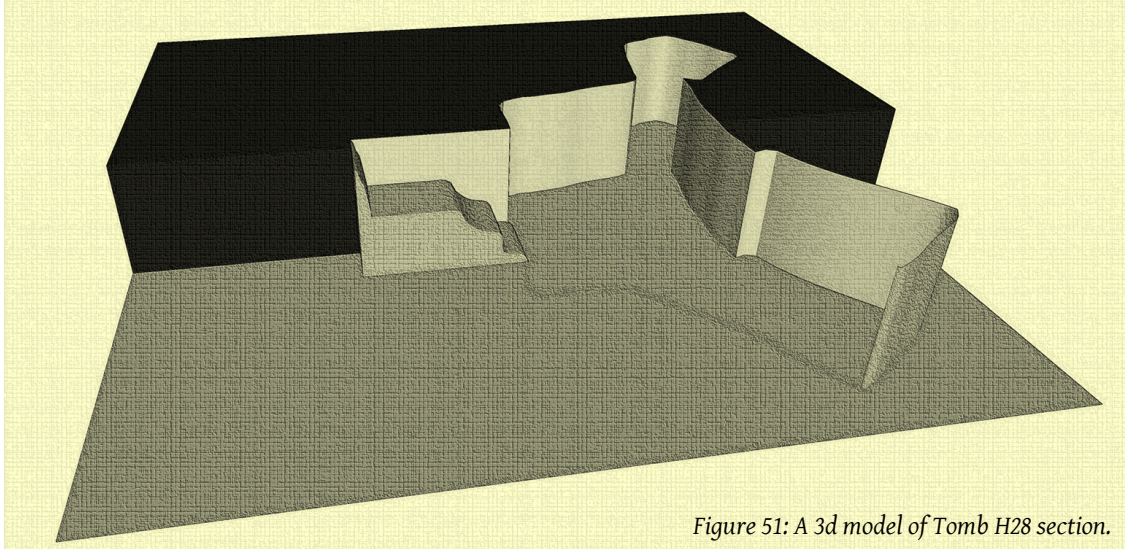


Figure 50: Tomb H28 top plan and section.



*Figure 51: A 3d model of Tomb H28 section.*

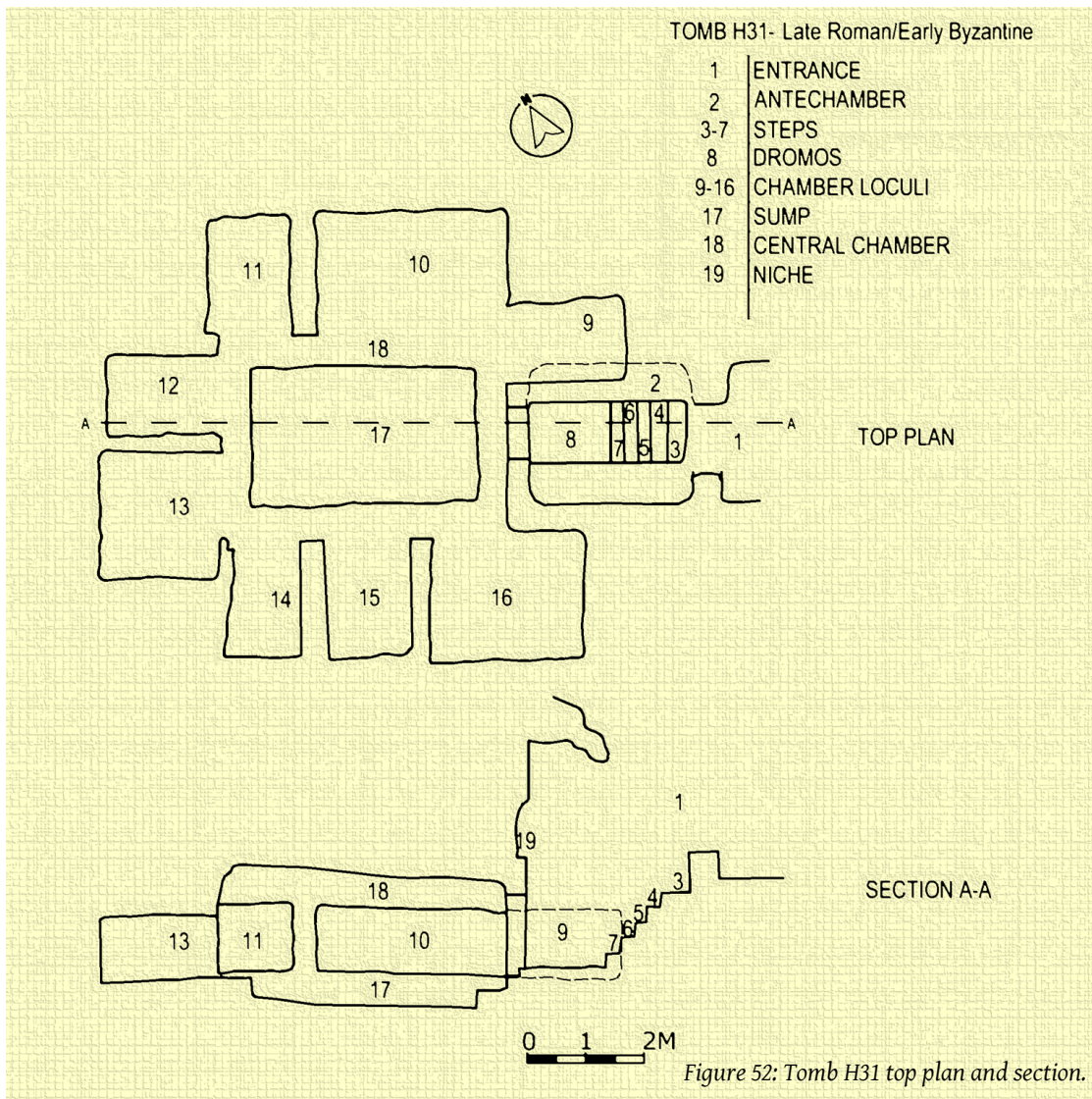
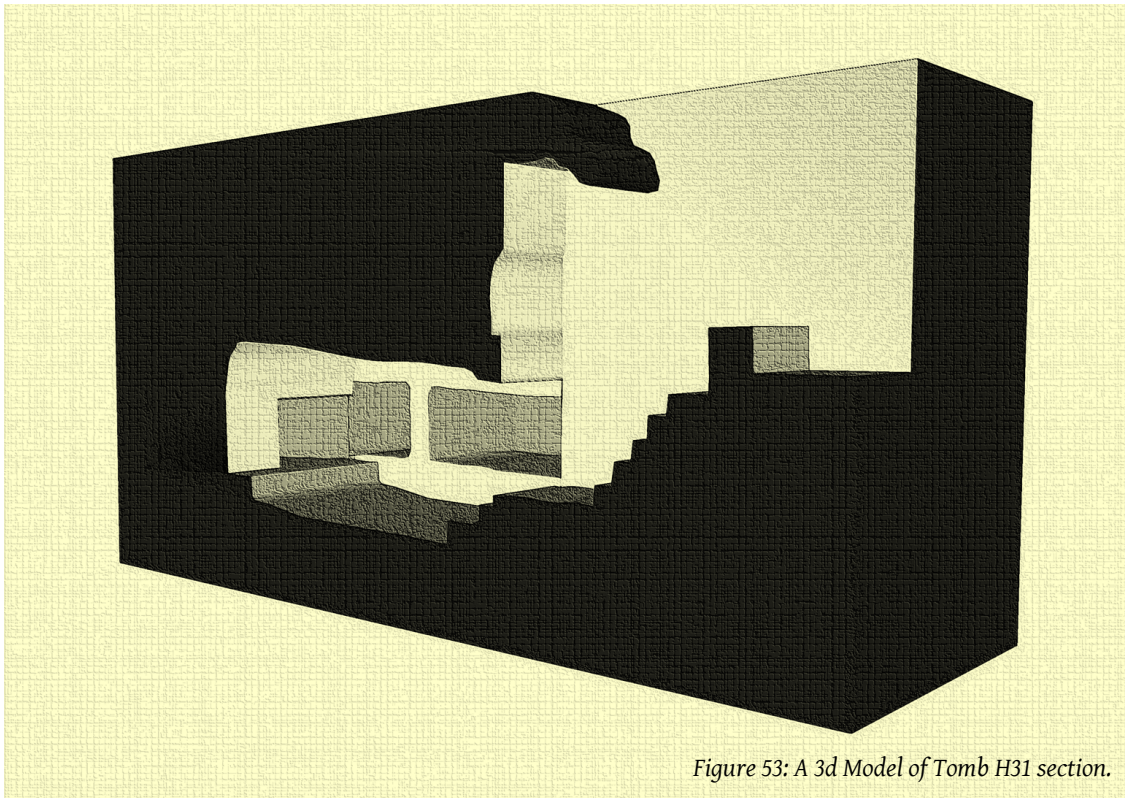


Figure 52: Tomb H31 top plan and section.



*Figure 53: A 3d Model of Tomb H31 section.*

TOMB H32- Early Roman/Byzantine

- 1-8 LOCULI
- 9 CENTRAL CHAMBER
- 10 DROMOS
- 11-15 SEALING STONES
- 16 ENTRANCE

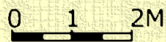
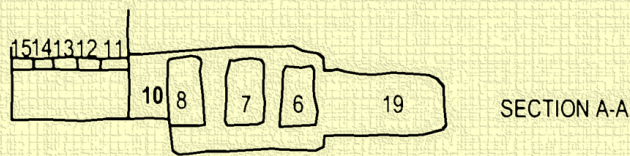
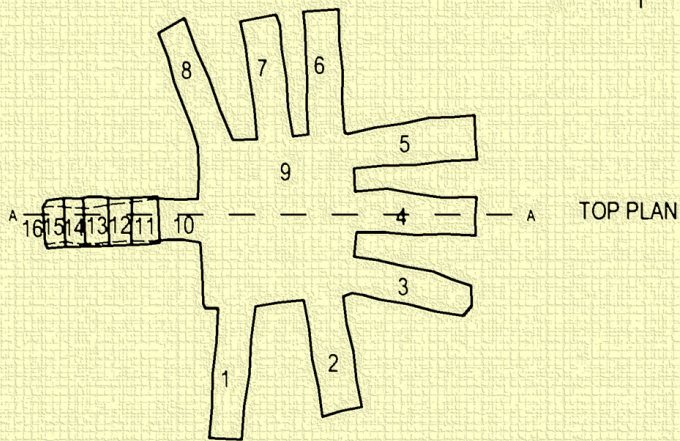
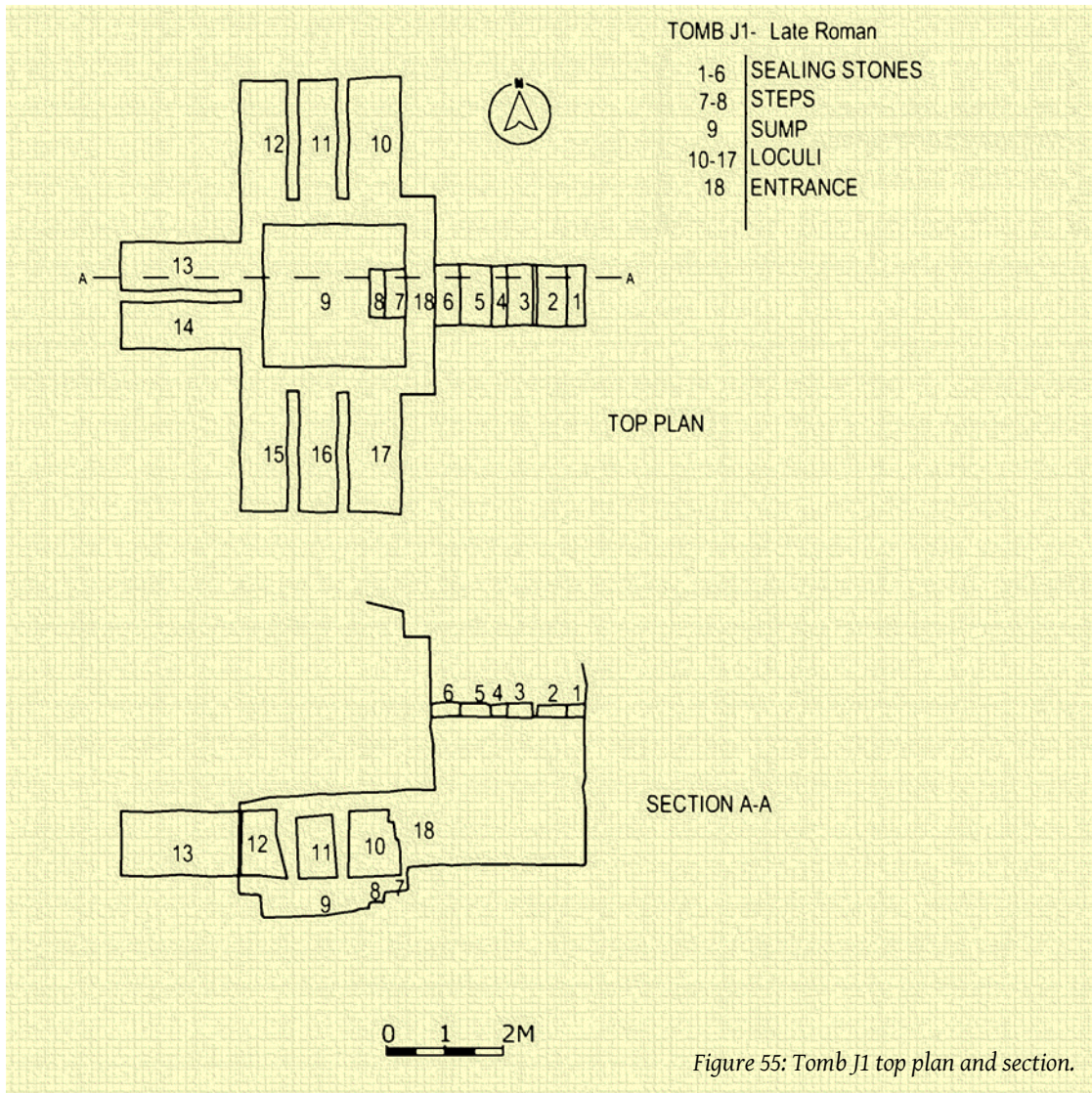
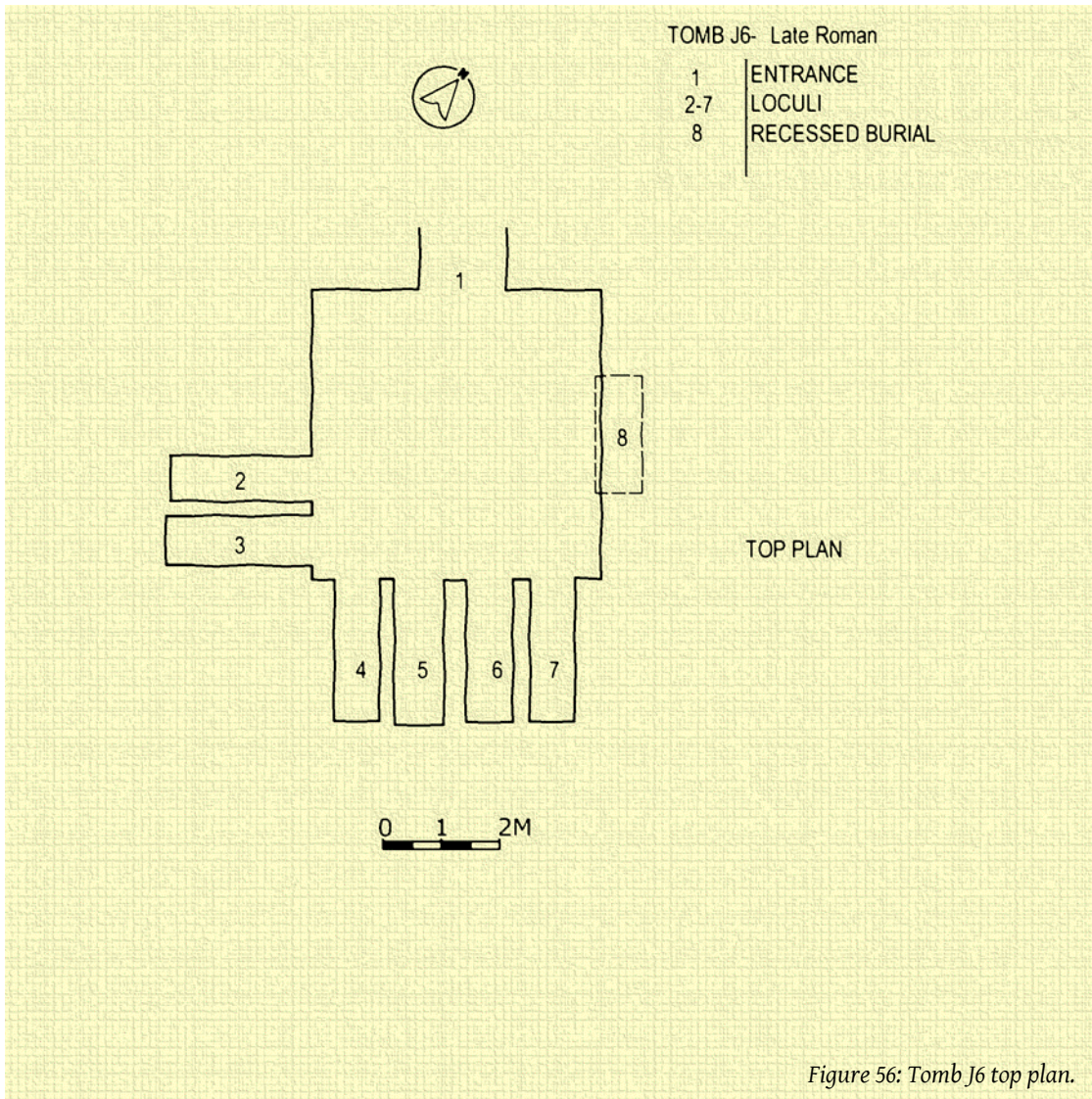


Figure 54: Tomb H32 top plan and section.





TOMB J29- Late Roman/Early Byzantine

1	ENTRANCE
2-8	LOCULI
9-10	DOUBLE LOCULI
11	UNFINISHED LOCULI
12	STEPS
13	LEDGE

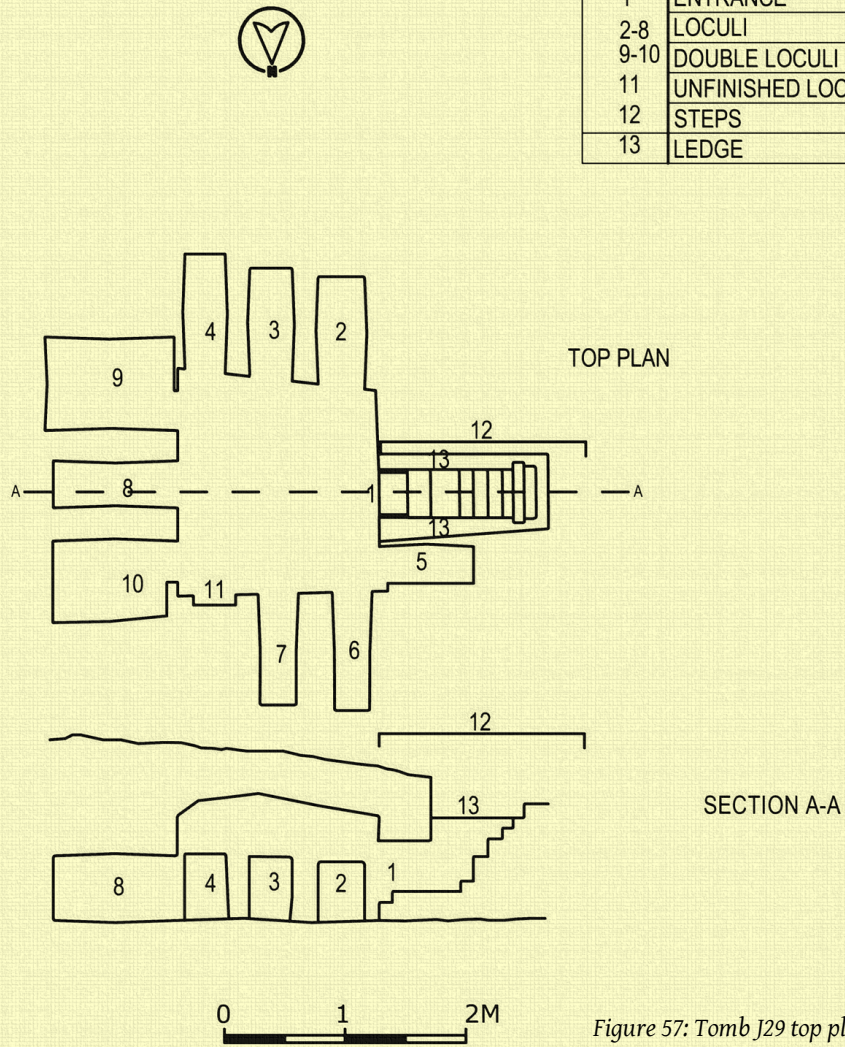


Figure 57: Tomb J29 top plan and section.

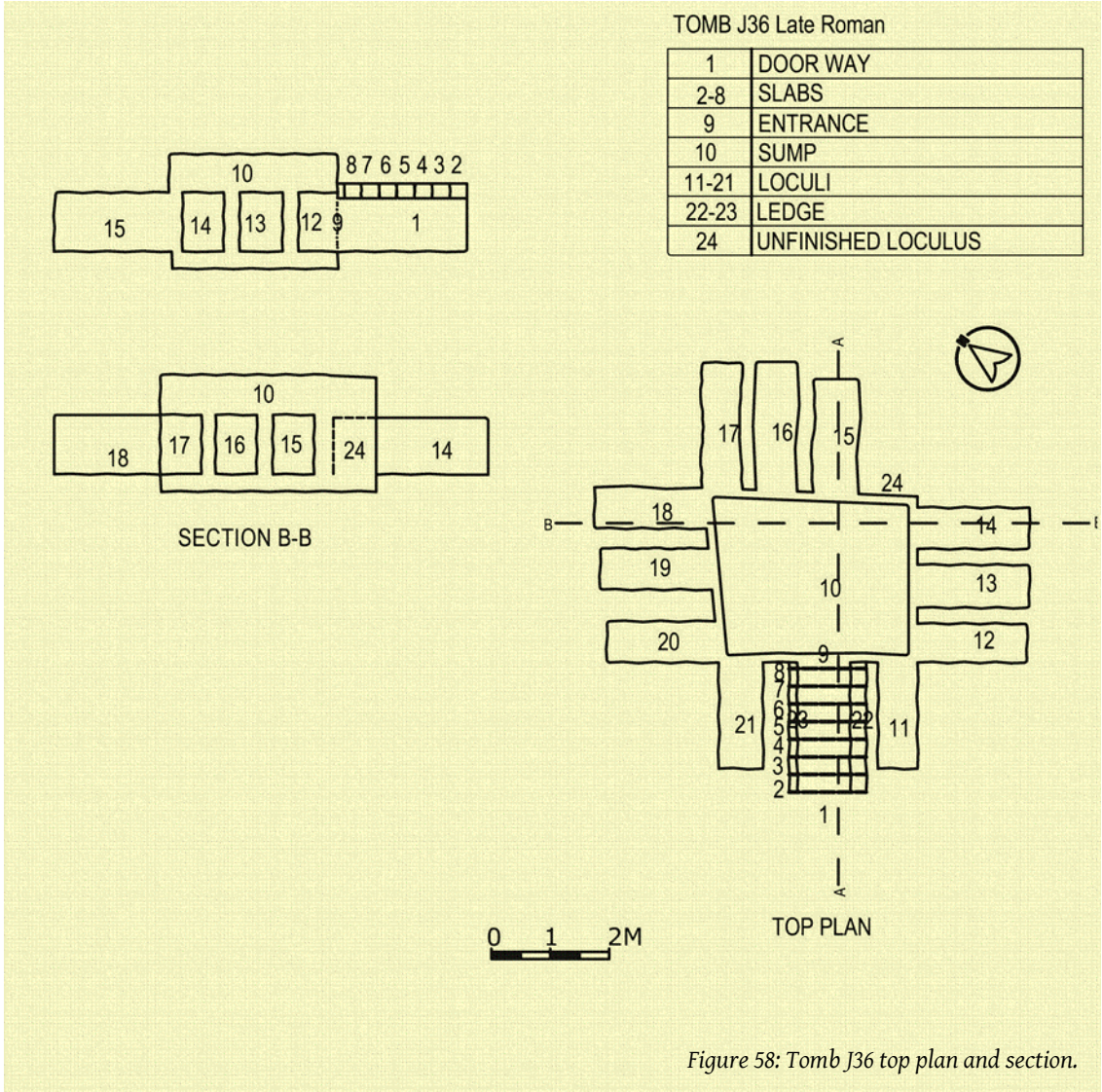


Figure 58: Tomb J36 top plan and section.

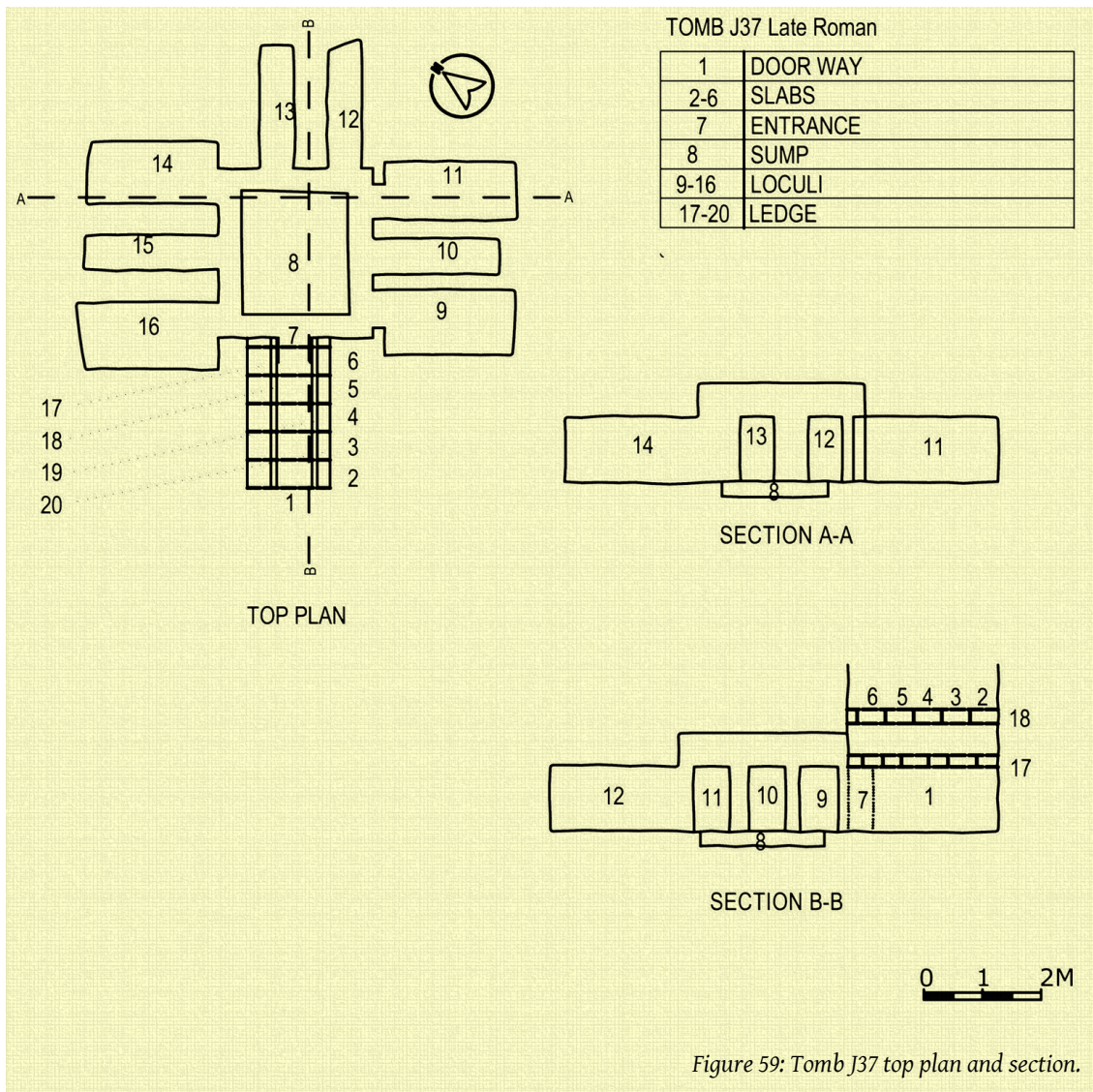
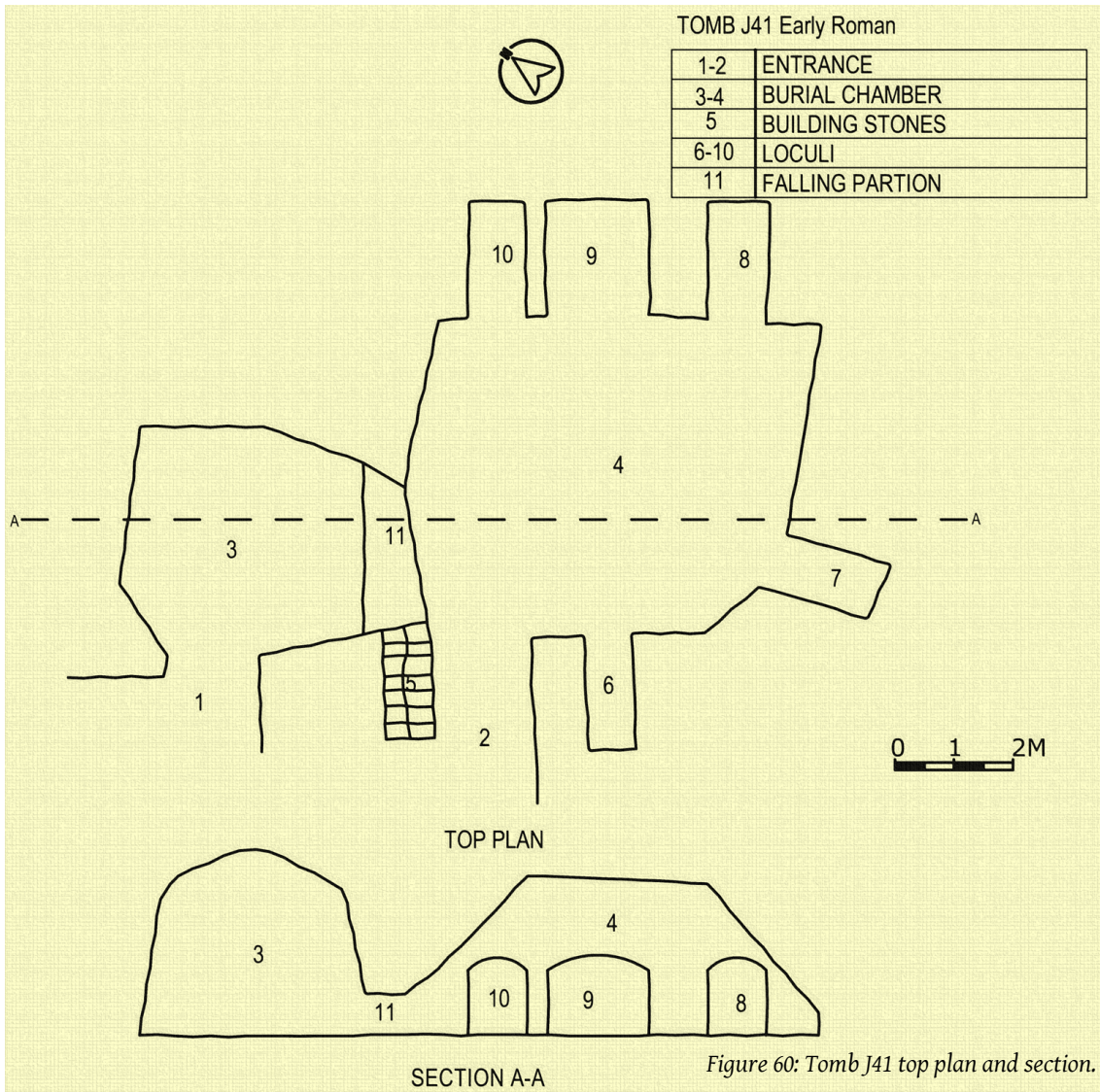


Figure 59: Tomb J37 top plan and section.



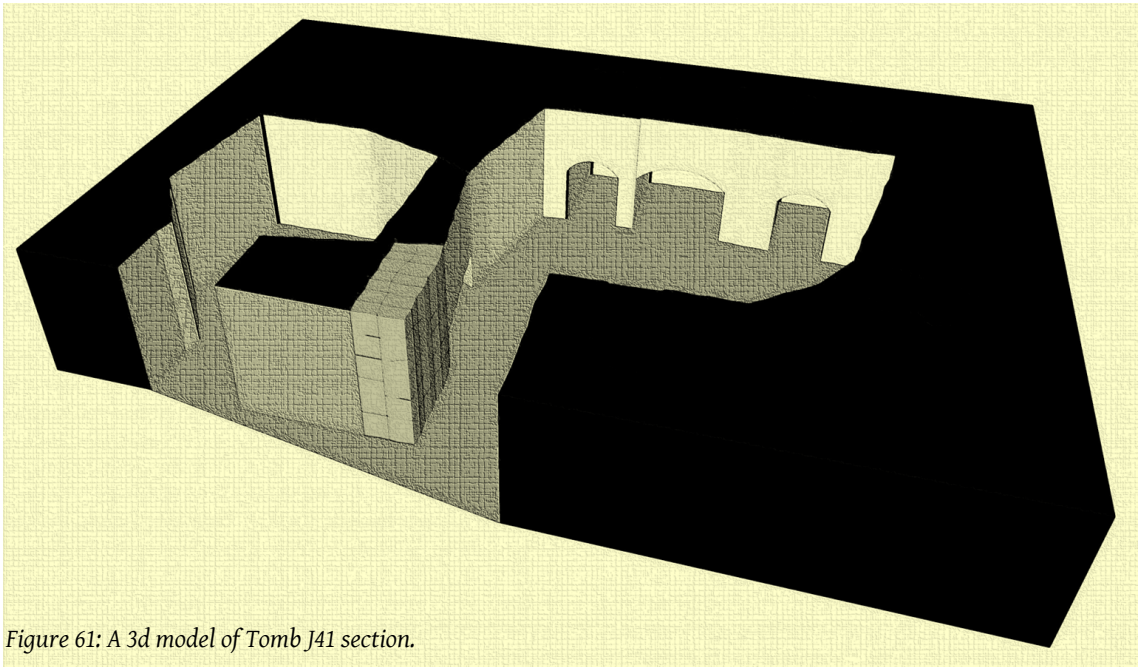
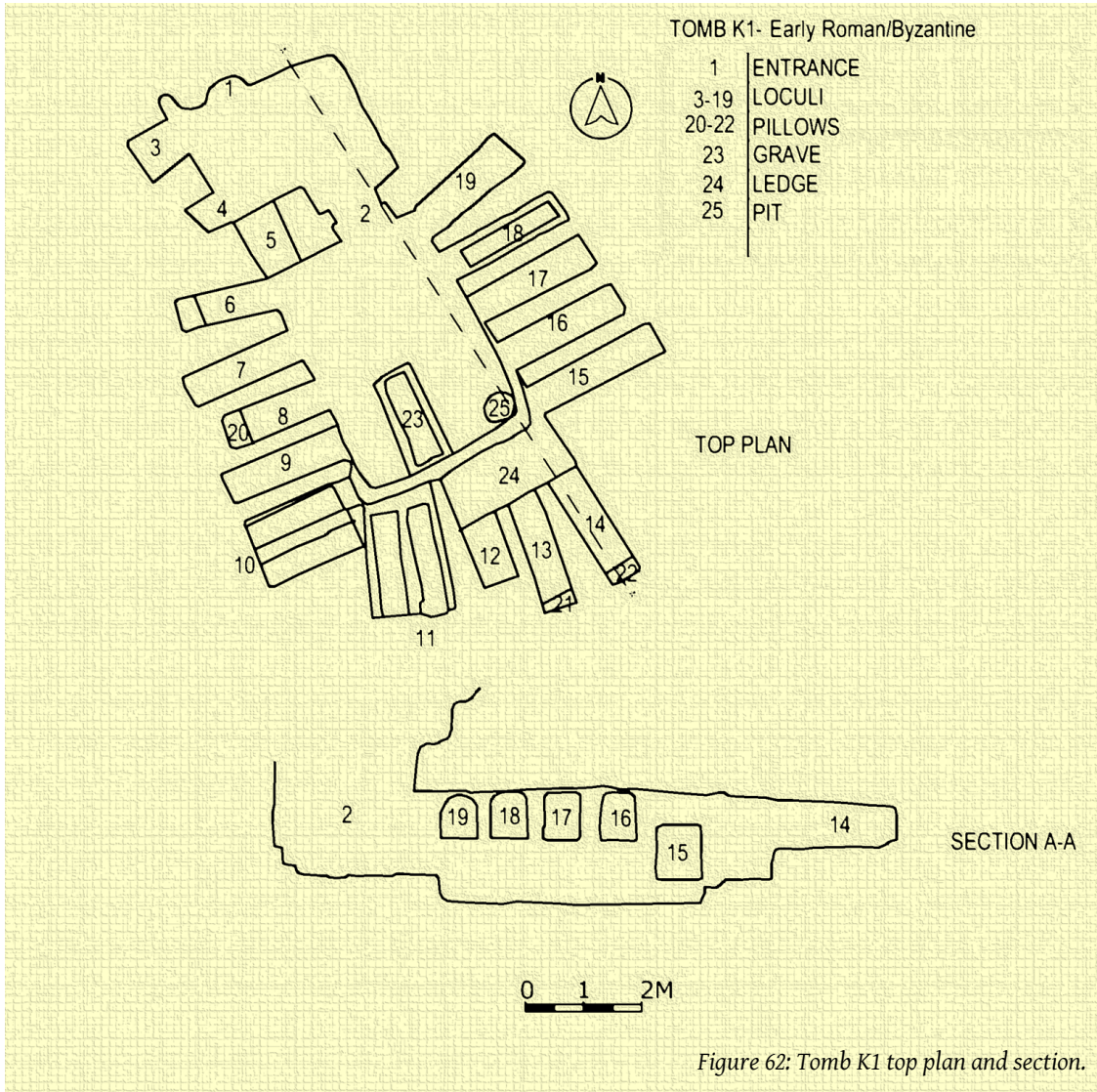
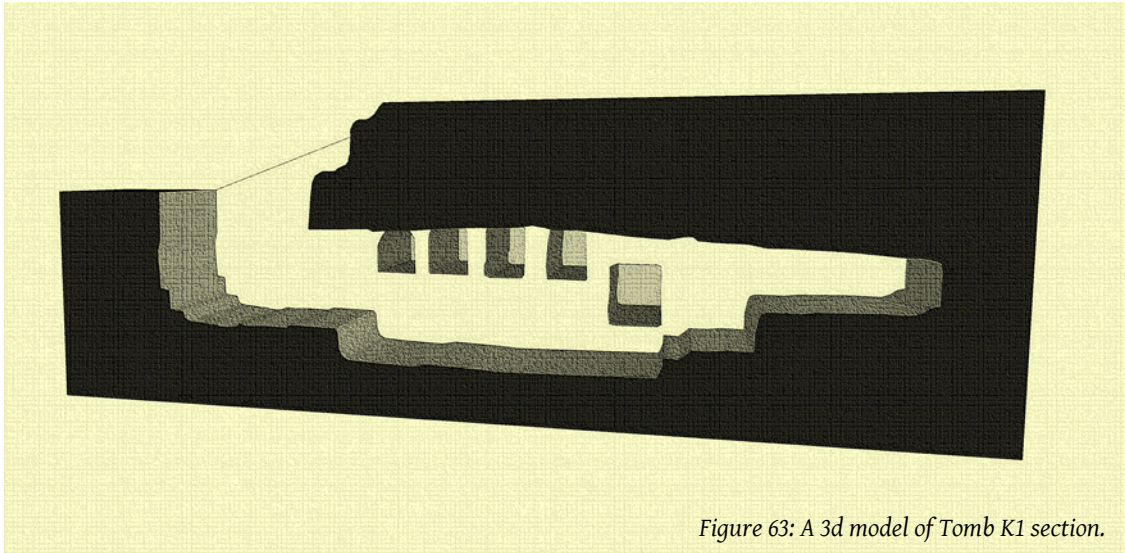
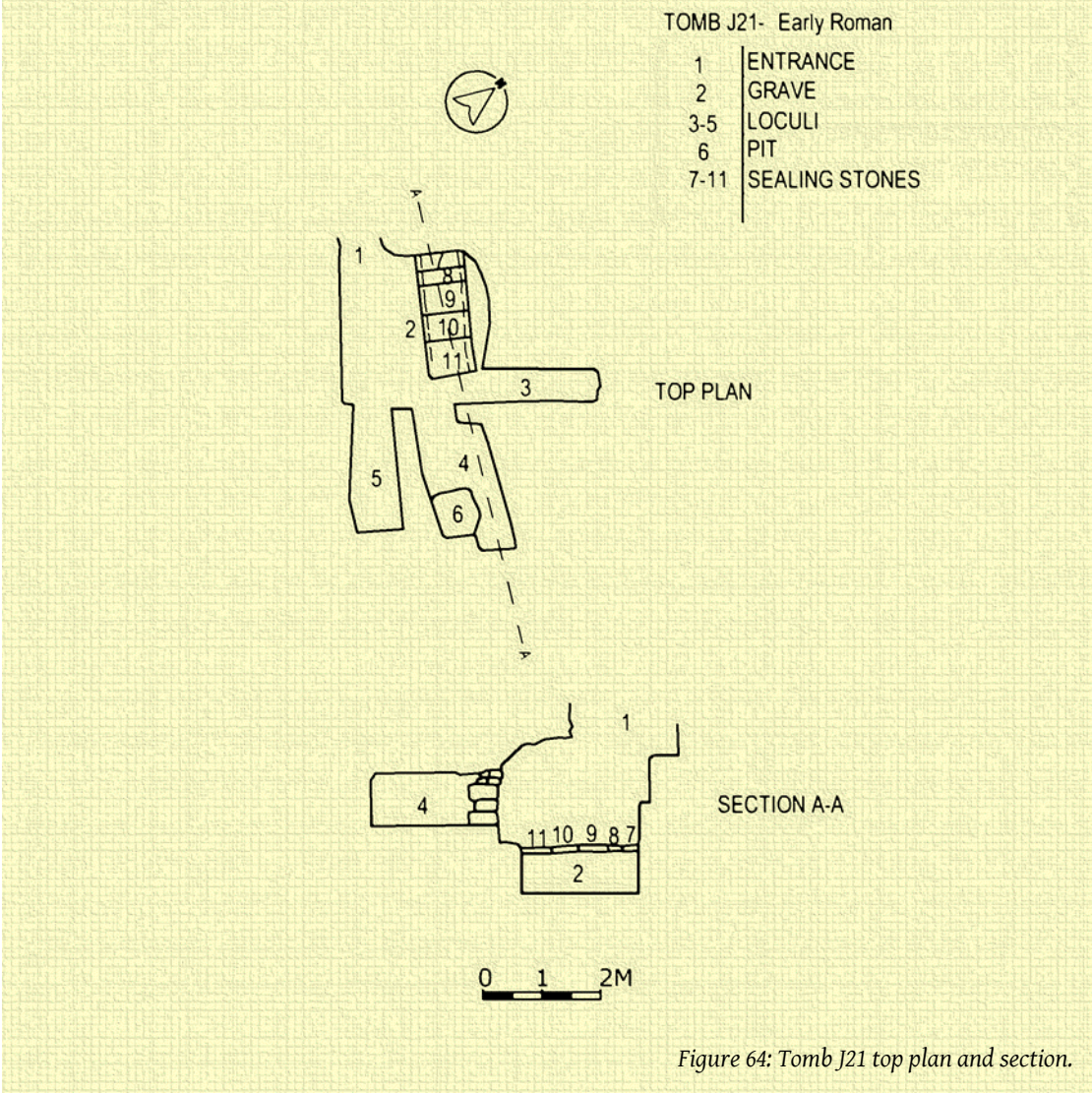


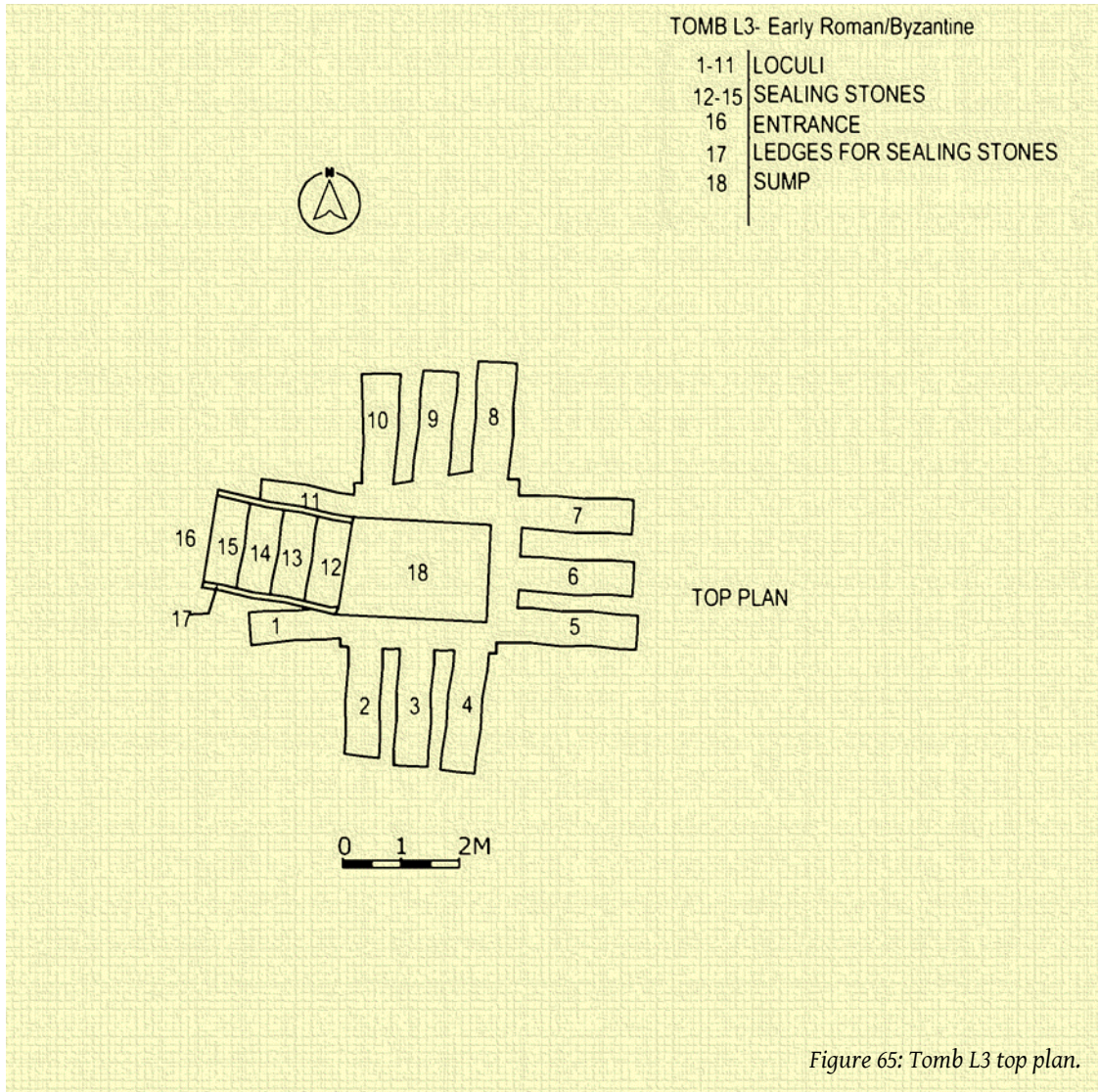
Figure 61: A 3d model of Tomb J41 section.

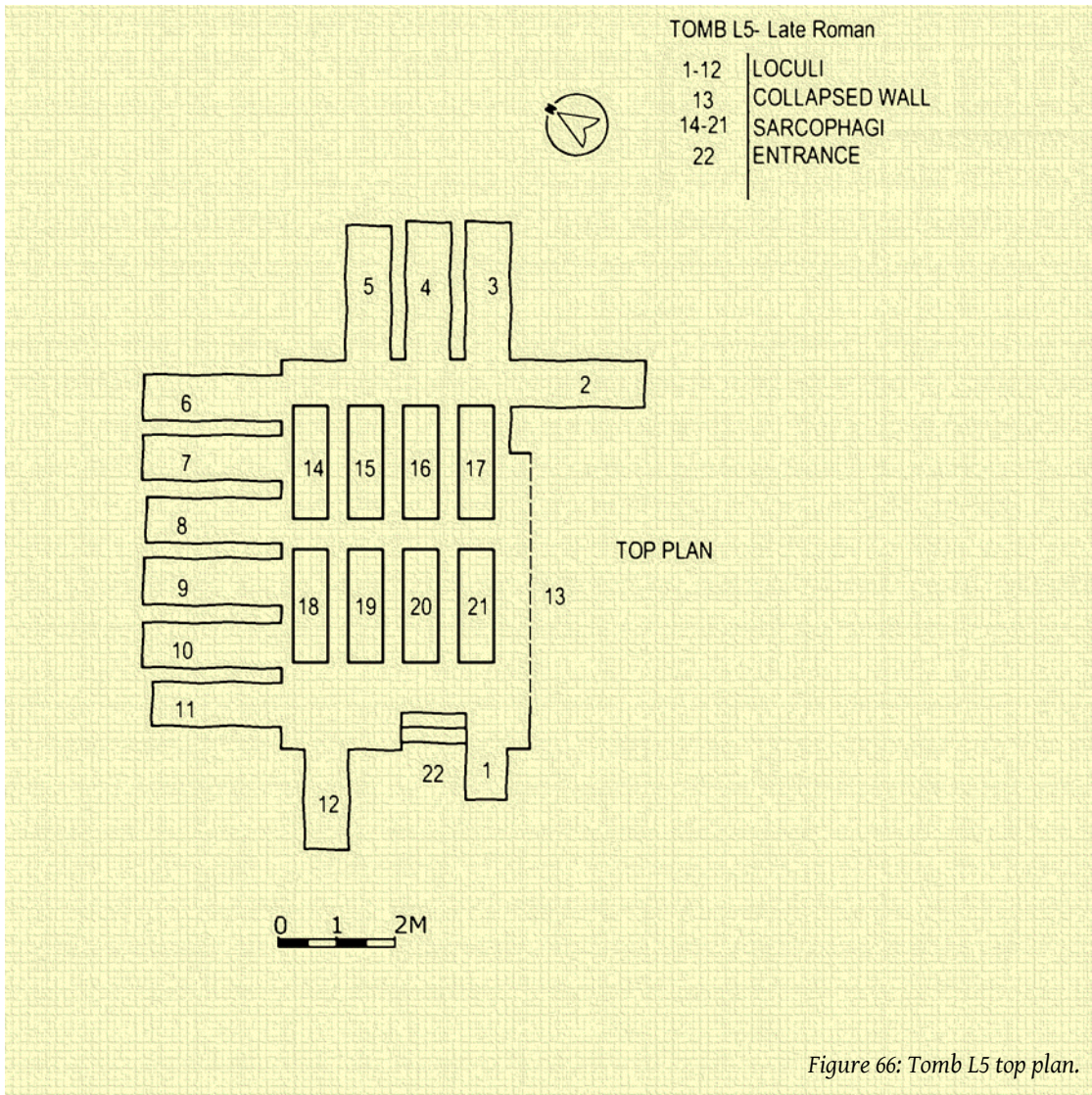


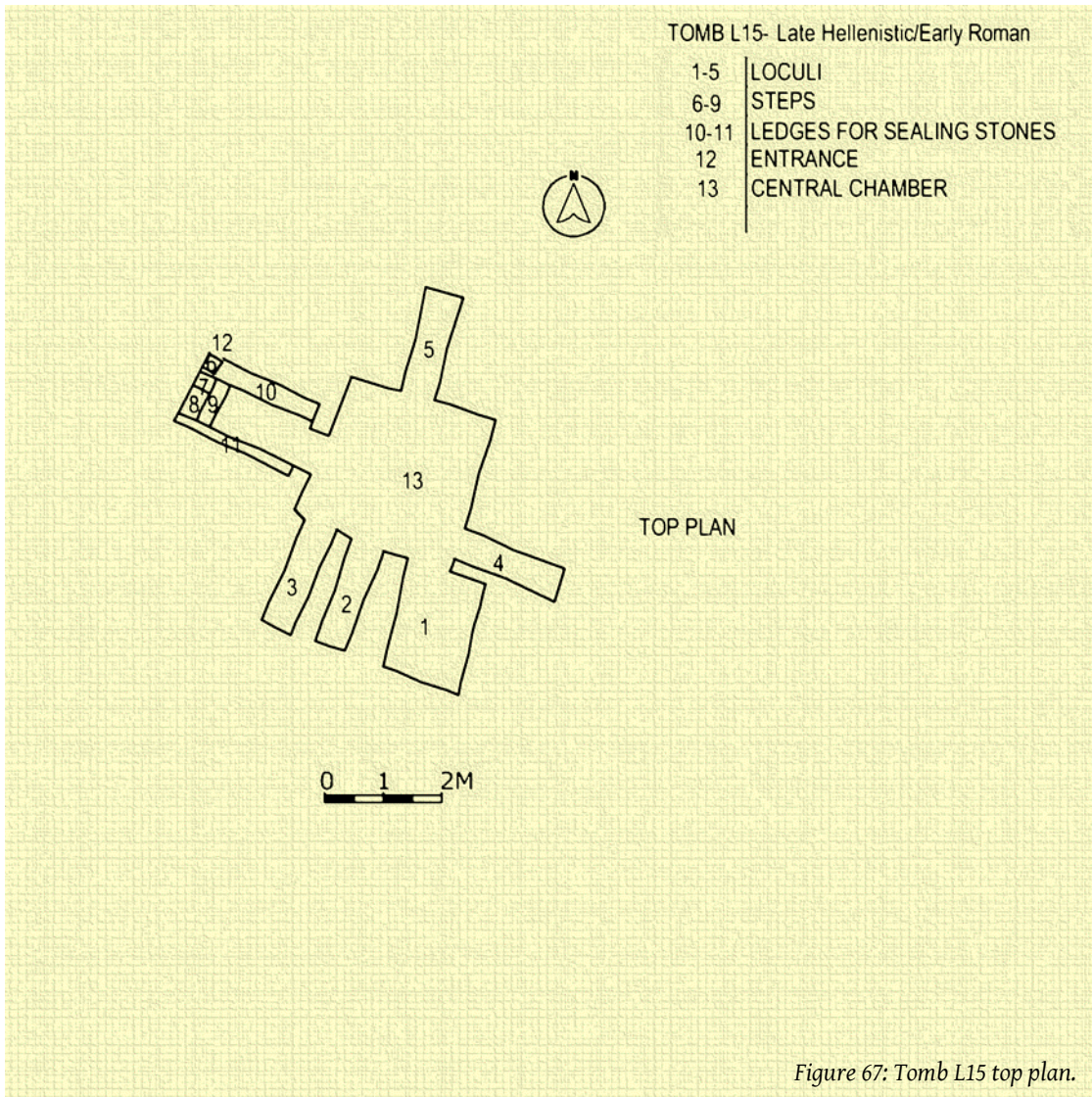


*Figure 63: A 3d model of Tomb K1 section.*





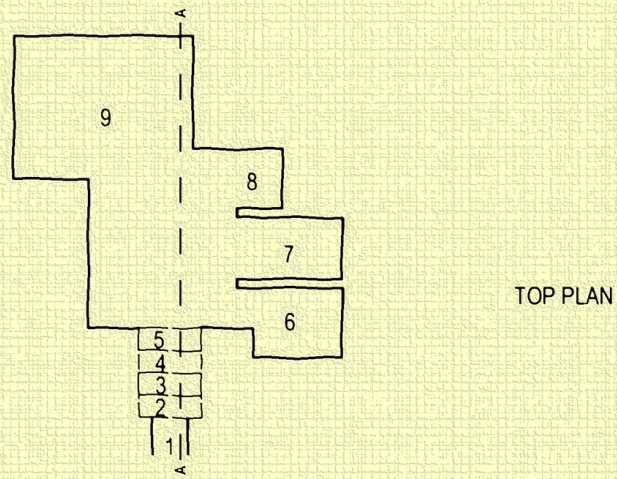




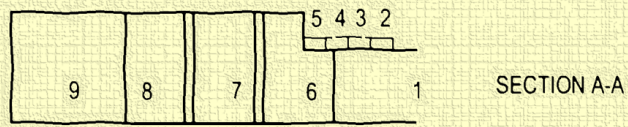
TOMB L76 - Late Roman/Early Byzantine



- 1 | ENTRANCE
- 2-5 | STEPS
- 6-9 | CHAMBER LOCULI



TOP PLAN



SECTION A-A

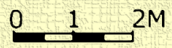
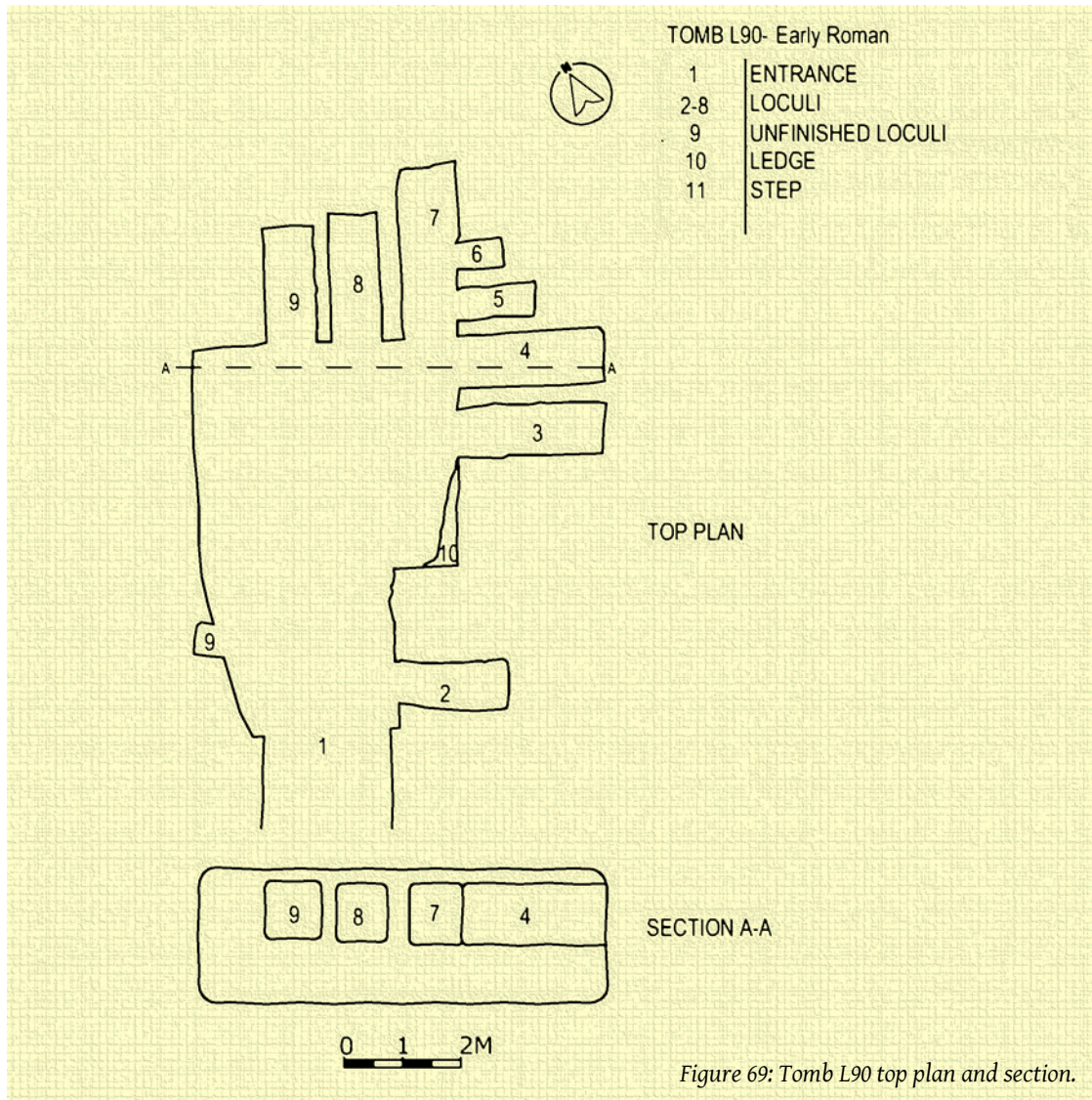


Figure 68: Tomb L76 top plan and section.



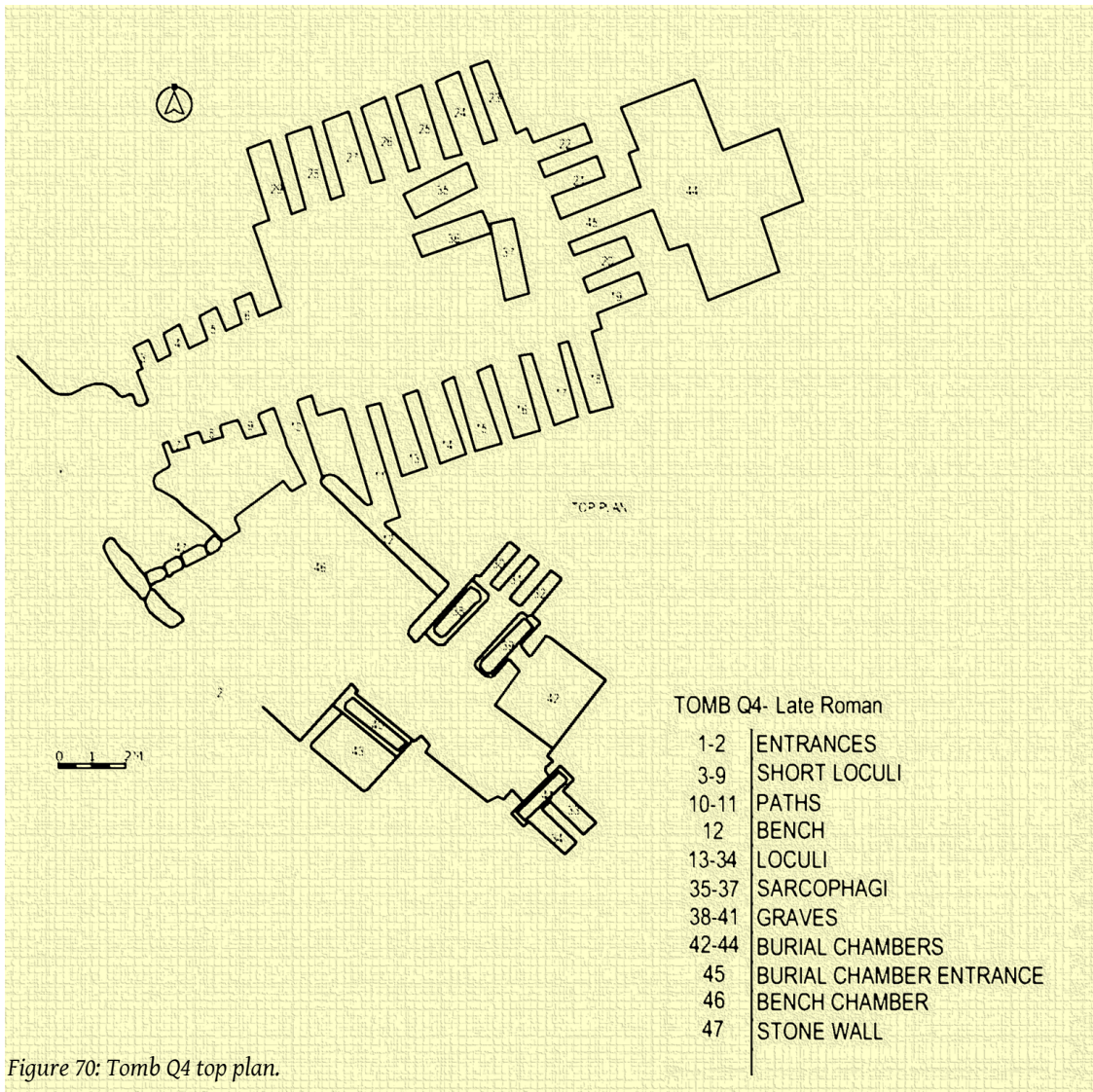
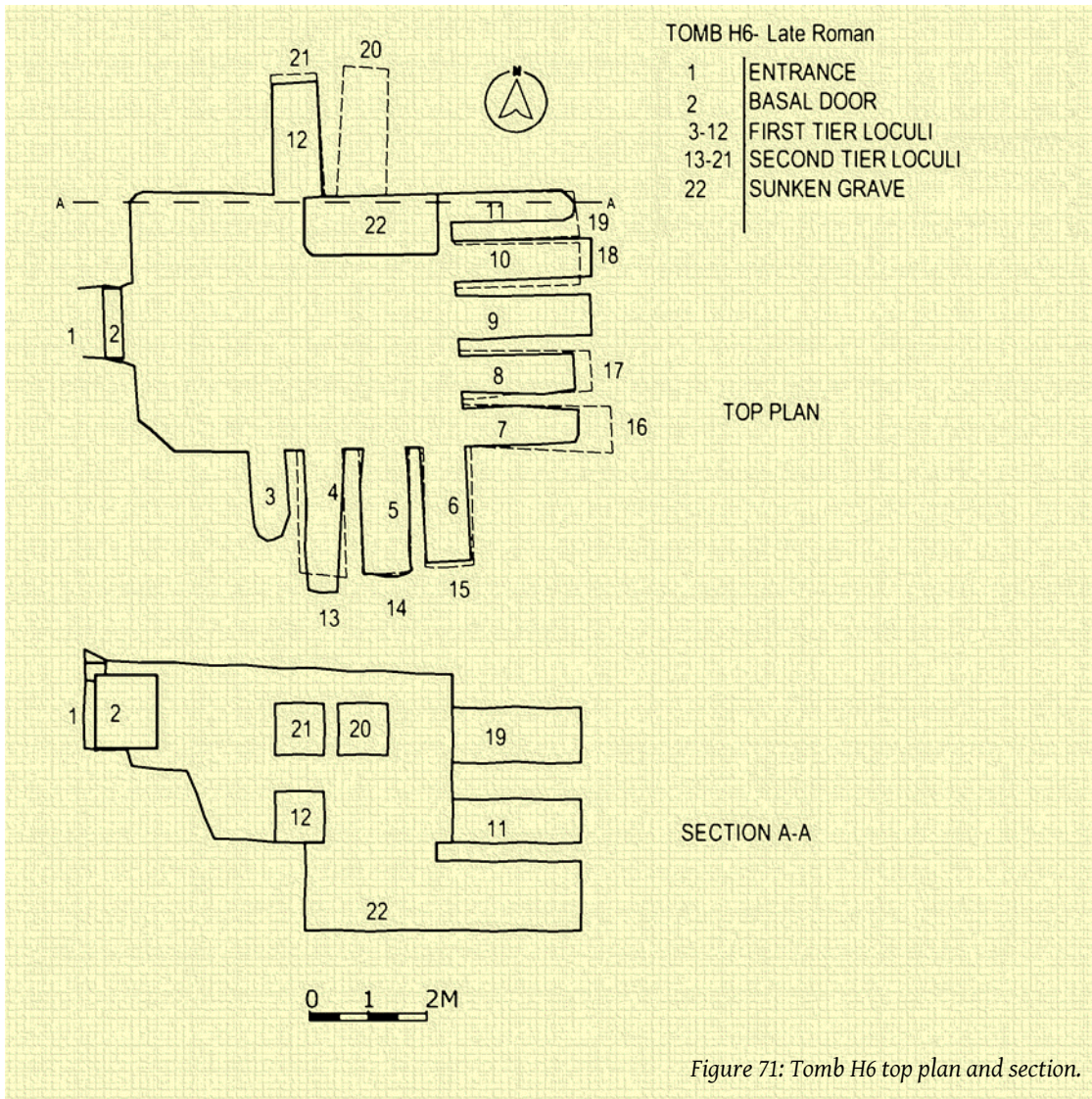
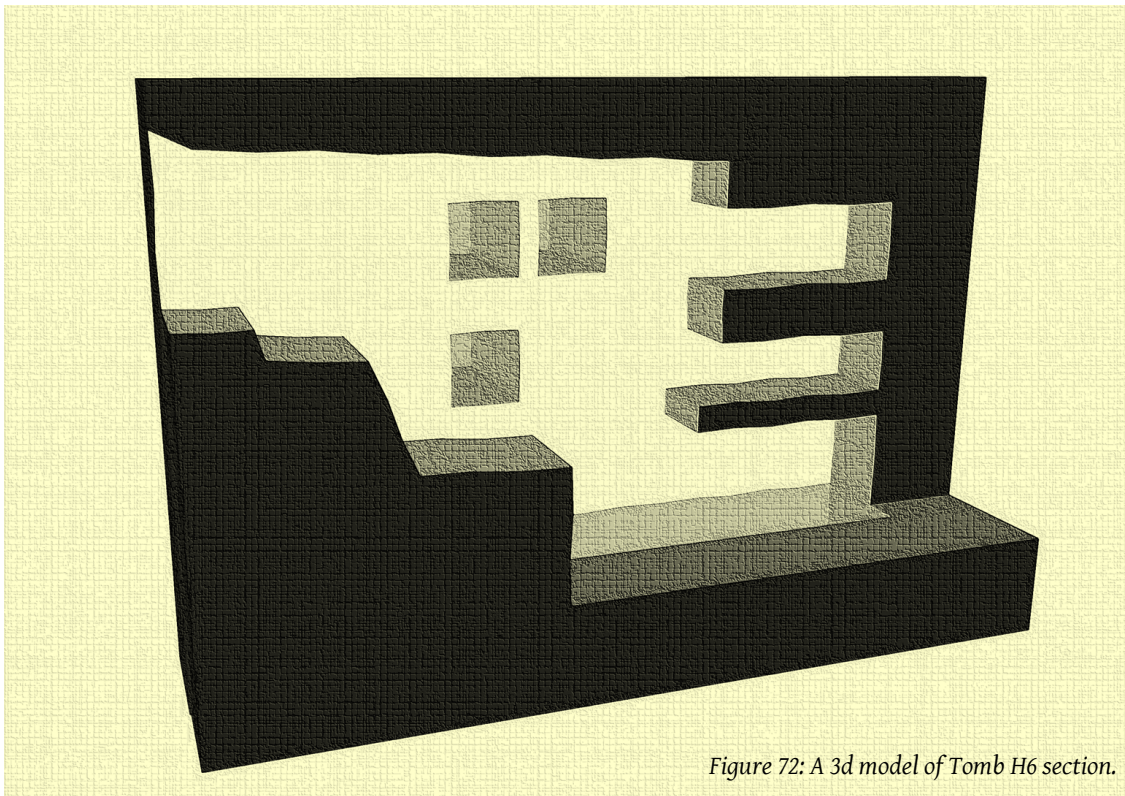


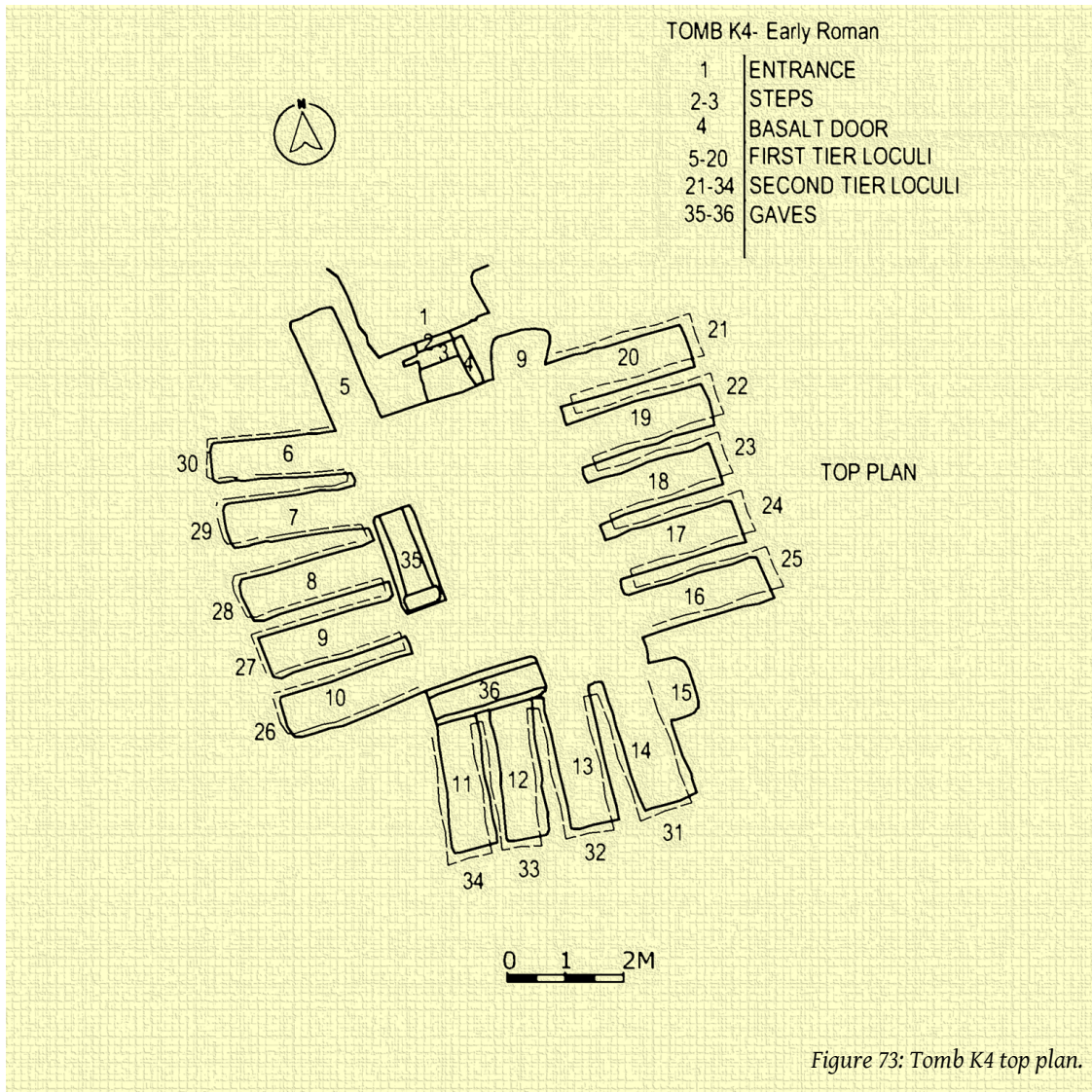
Figure 70: Tomb Q4 top plan.

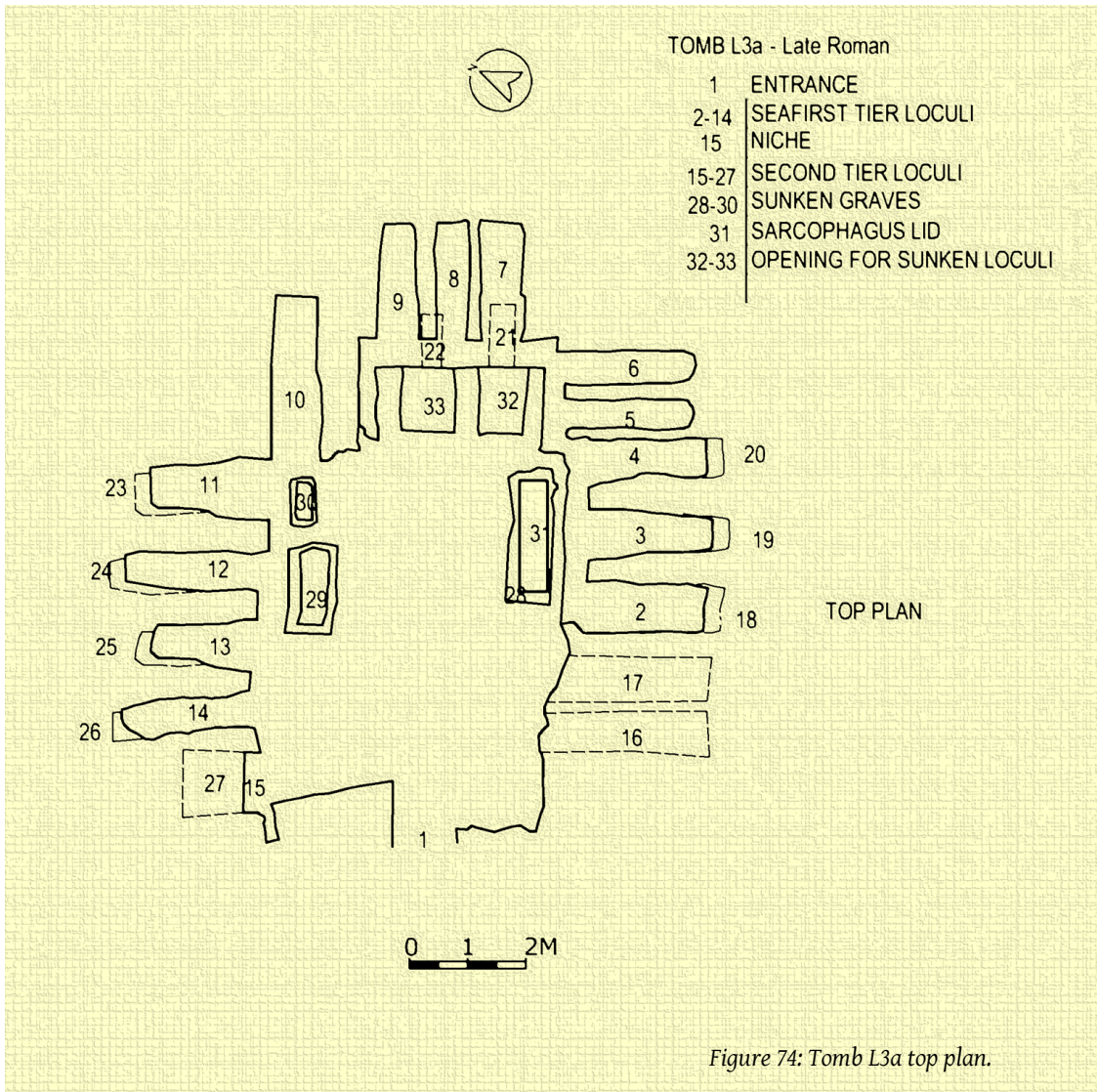
## PLANS OF TYPE IB



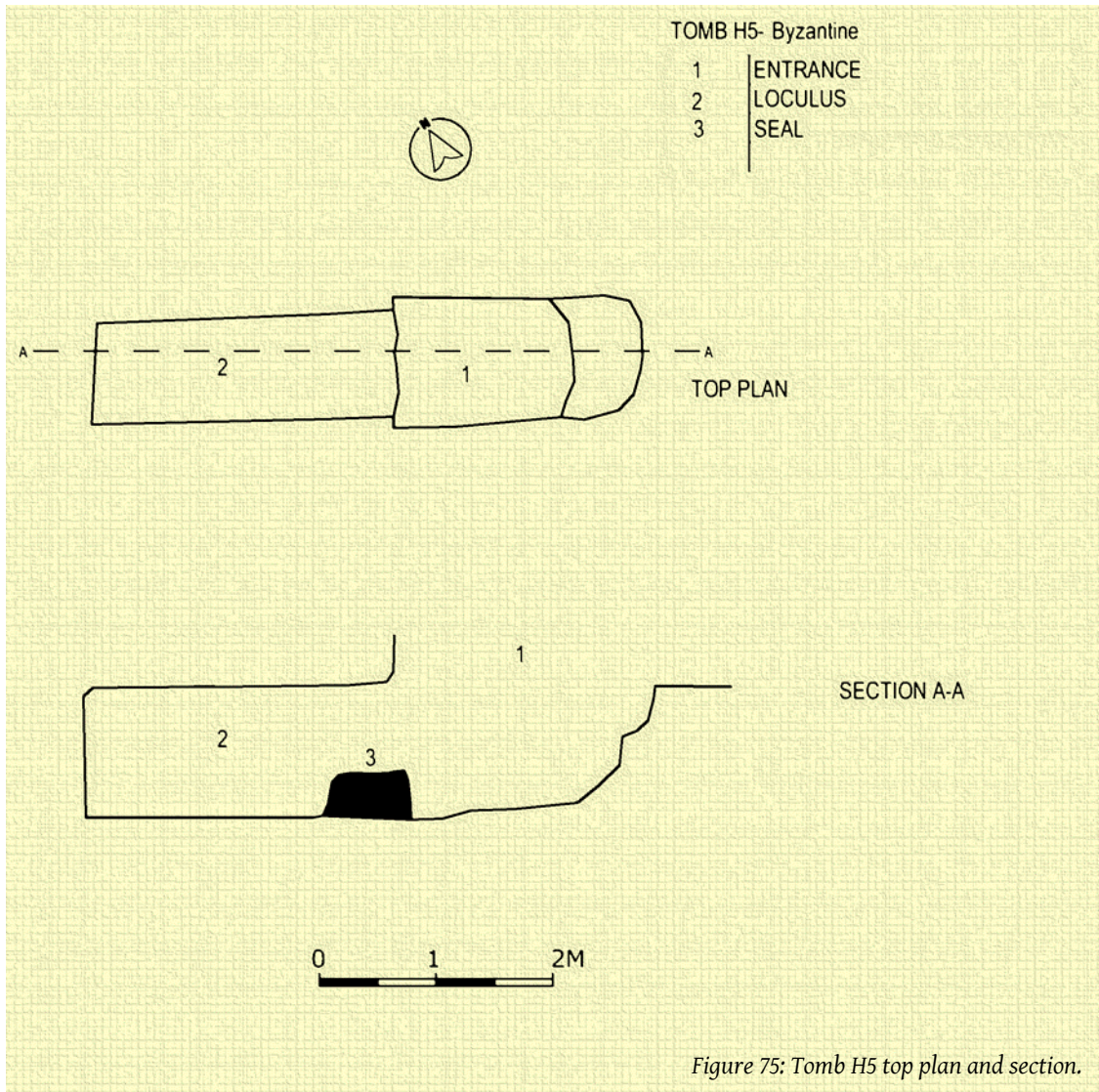


*Figure 72: A 3d model of Tomb H6 section.*





## PLANS OF TYPE II



TOMB H10- Late Bronze/Iron Age

- 1 SEALING STONES
- 2 ENTRANCE
- 3 BURIAL

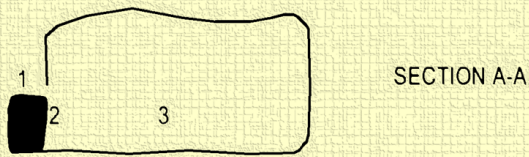


Figure 76: Tomb H10 top plan and section.

TOMB H13- Middle Bronze/Late Bronze

- 1 | ENTRANCE
- 2 | BURIAL CHAMBER

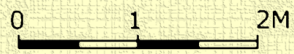
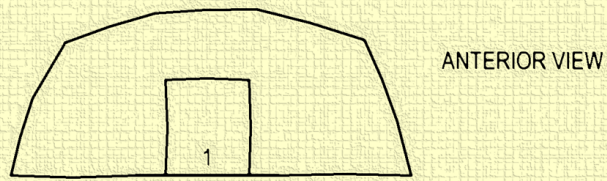
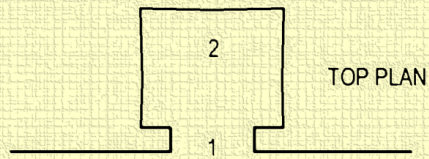
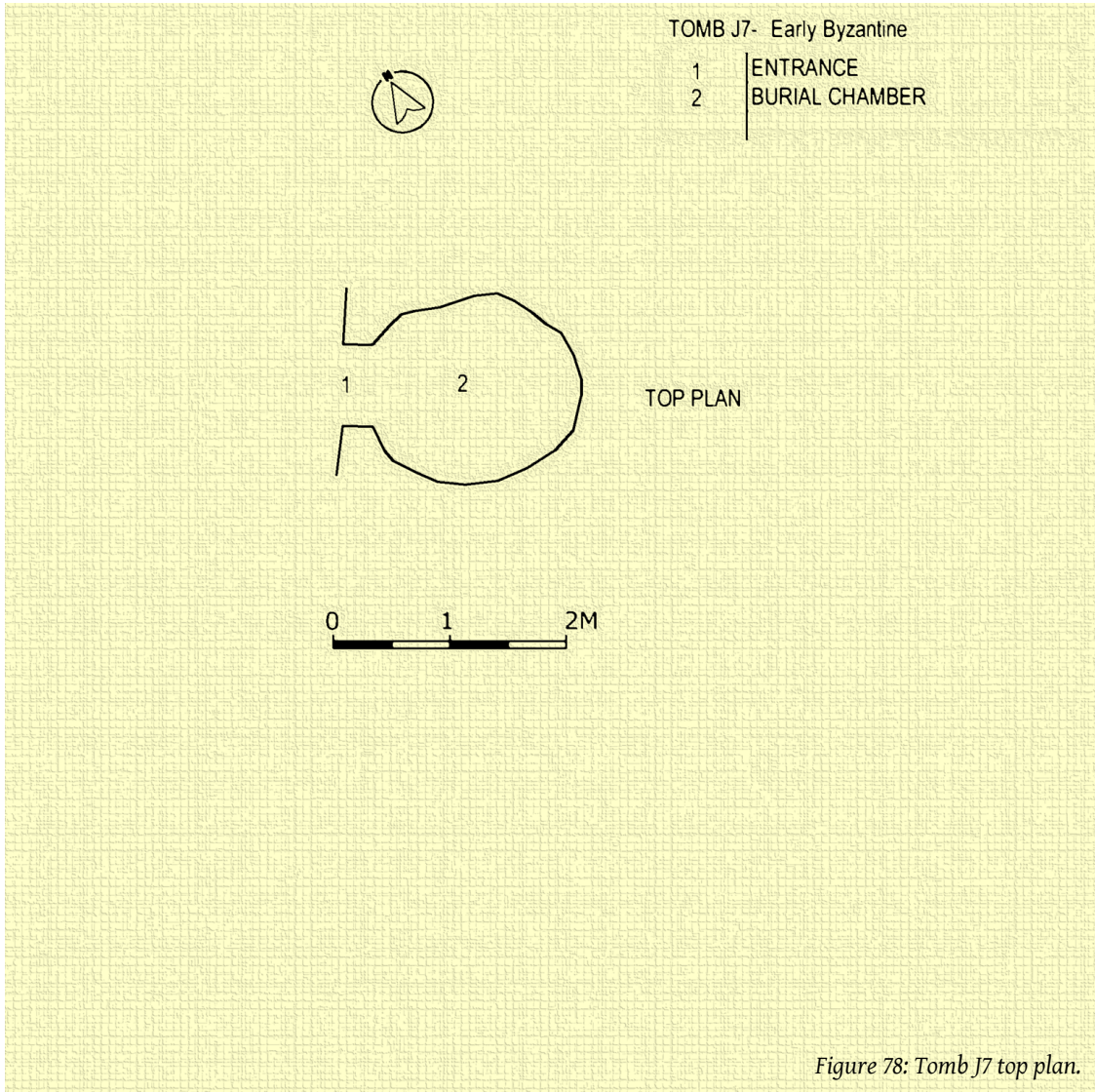
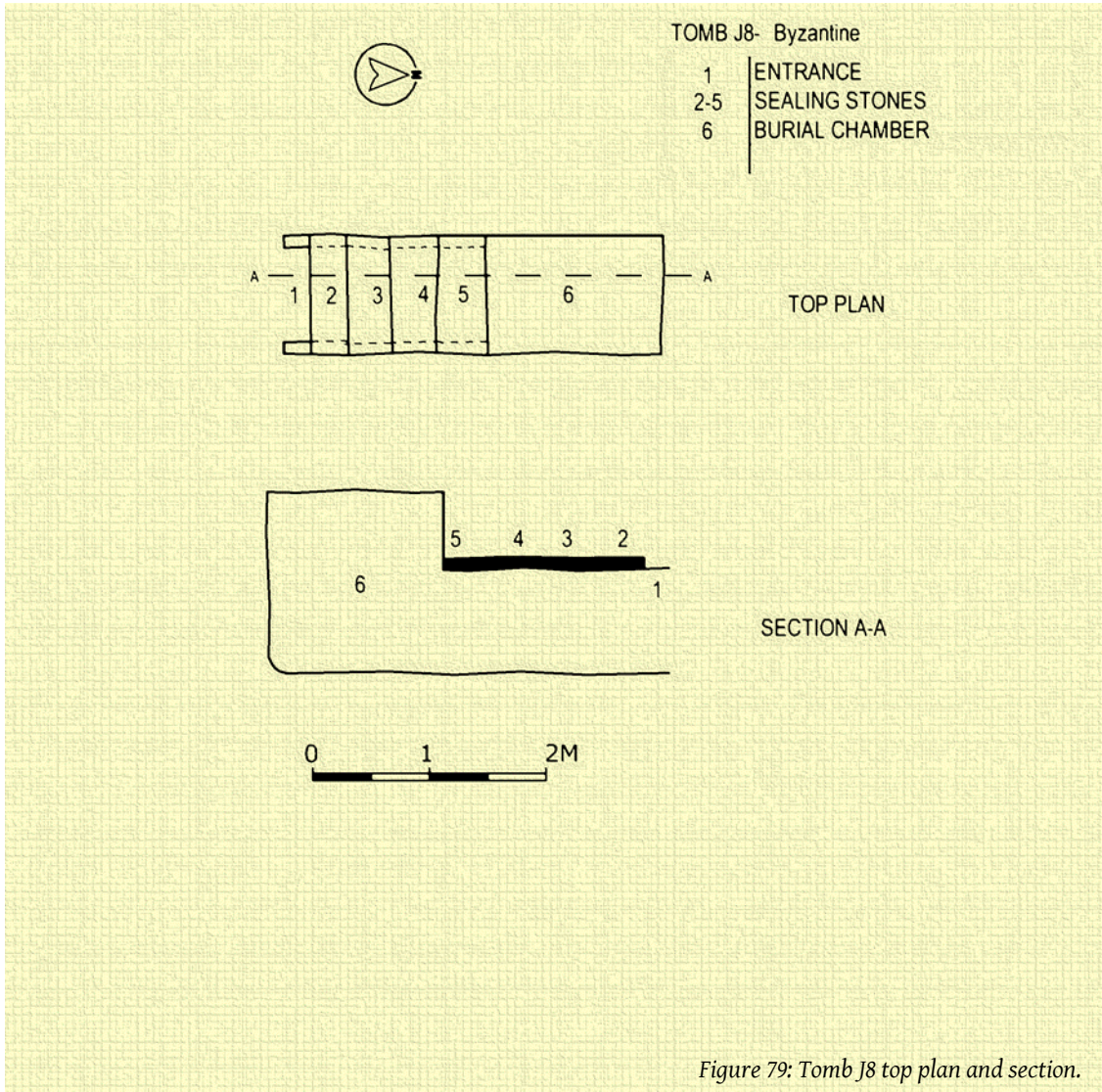


Figure 77: Tomb H13 top plan and section.





TOMB J26 Early Byzantine

1	ENTRANCE
2	CHAMBER
3-4	STONE

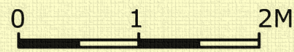
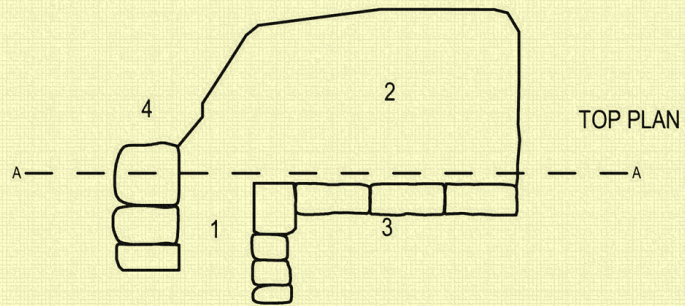
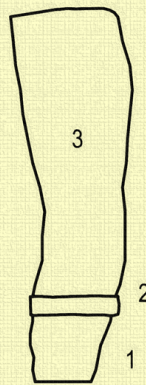


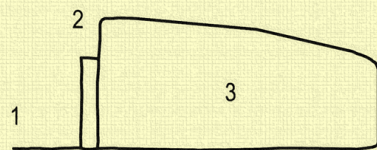
Figure 80: Tomb J 26 top plan and section.

TOMB J27 Late Roman/Early Byzantine

1	DOOR WAY
2	BLOCKING STONE
3	GRAVE



TOP PLAN



SECTION A-A

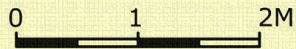
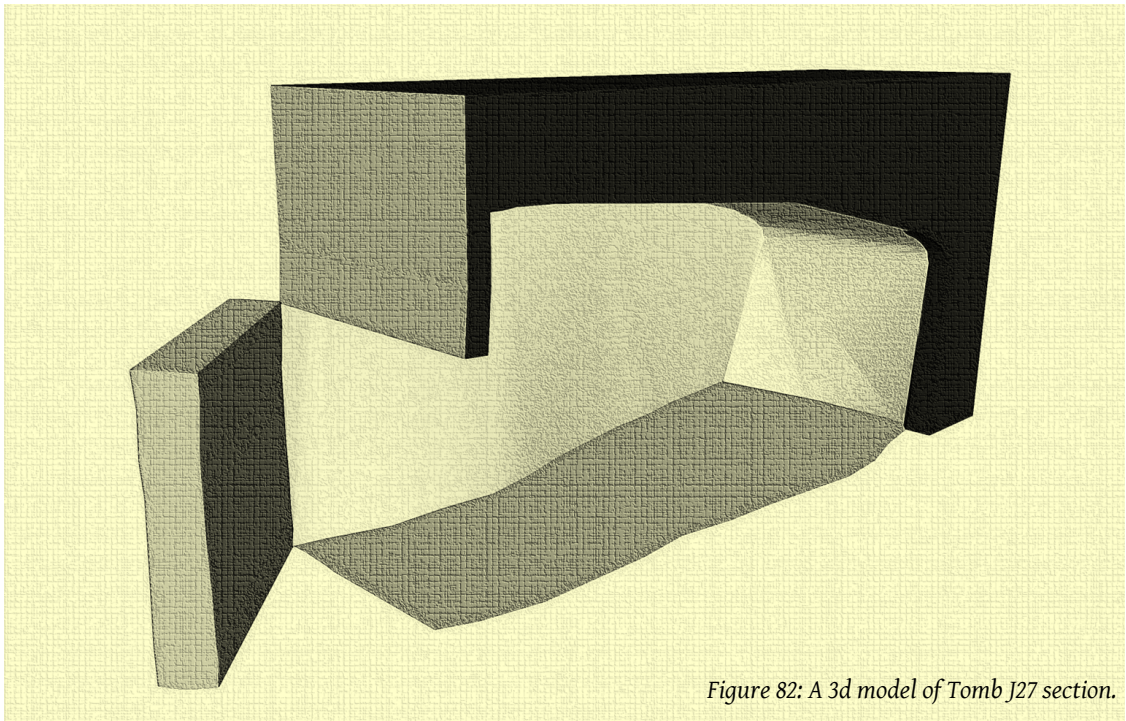


Figure 81: Tomb J 27 top plan and section.



*Figure 82: A 3d model of Tomb J27 section.*

TOMB J28 Late Roman

1	DOORWAY
2	ENTRANCE
3	CHAMBER
4	CLOSED ROOF VOID
5	COLLAPSED ENTRANCE

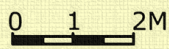
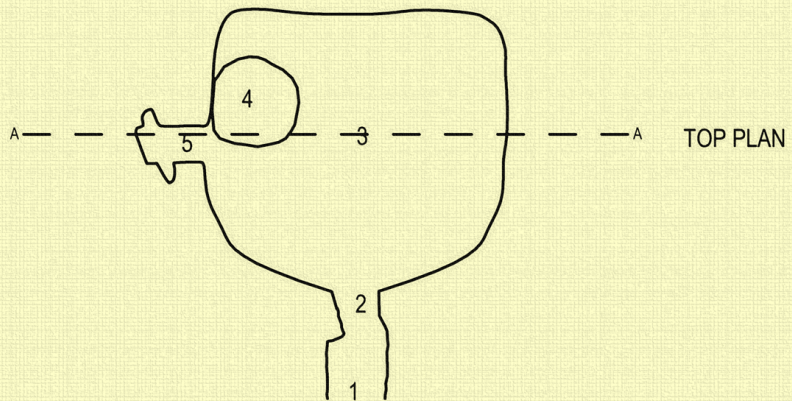


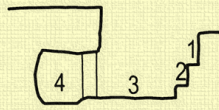
Figure 83: Tomb J28 top plan and section.

TOMB J38 Late Roman

1-2	STEPS
3	DOORWAY
4	ENTRANCE
5	BURIAL CHAMBER



TOP PLAN



SECTION A-A

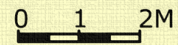


Figure 84: Tomb J38 top plan and section.

TOMB L18- Late Roman/Early Byzantine

- 1 DOORWAY
- 2-4 STEPS
- 5 ENTRANCE
- 6 BURIAL CHAMBER

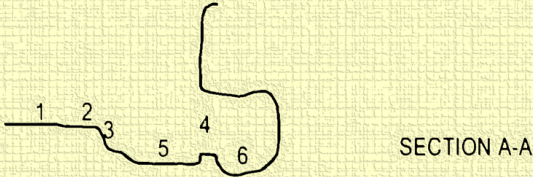
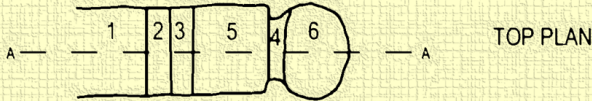
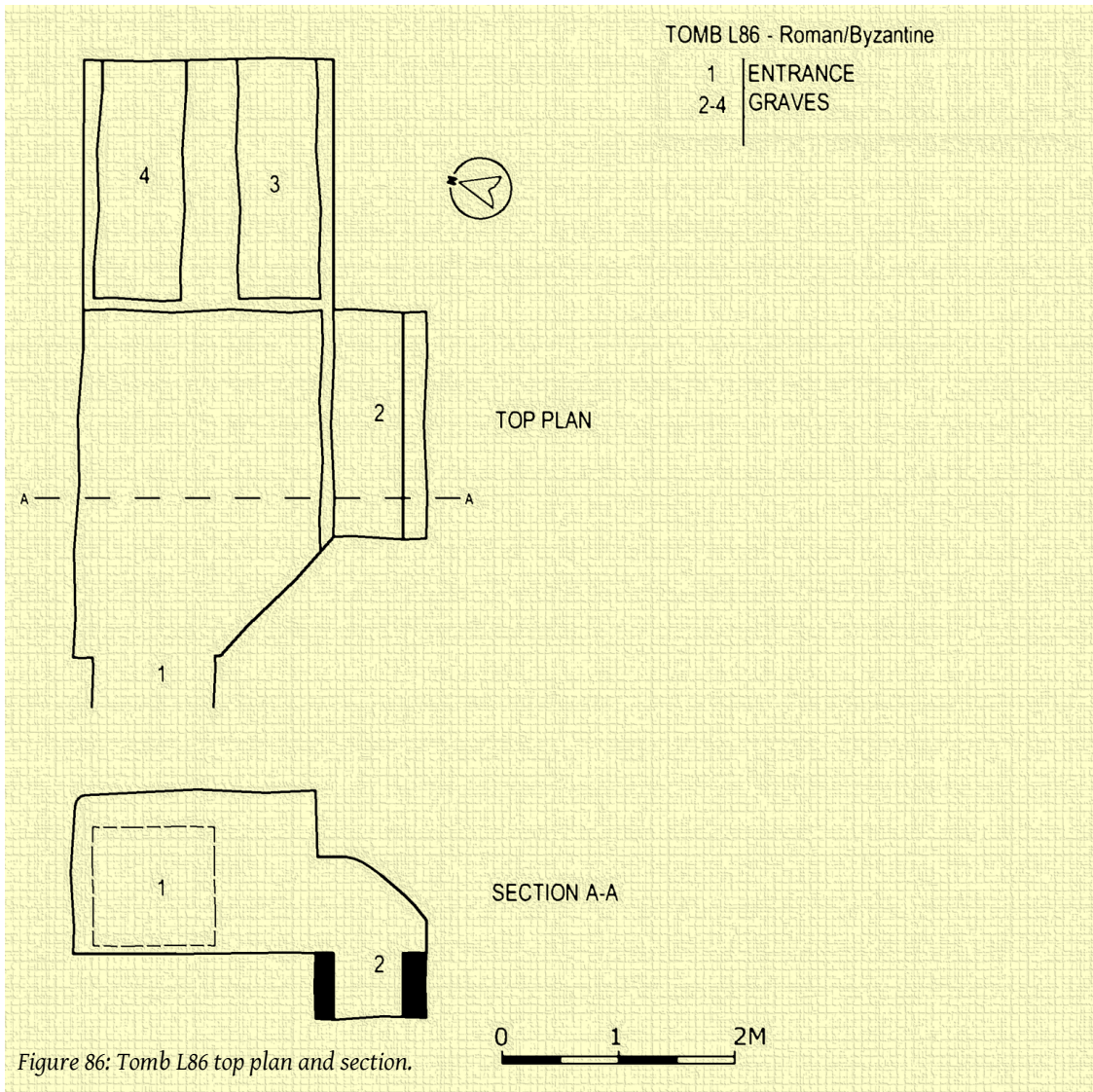
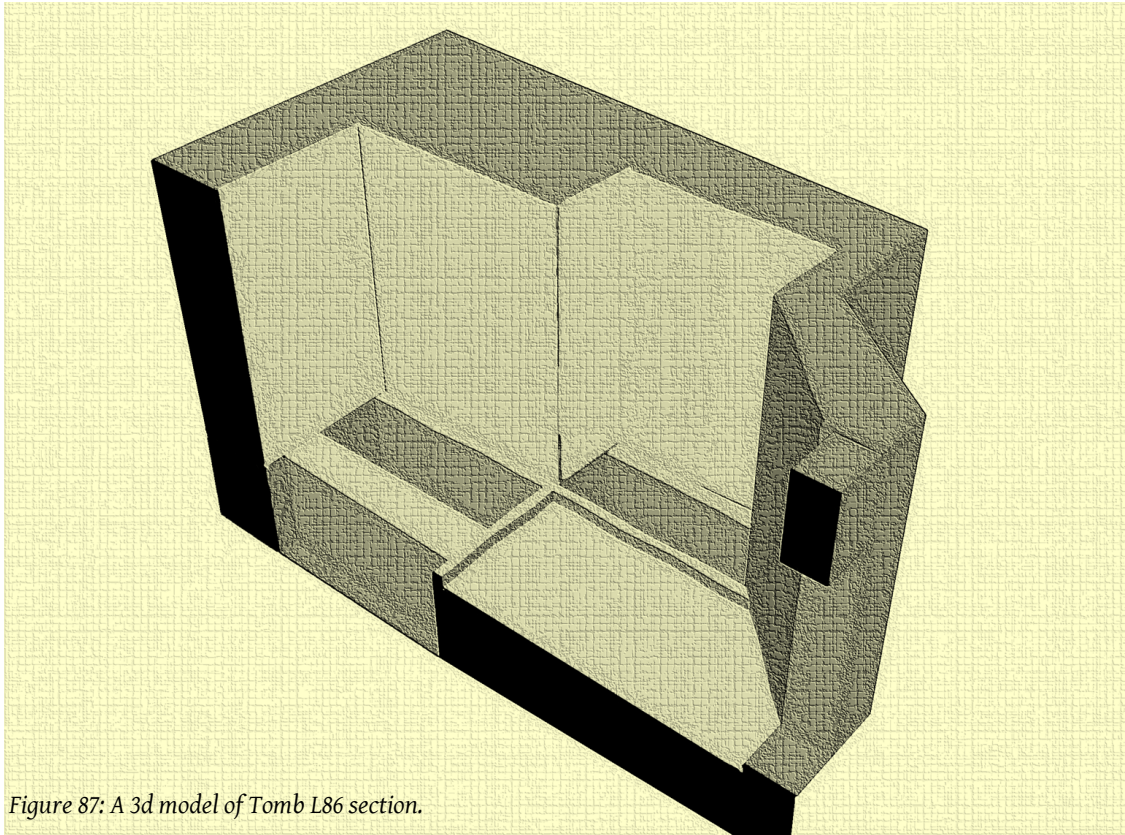
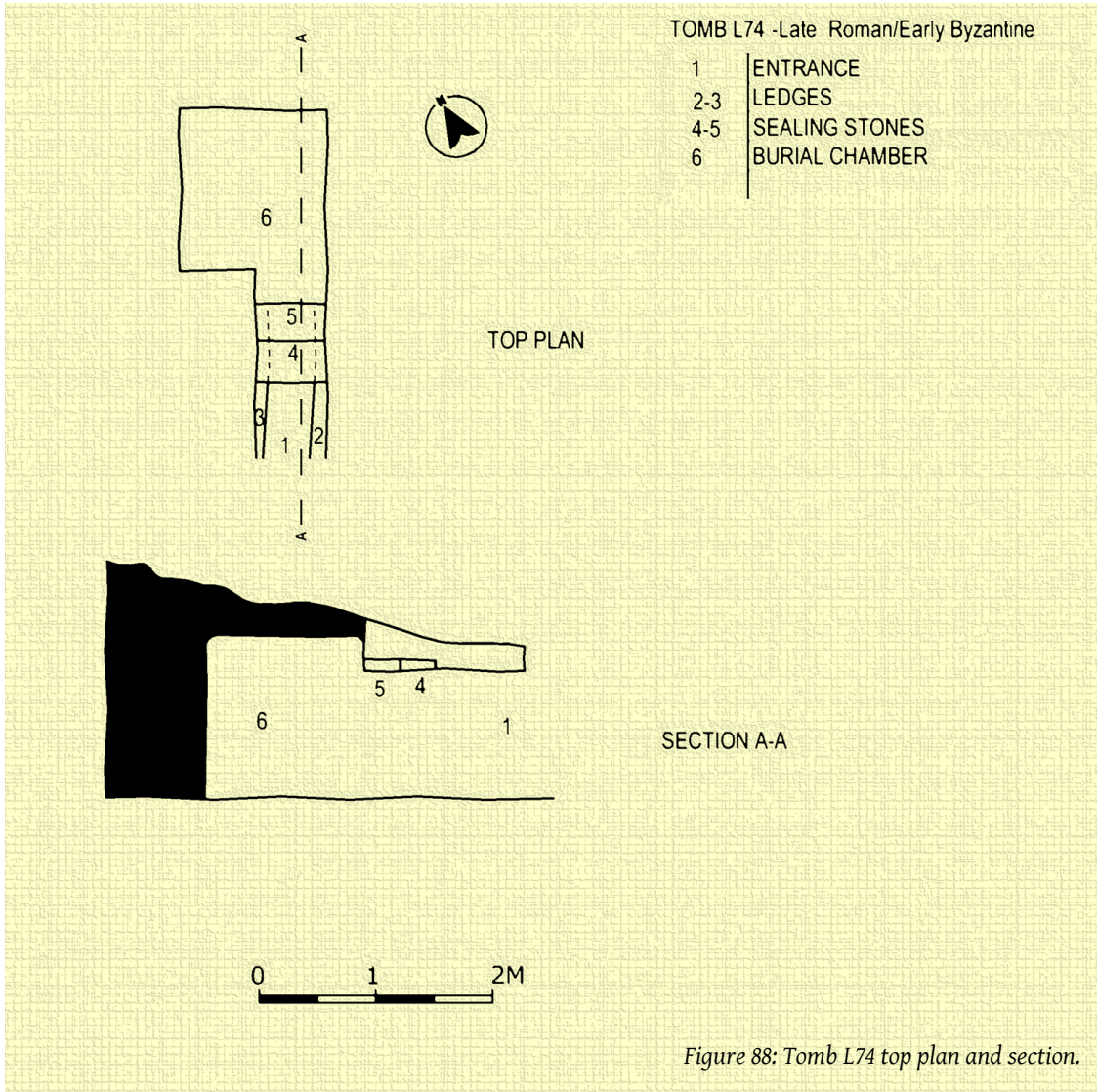


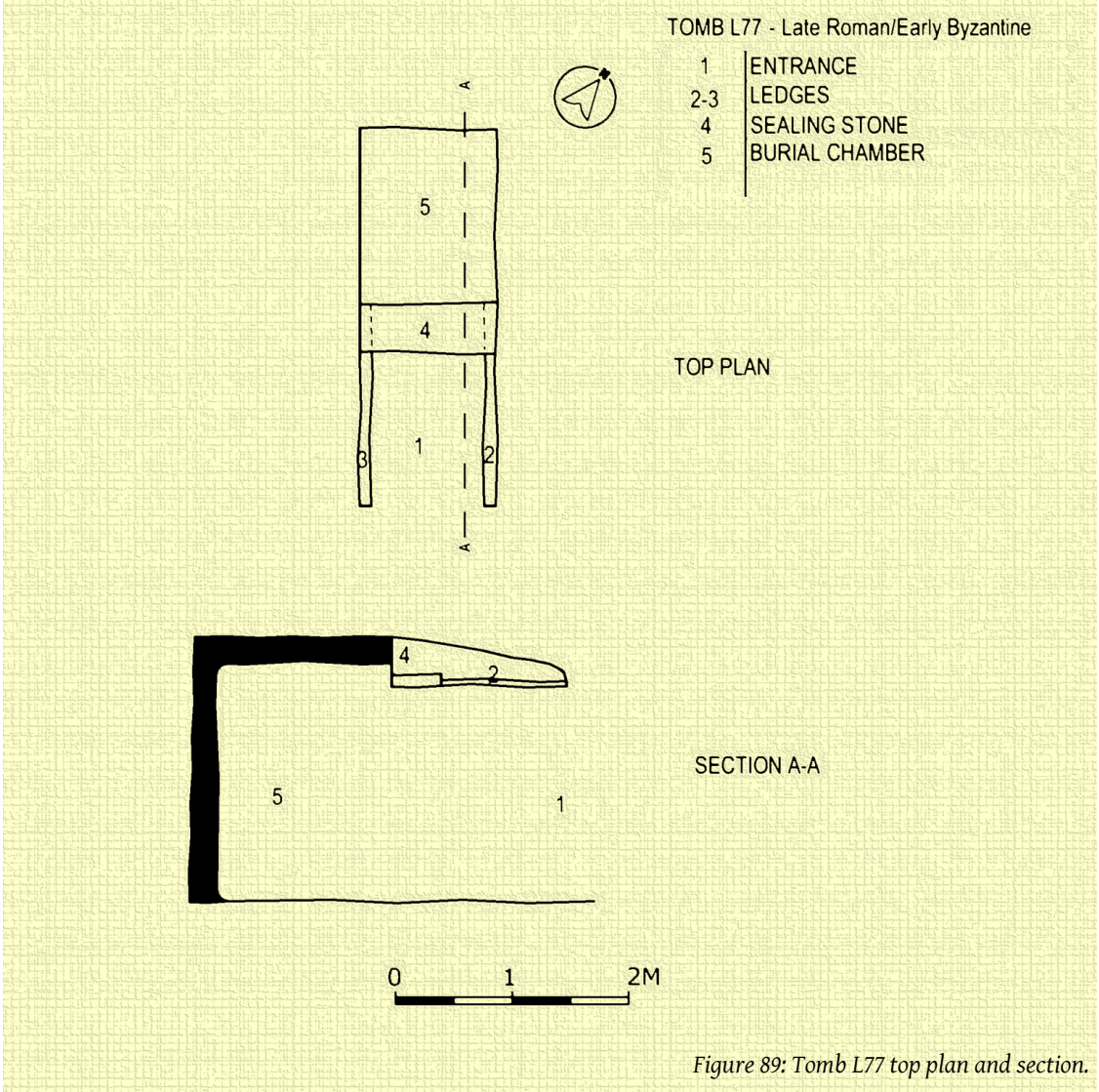
Figure 85: Tomb L18 top plan and section.





*Figure 87: A 3d model of Tomb L86 section.*





## PLANS OF TYPE III

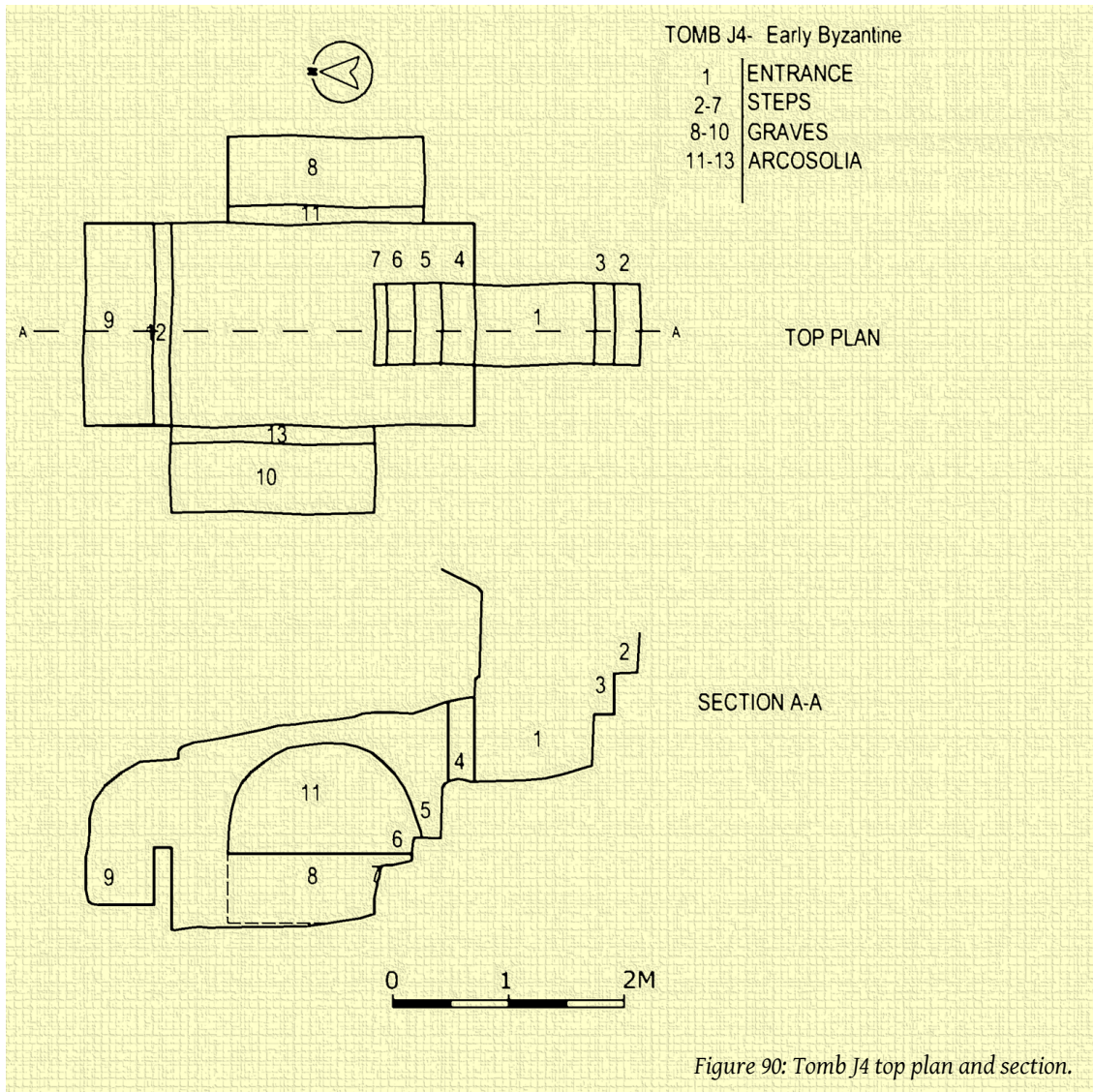
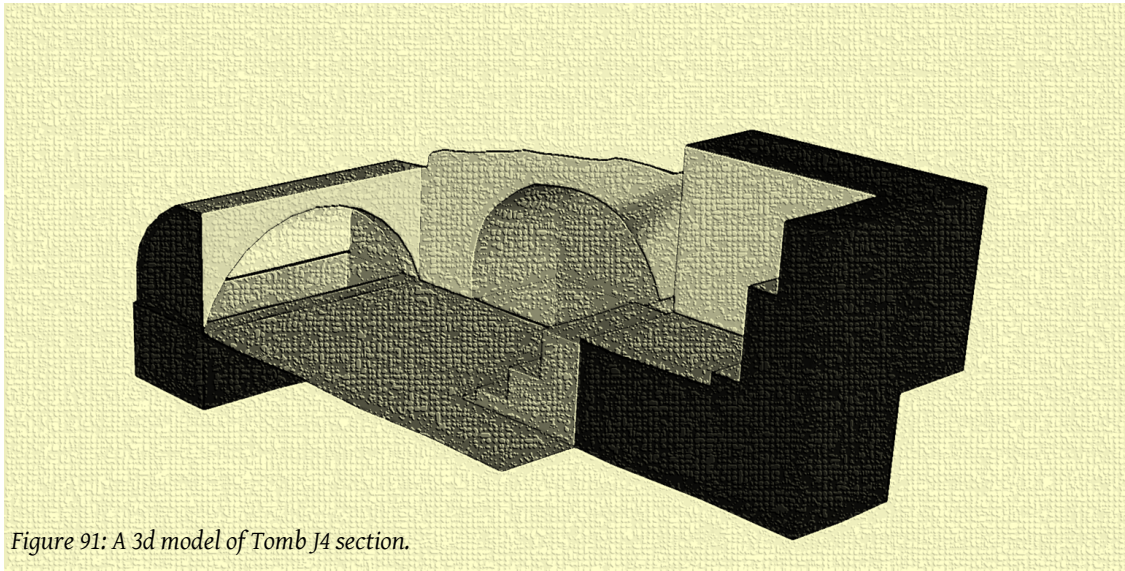


Figure 90: Tomb J4 top plan and section.



*Figure 91: A 3d model of Tomb J4 section.*

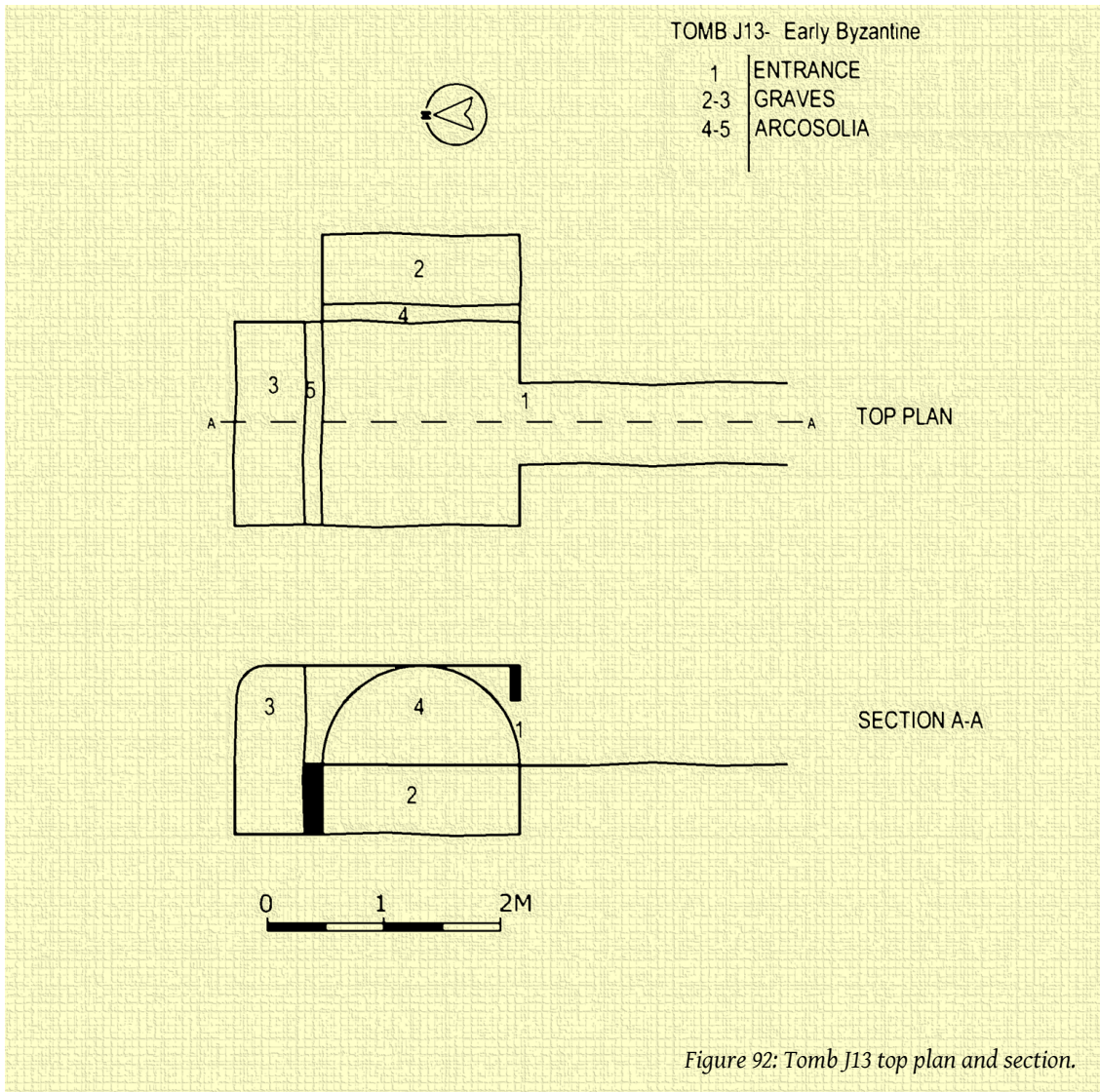
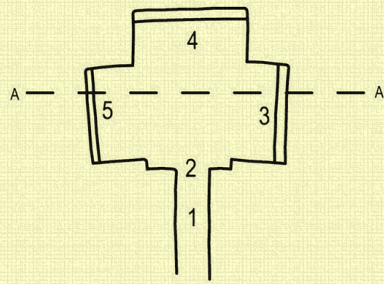


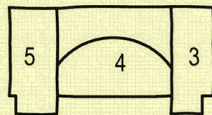
Figure 92: Tomb J13 top plan and section.

TOMB J39 Byzantine

1	DOOR WAY
2	ENTRANCE
3-5	ARCOSOLIA
6-8	LEDGE



TOP PLAN



SECTION A-A

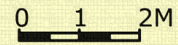
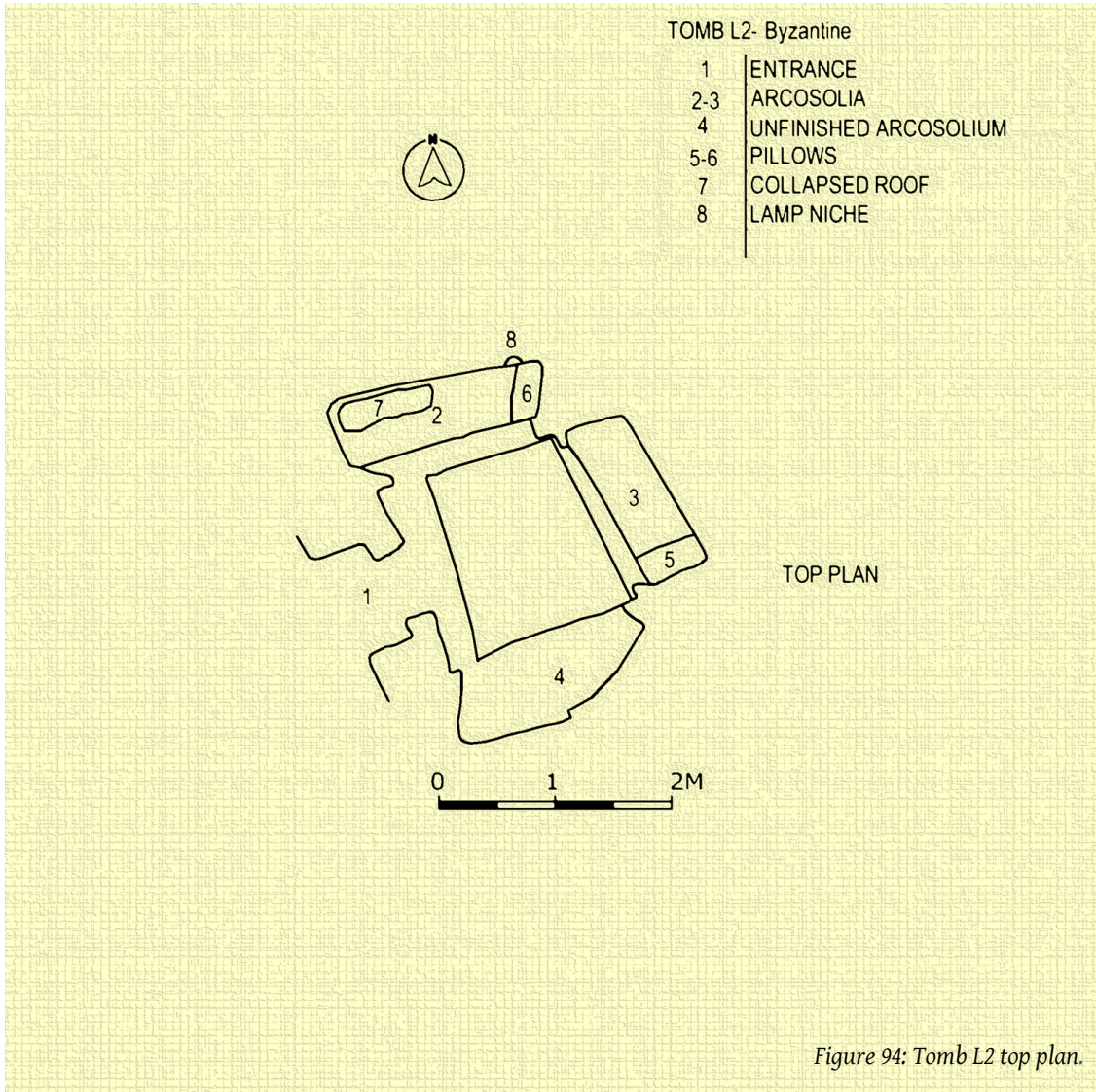
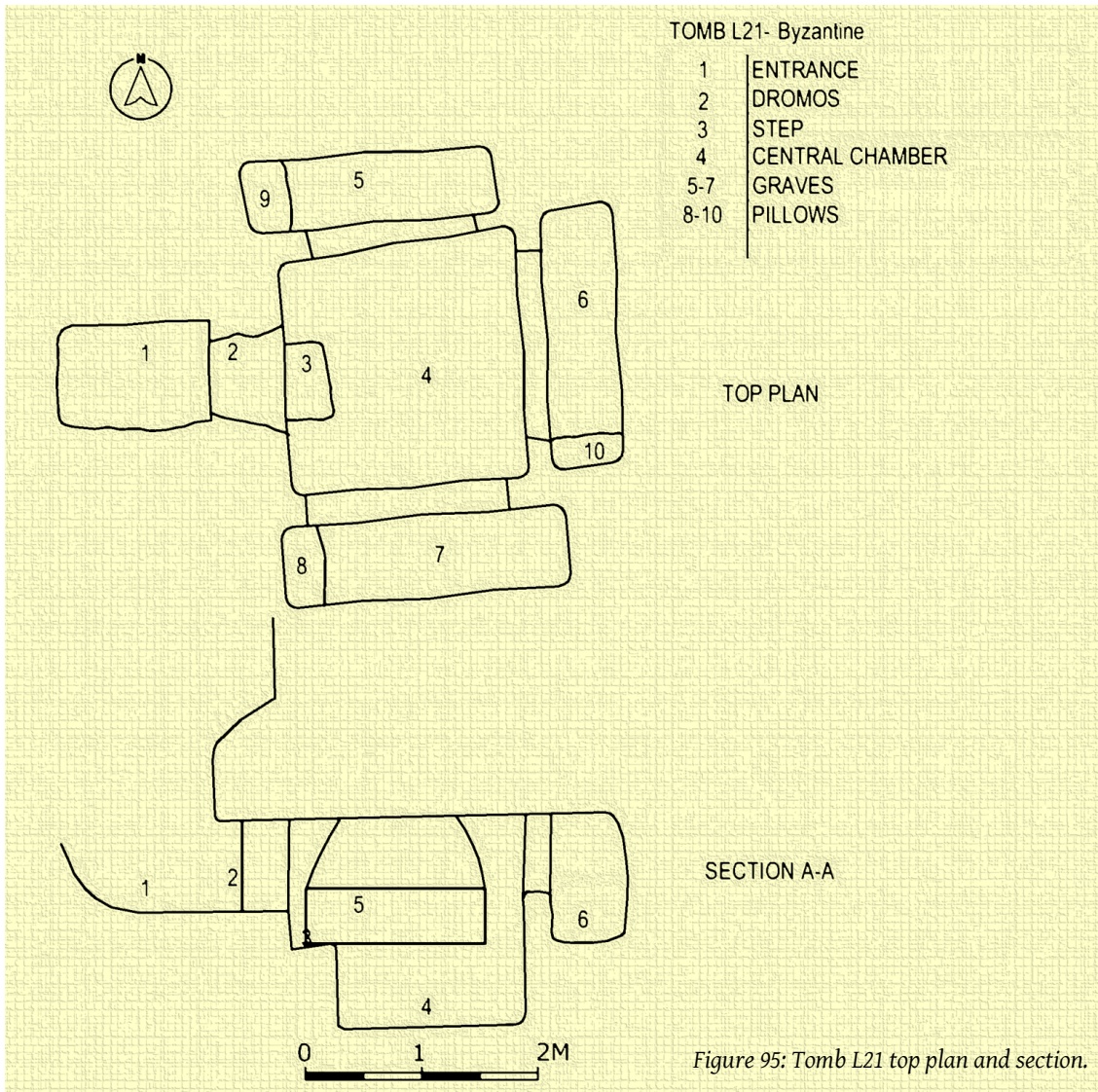
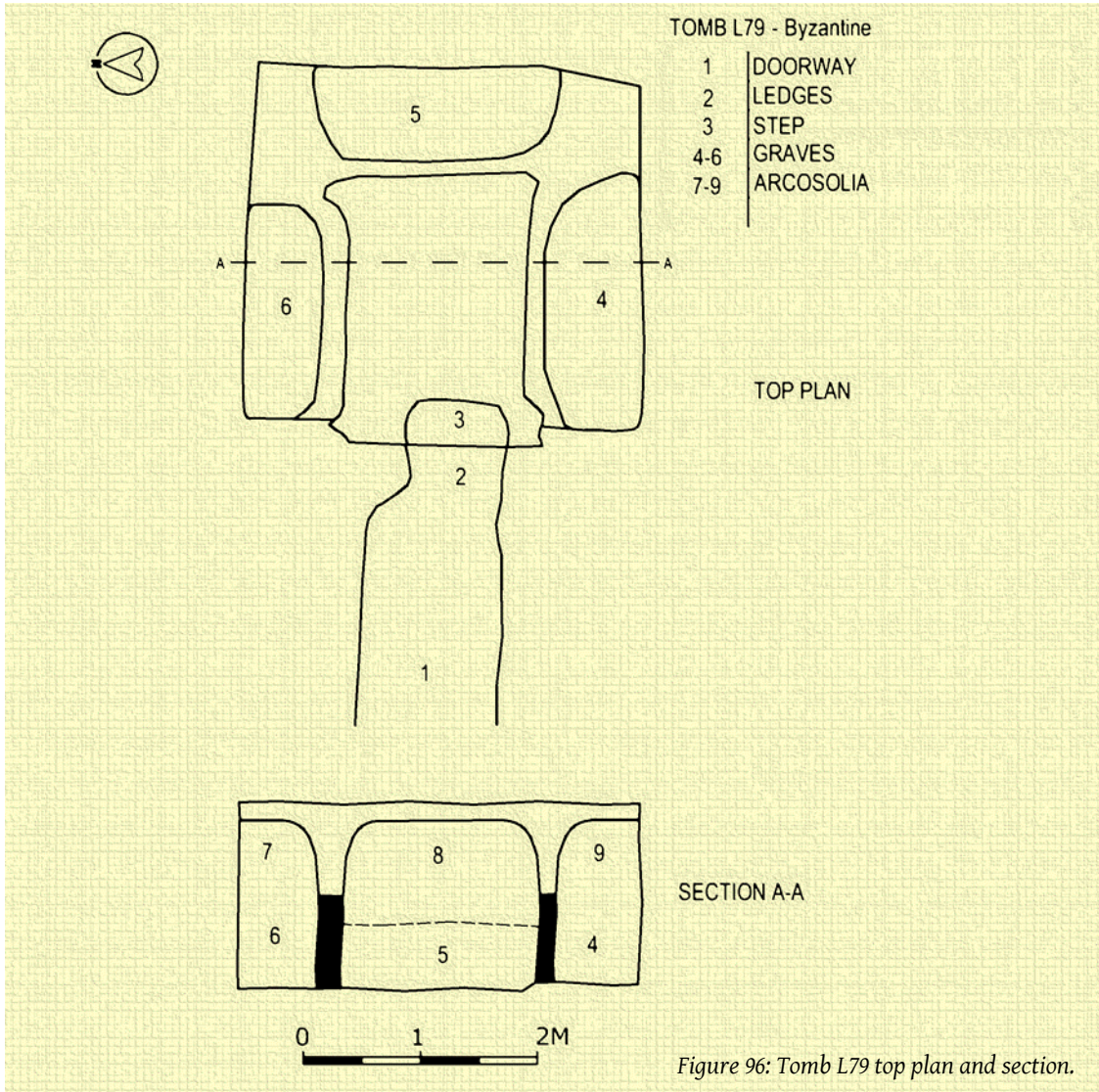
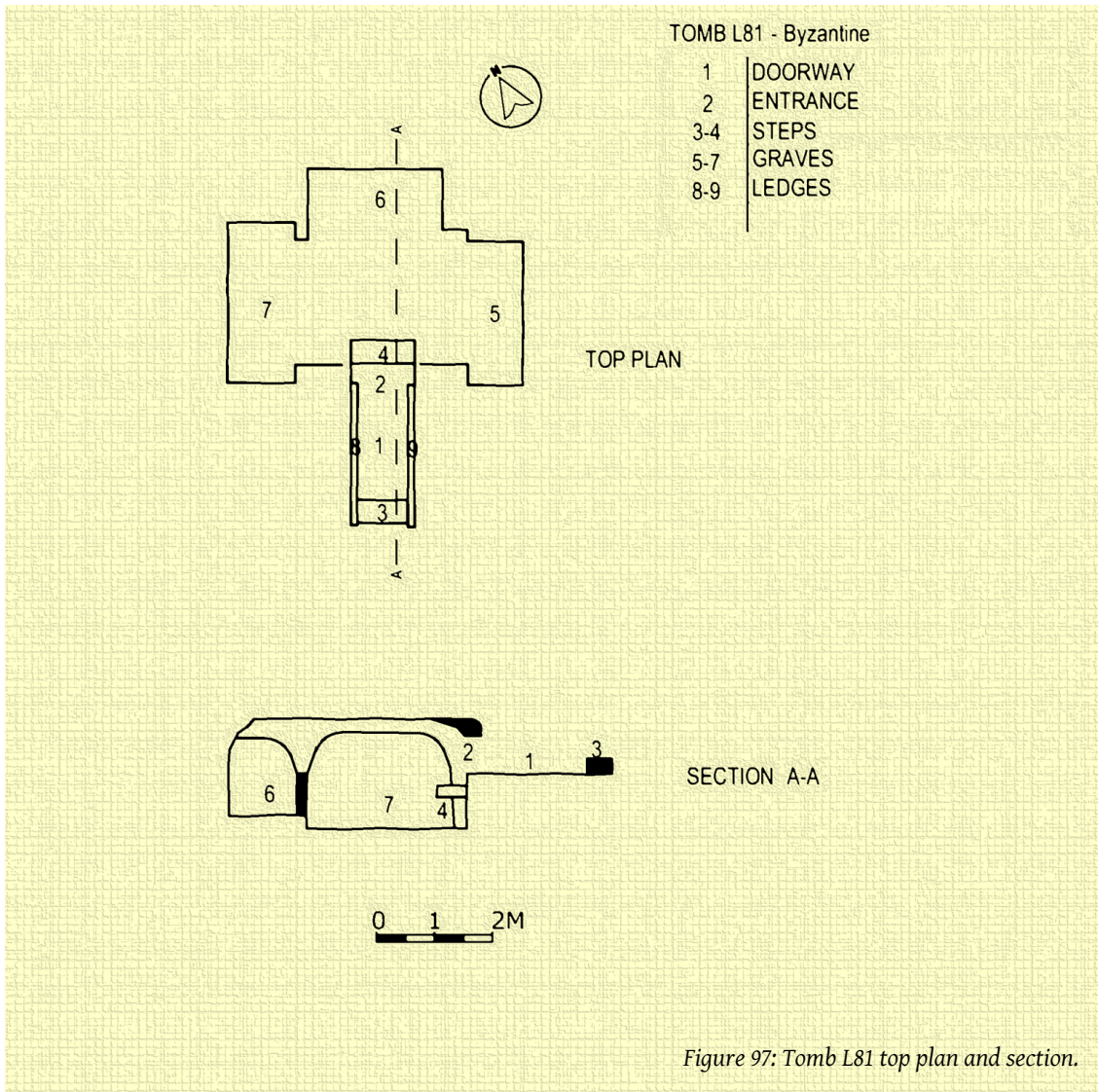


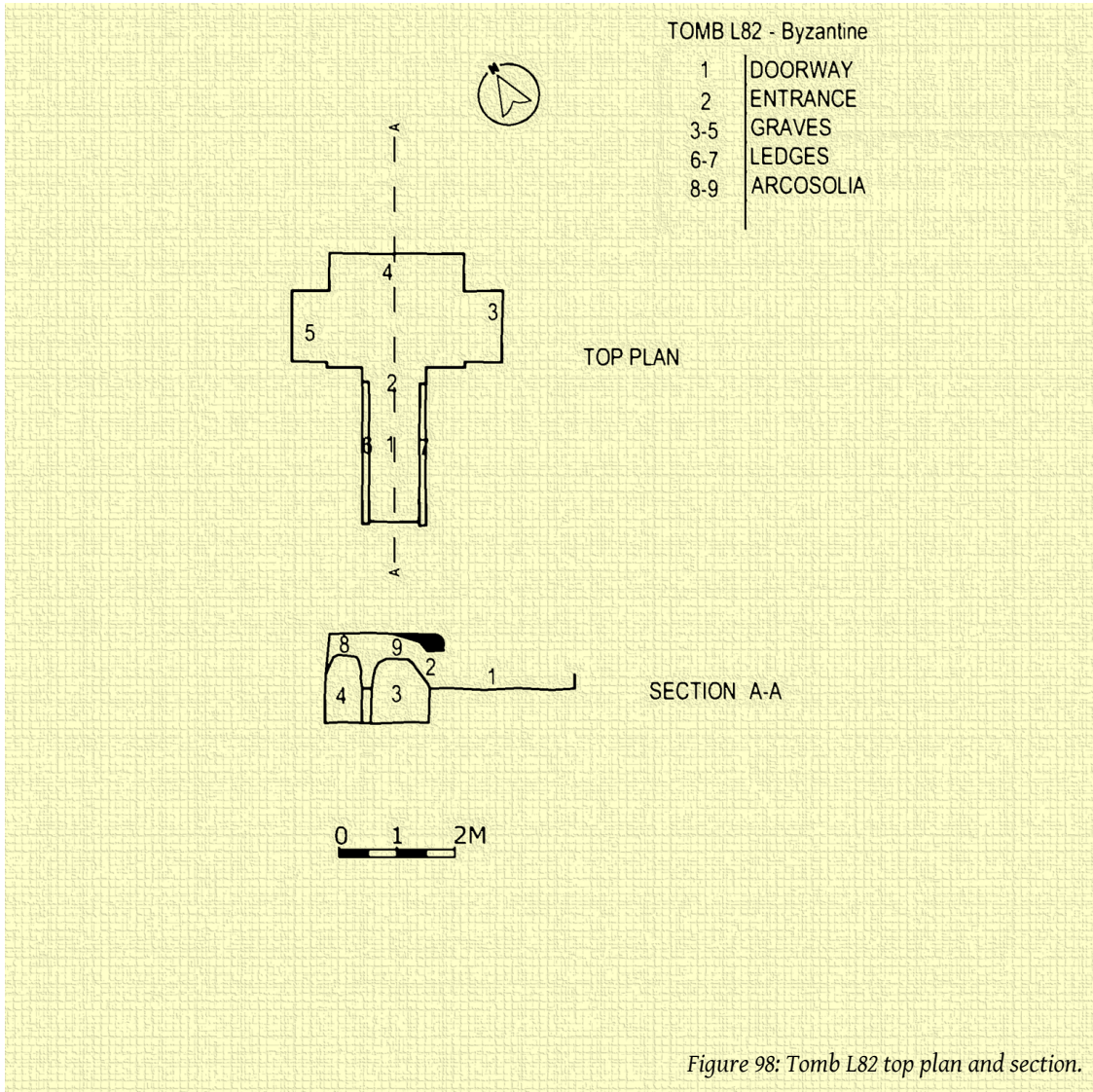
Figure 93: Tomb J39 top plan and section.

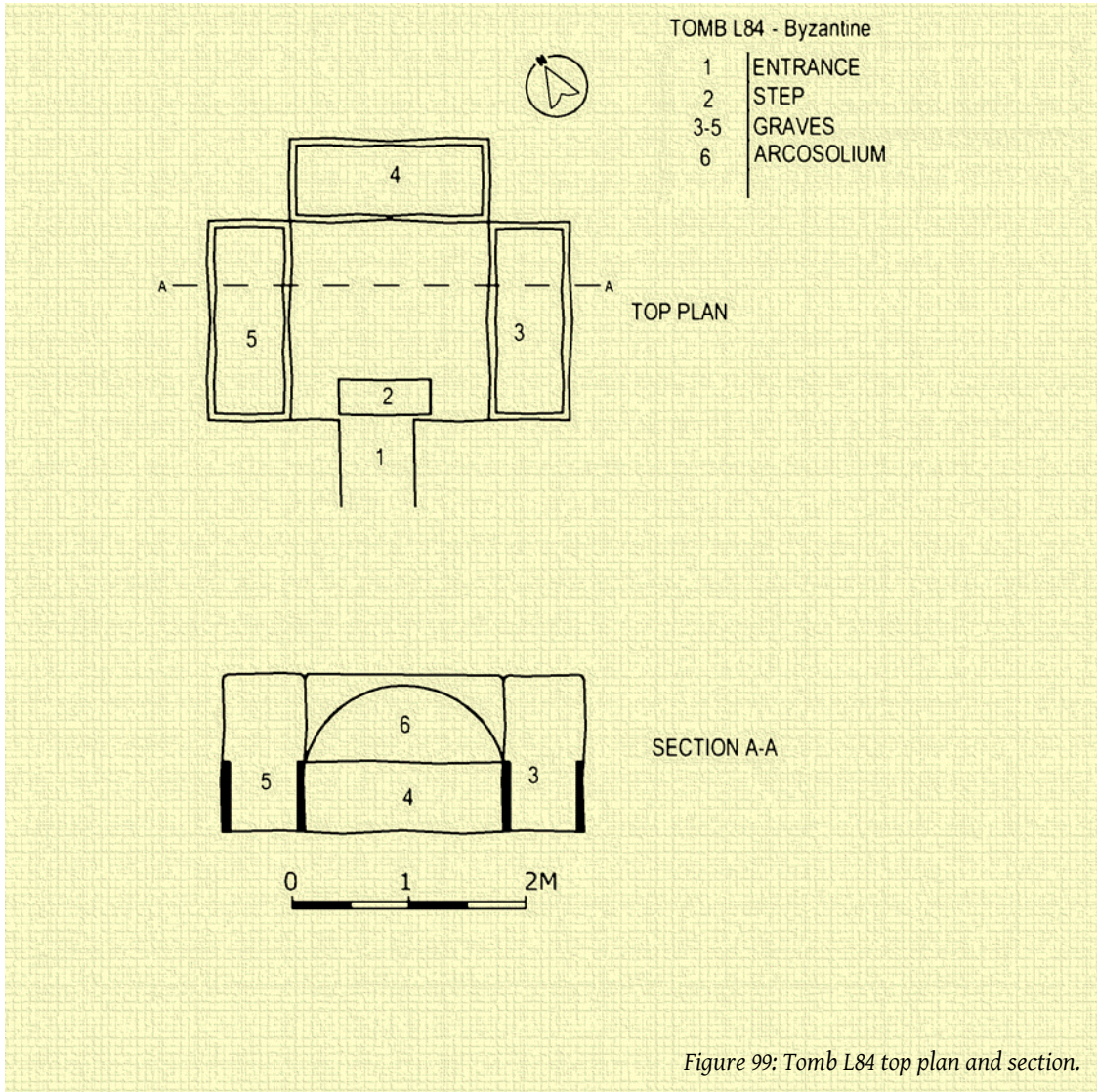












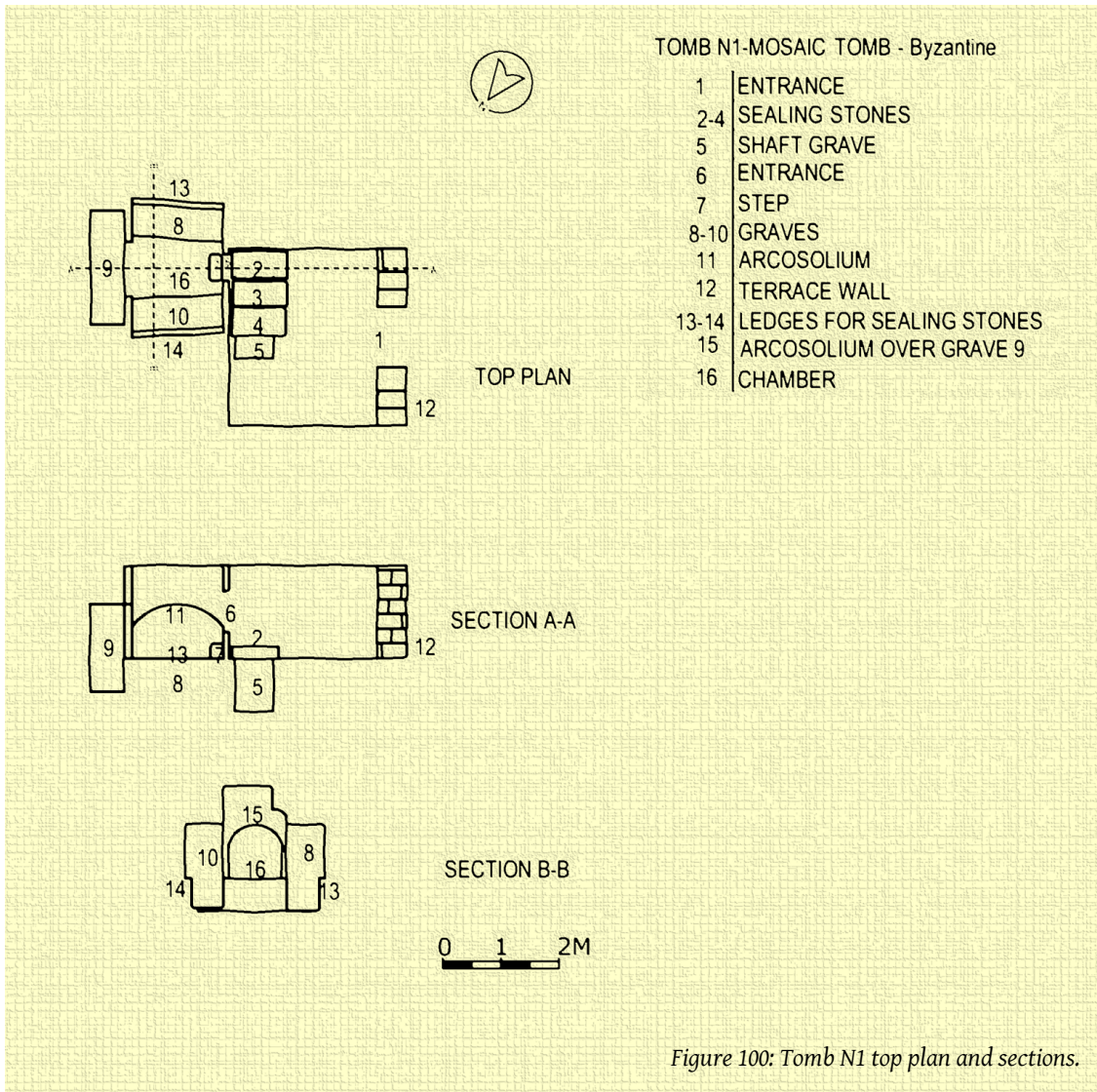
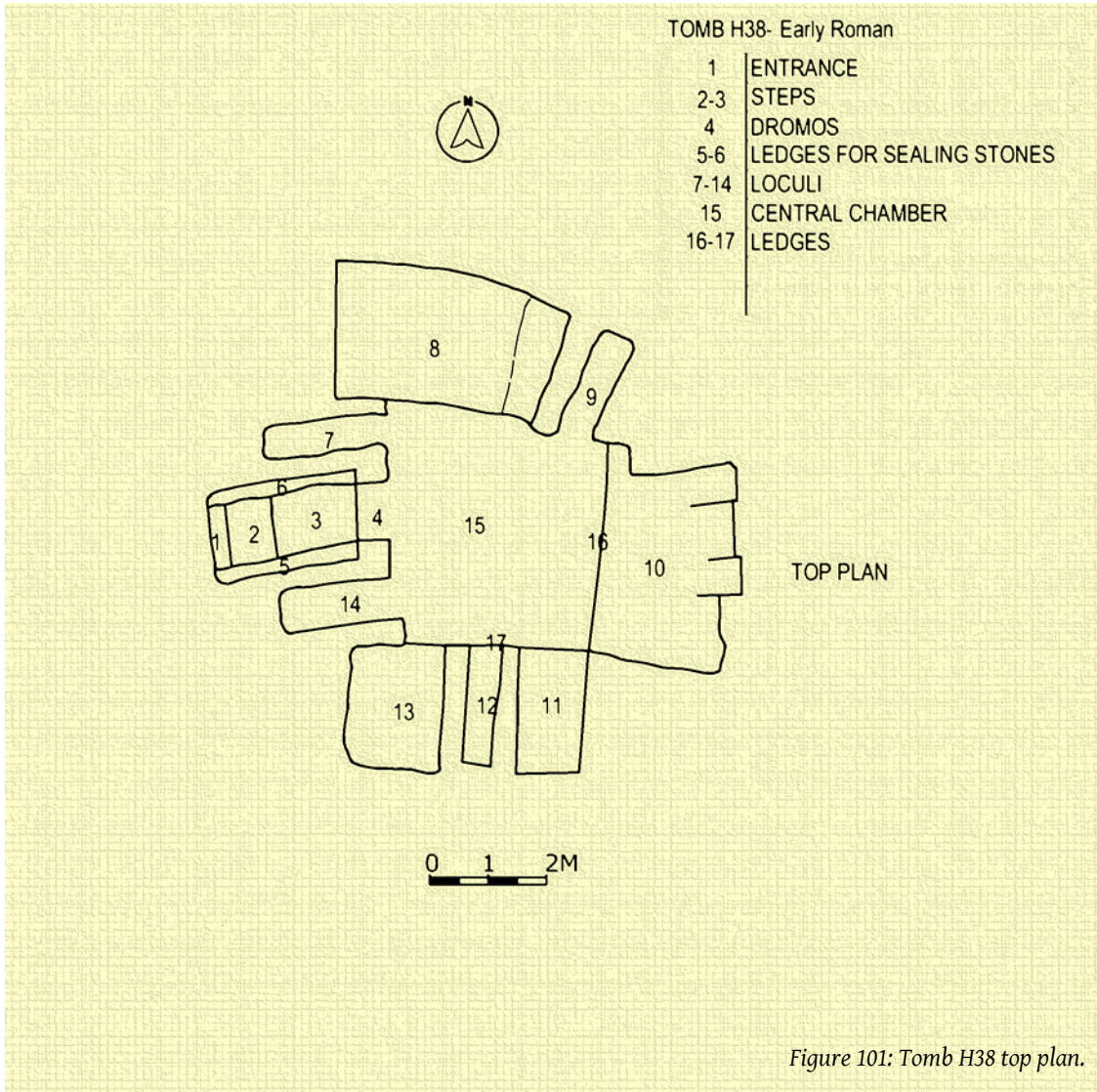
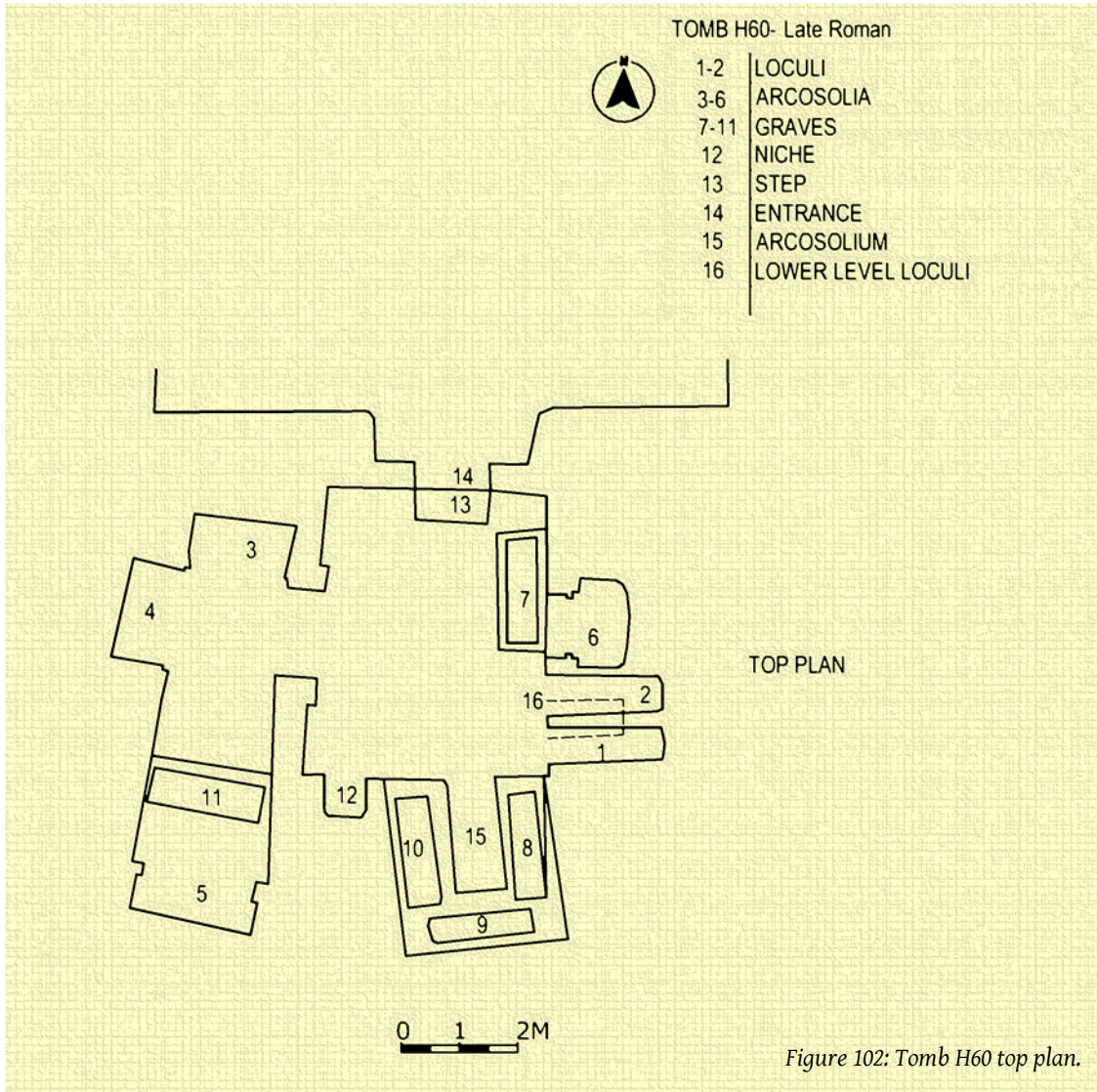
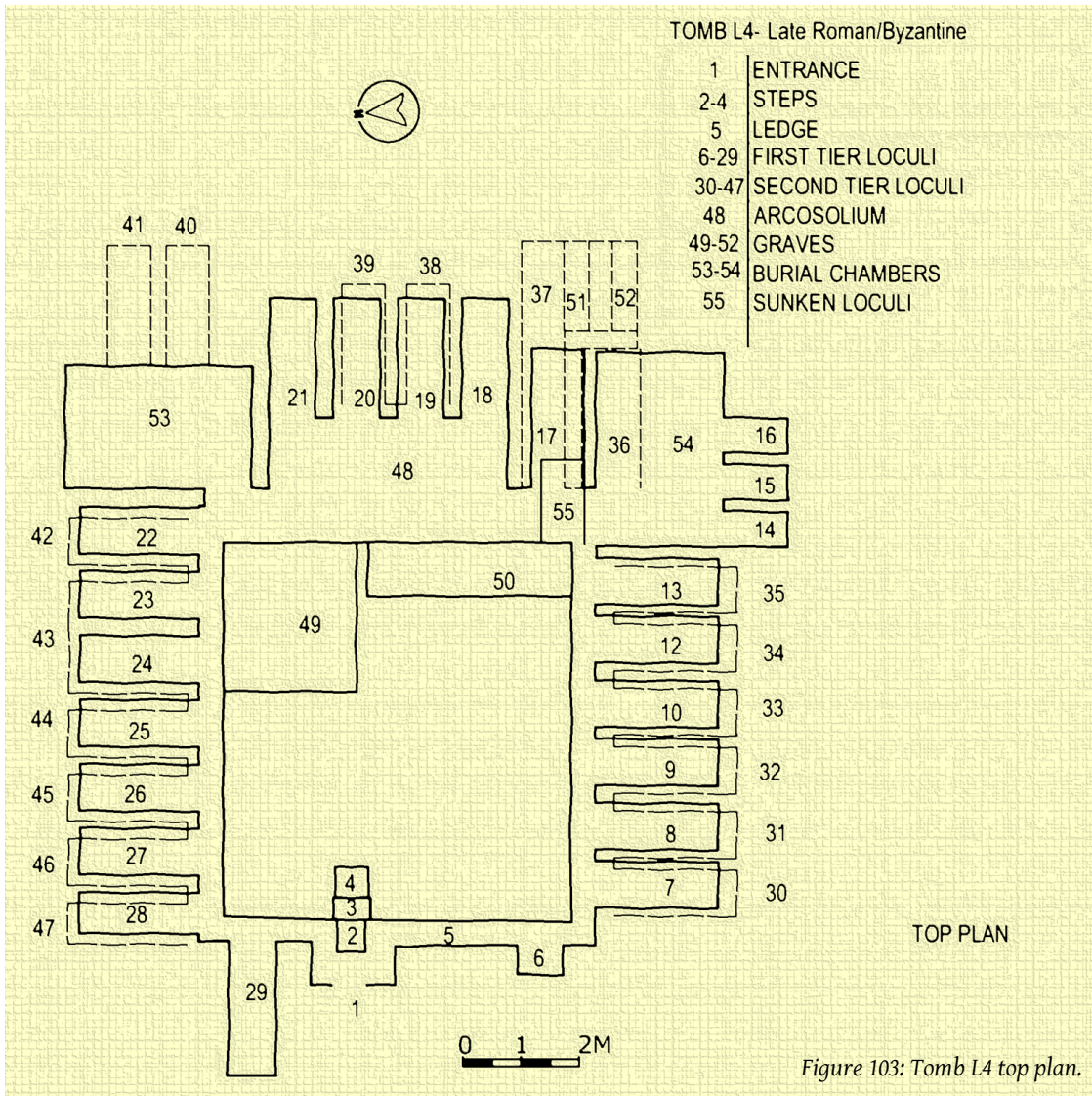


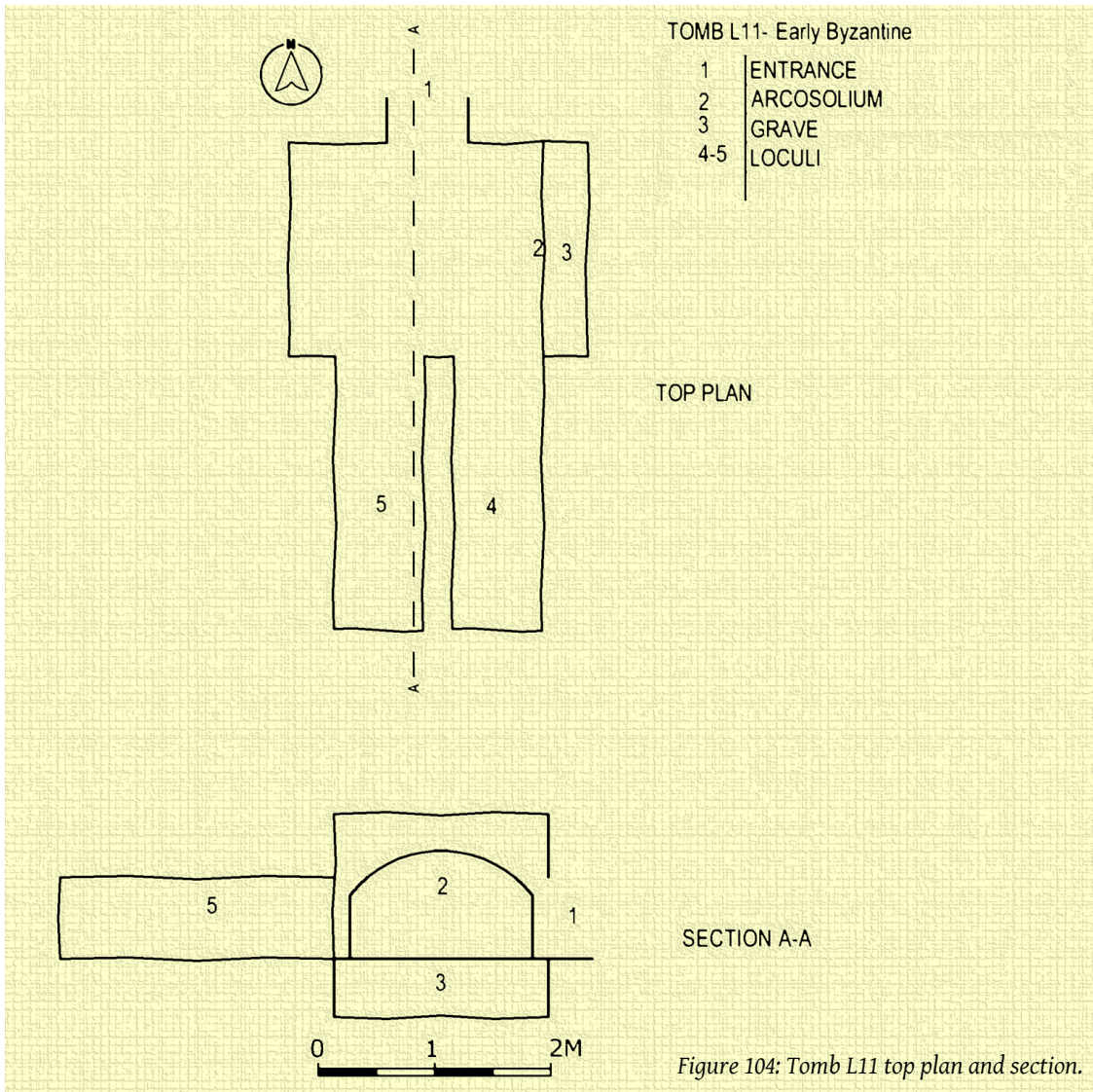
Figure 100: Tomb N1 top plan and sections.

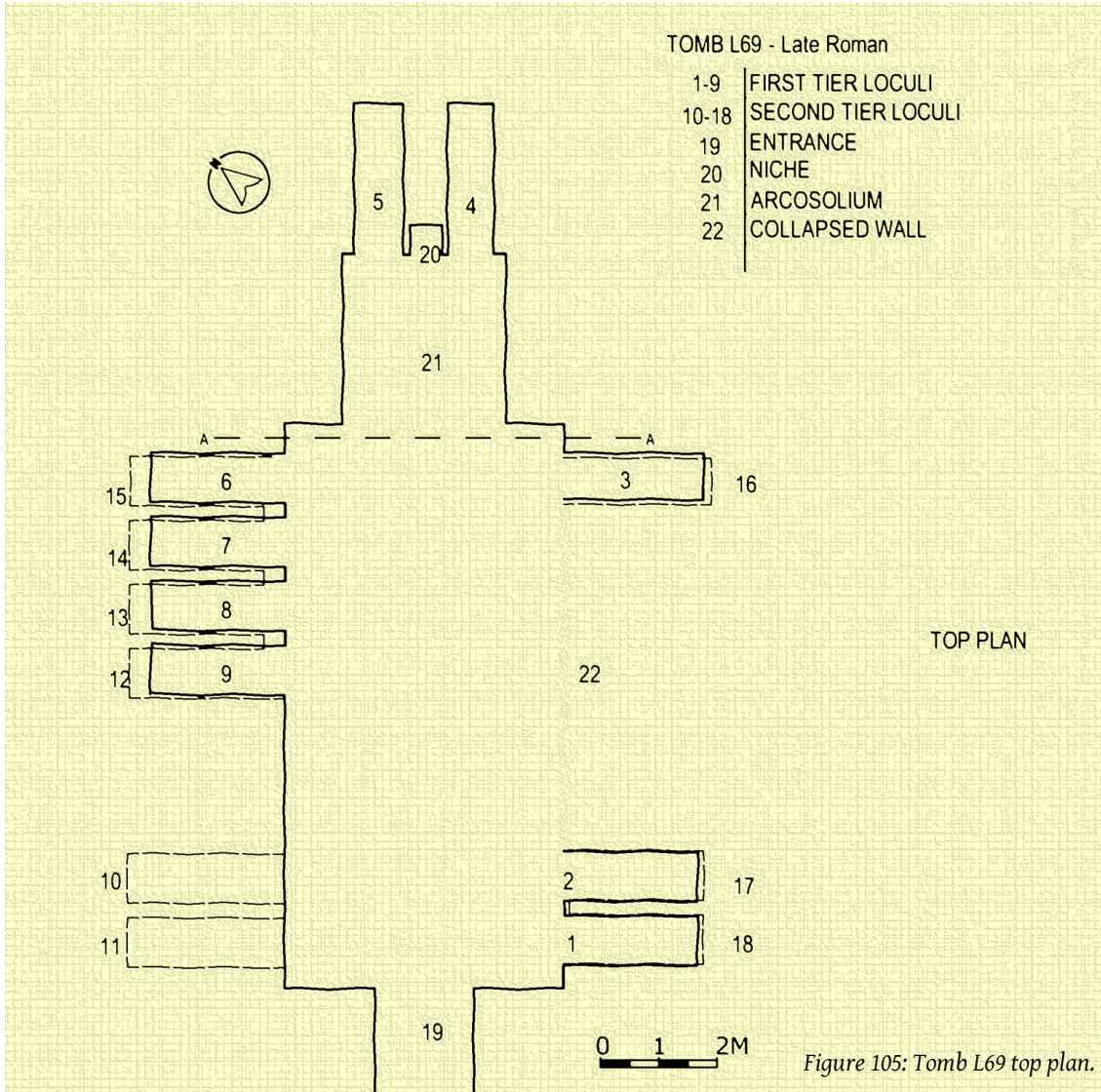
## PLANS OF TYPE IV





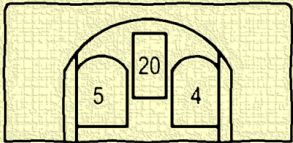
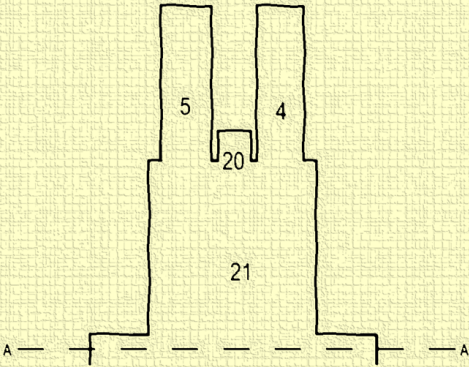






TOMB L69 - Late Roman

- 4-5 | FIRST TIER LOCULI
- 20 | NICHE
- 21 | ARCOSOLIUM



SECTION A-A

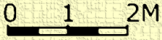
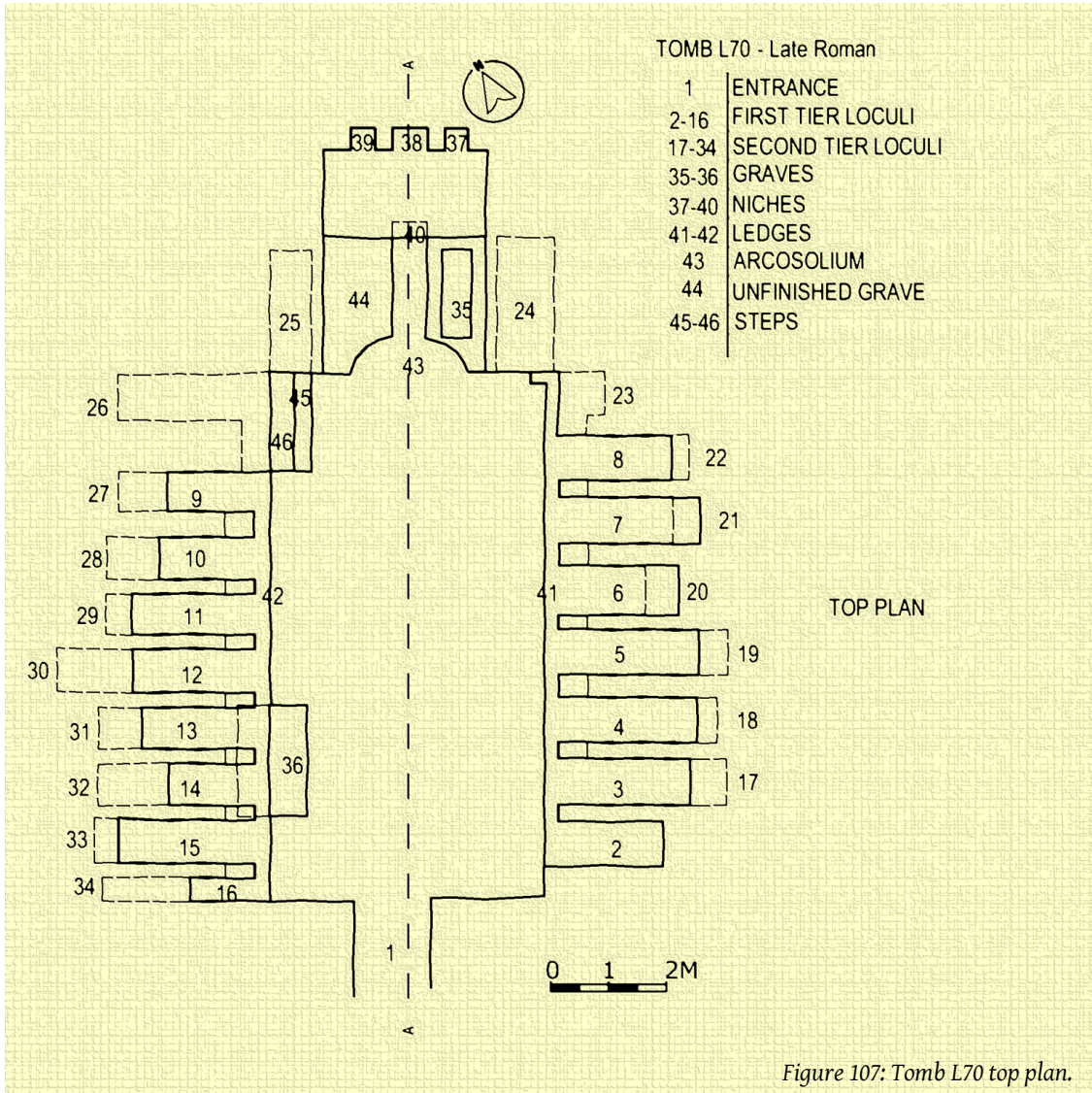
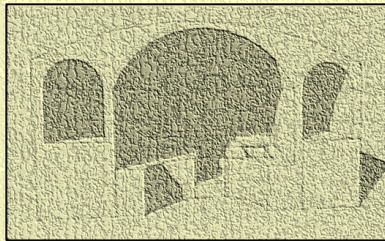


Figure 106: Tomb L69 top plan and section of the Arcosolium.

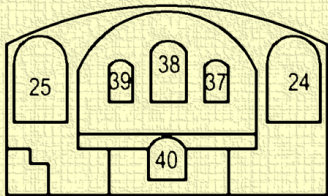




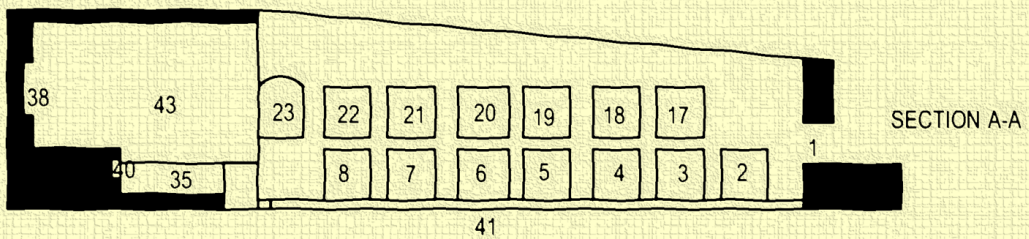
ARCOSOLIUM-3D

TOMB L70 - Late Roman

- 1 | ENTRANCE
- 2-16 | FIRST TIER LOCULI
- 17-34 | SECOND TIER LOCULI
- 35-36 | GRAVES
- 37-40 | NICHEs
- 41-42 | LEDGES
- 43 | ARCOSOLIUM
- 44 | UNFINISHED GRAVE
- 45-46 | STEPS



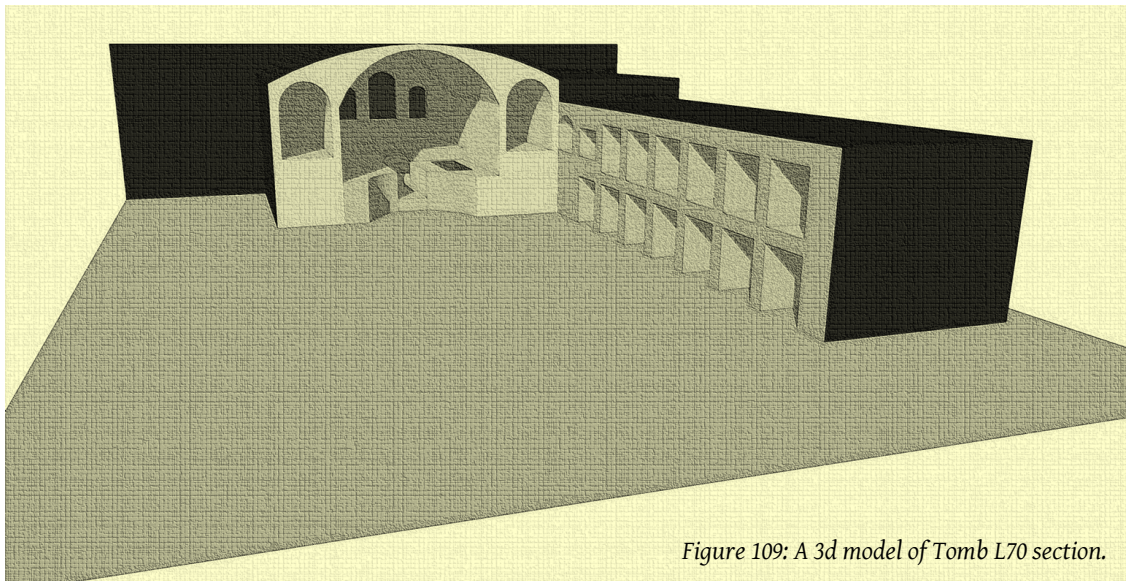
ARCOSOLIUM



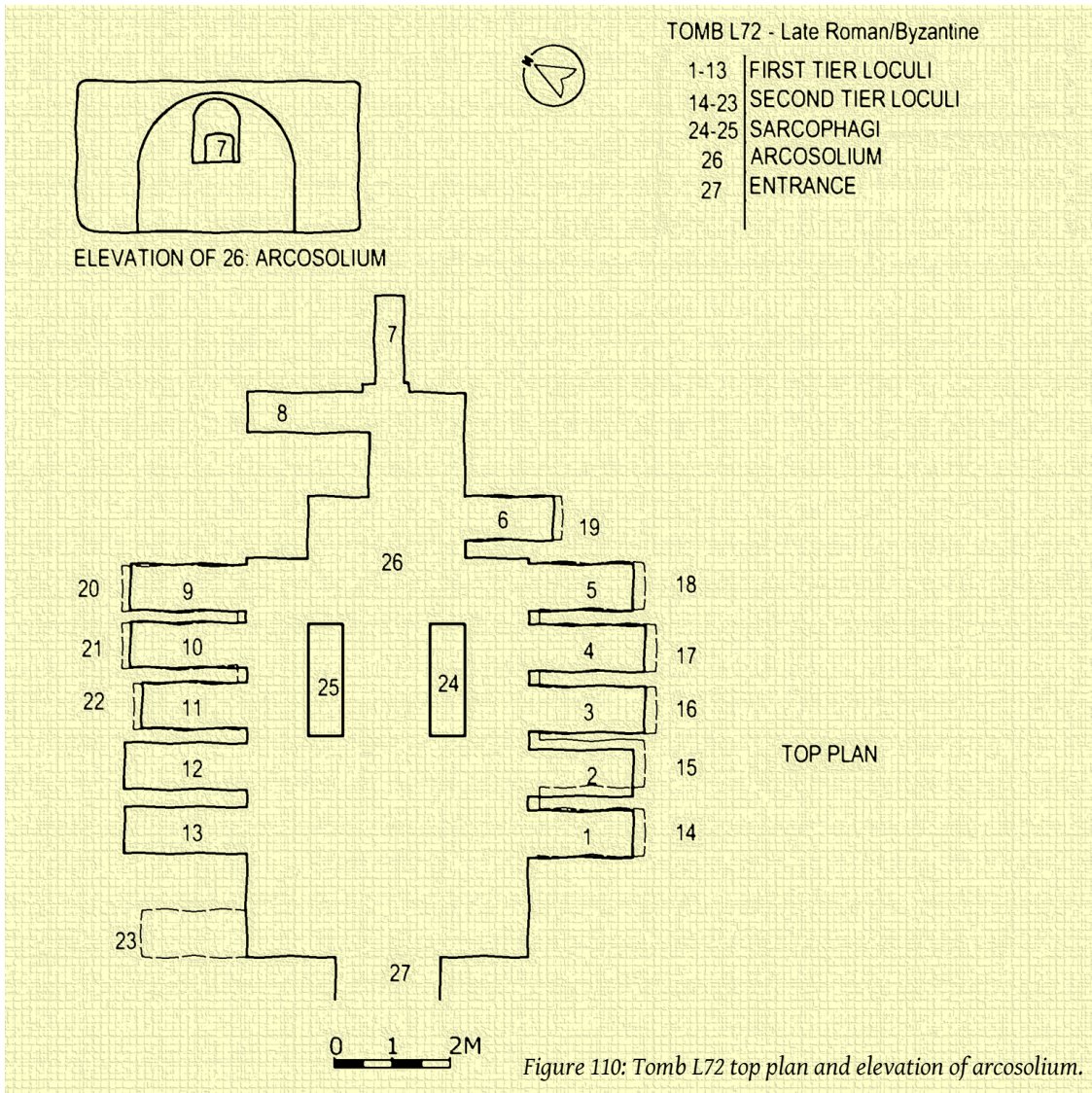
SECTION A-A

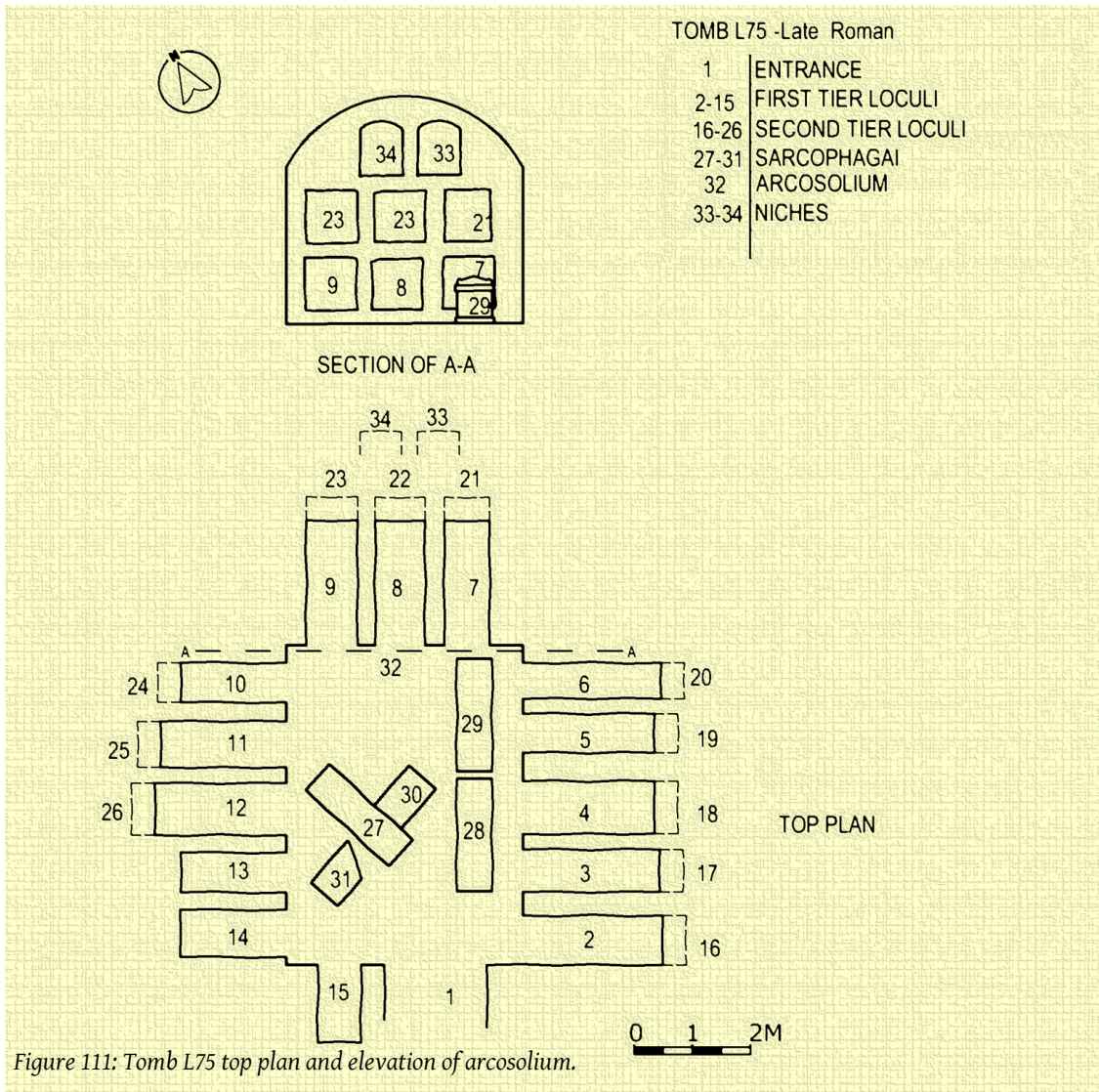
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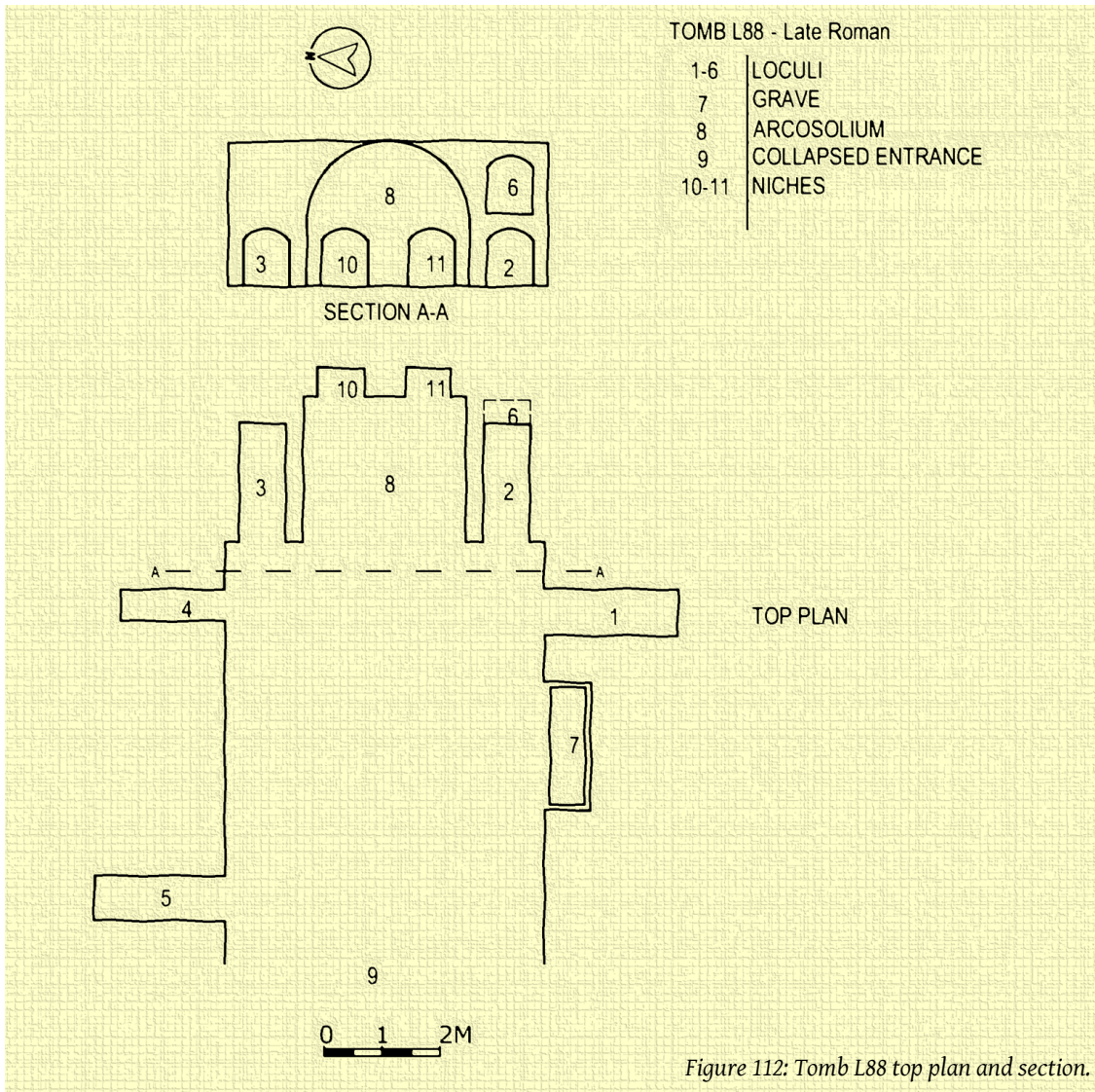
Figure 108: Tomb L70 3d model and section of arcossolium, and section of the tomb.

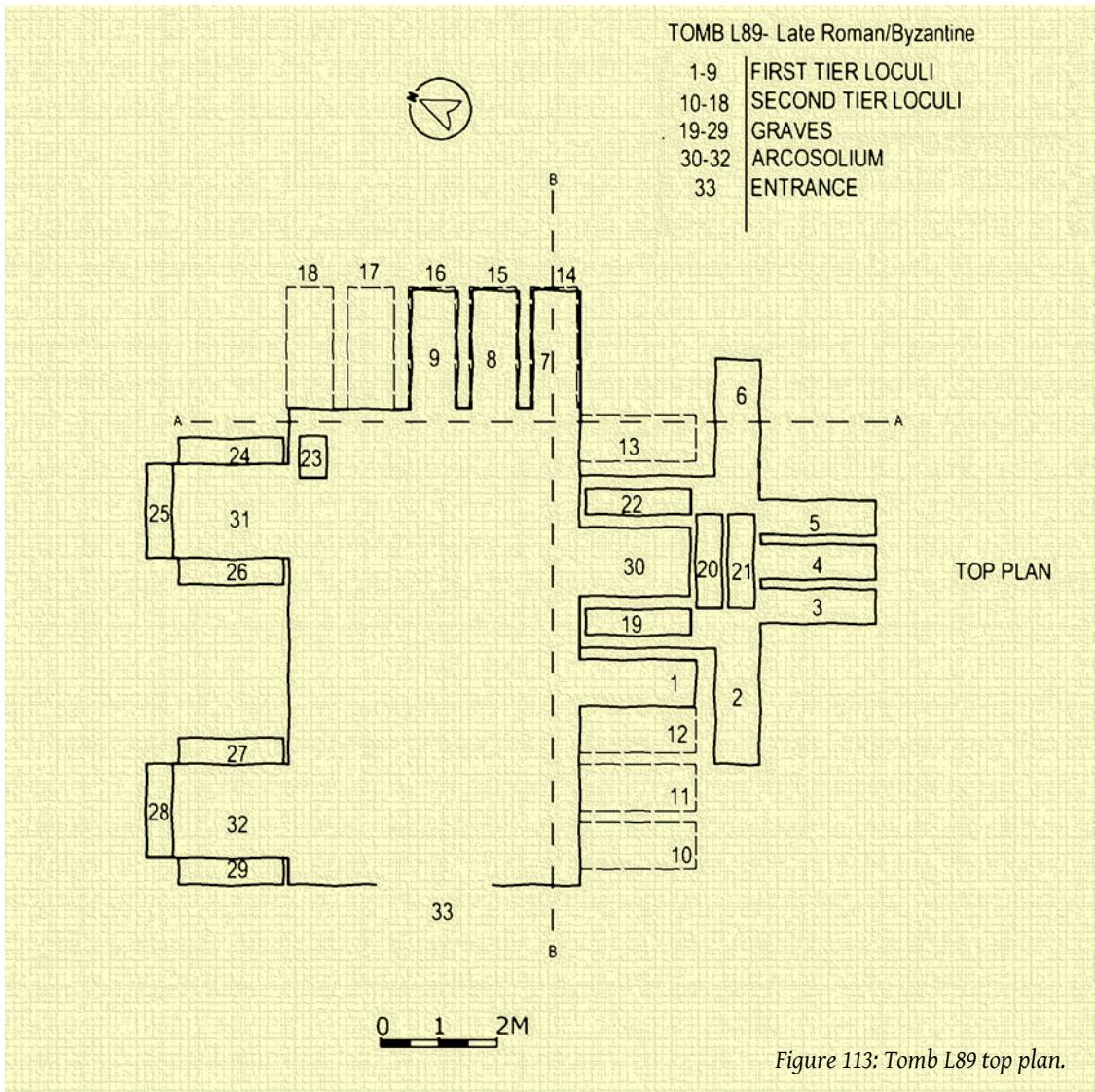


*Figure 109: A 3d model of Tomb L70 section.*



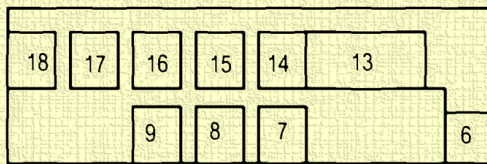




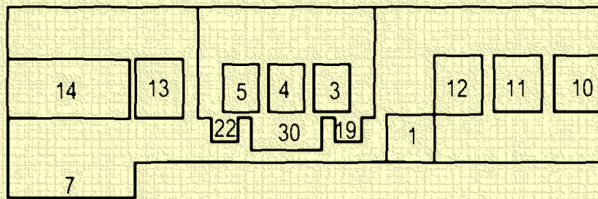


TOMB L89- Late Roman/Byzantine

- 1-9 FIRST TIER LOCULI
- 10-18 SECOND TIER LOCULI
- 19-29 GRAVES
- 30-32 ARCOSOLIUM
- 33 ENTRANCE



SECTION A-A



SECTION B-B



BASALT DOOR

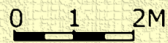


Figure 114: Tomb L89 section plans and door elevation.

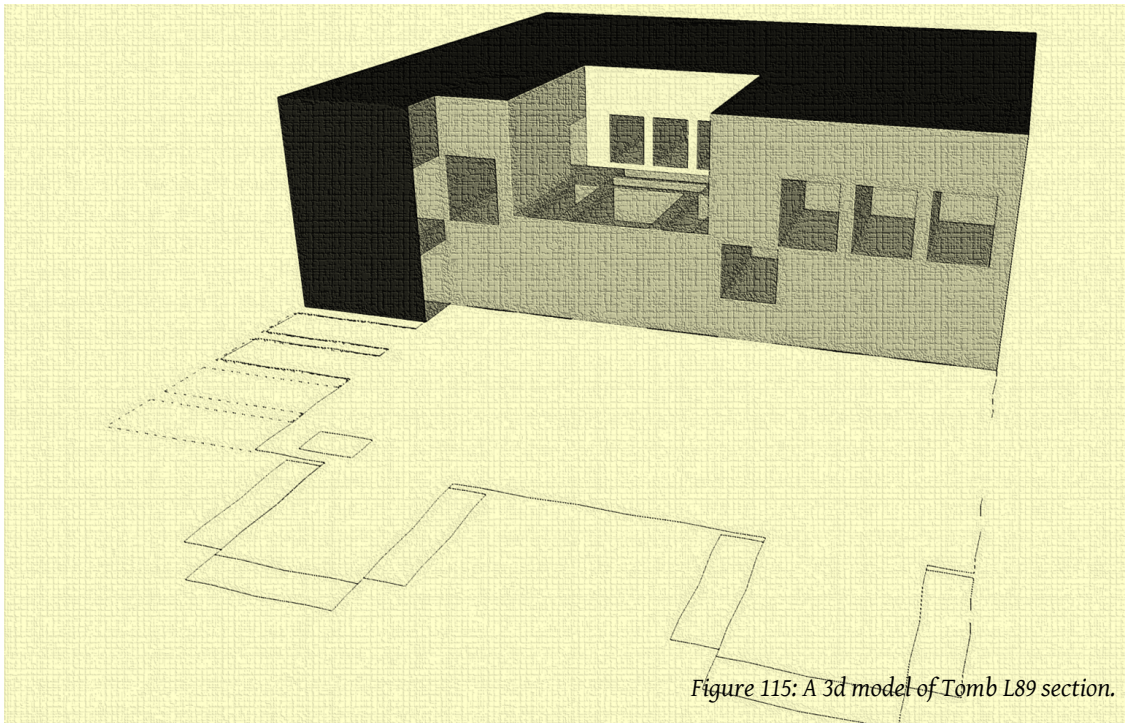
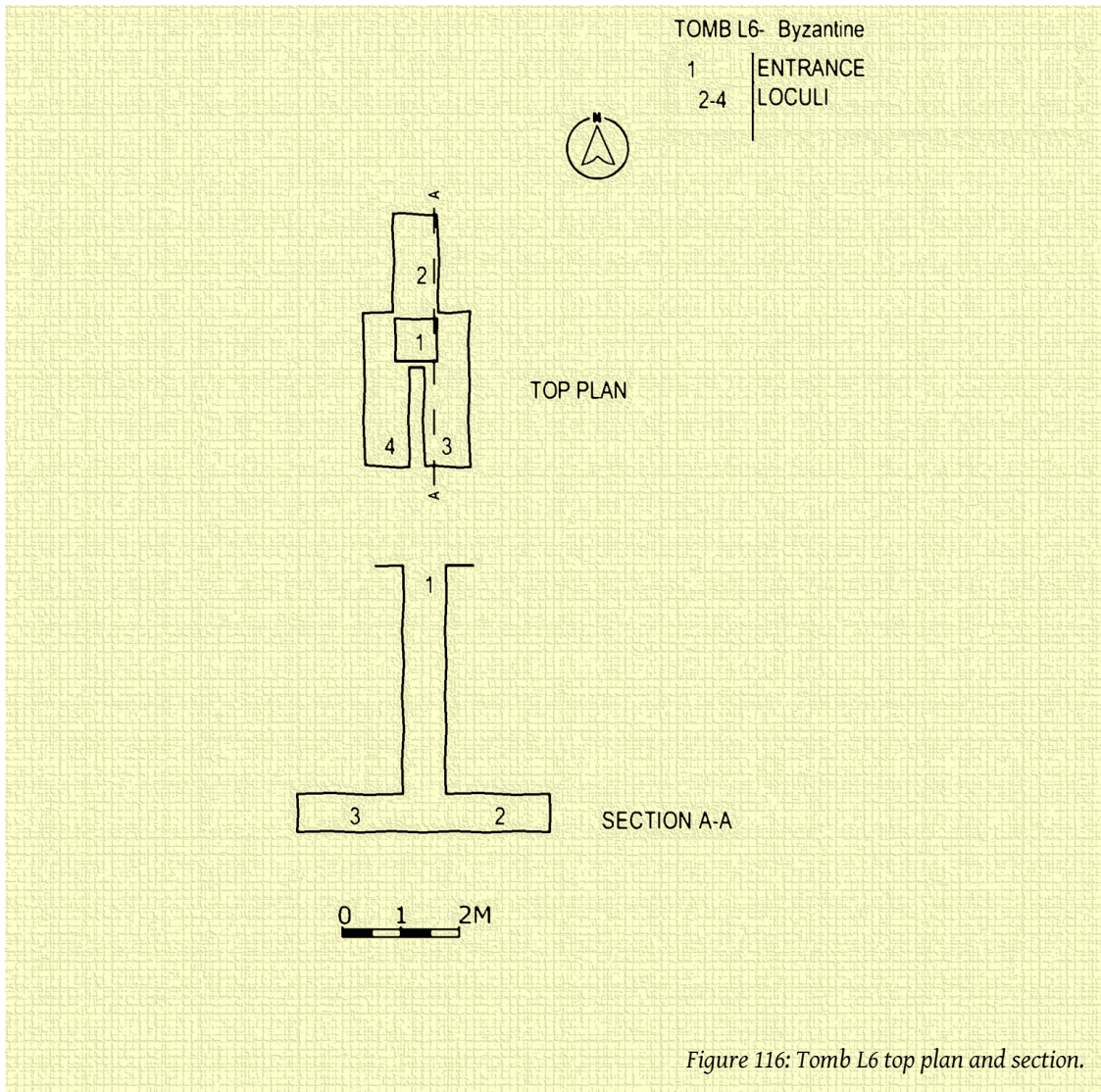
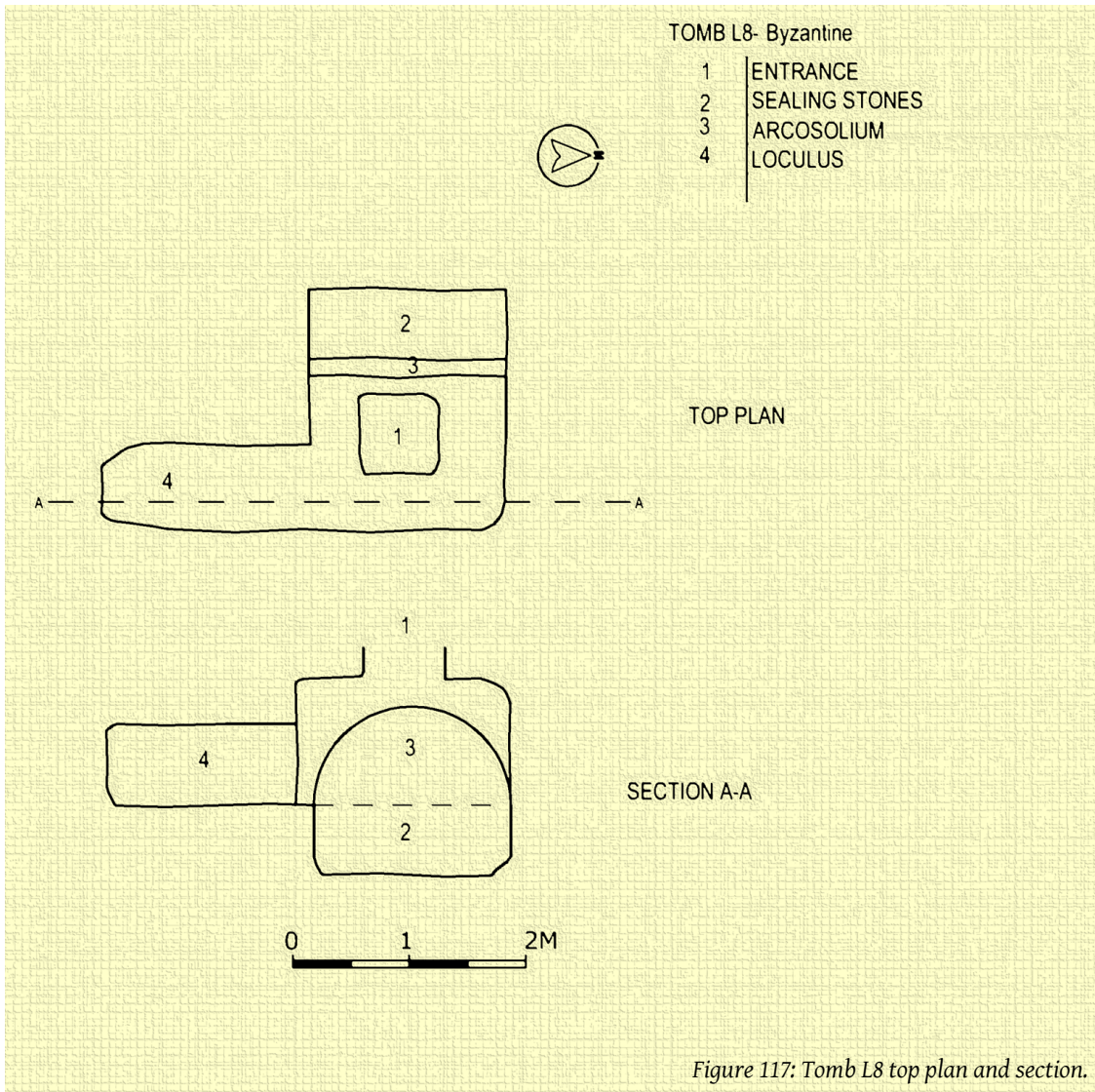
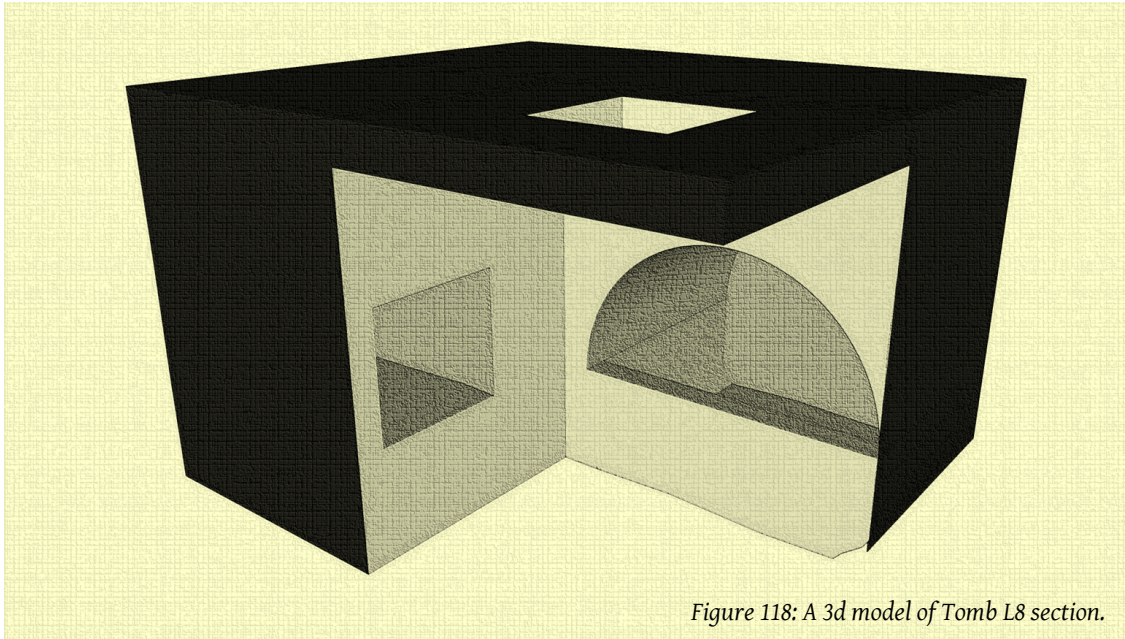


Figure 115: A 3d model of Tomb L89 section.

## PLANS OF TYPE VA





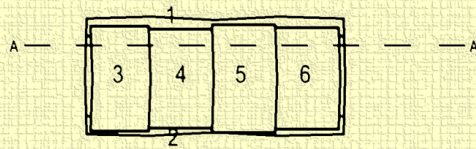


*Figure 118: A 3d model of Tomb L8 section.*

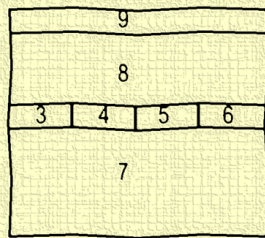
## PLANS OF TYPE VB

TOMB H8- Hellenistic

- 1-2 | LEDGES FOR SEALING STONES
- 3-6 | SEALING STONES
- 7 | BURIAL
- 8 | DIRT
- 9 | TOP SOIL



TOP PLAN



CROSS SECTION



Figure 119: Tomb H8 top plan and section.

TOMB H9- Hellenistic

- 1-2 | LEDGES FOR SEALING STONES
- 3-5 | SEALING STONES
- 6 | BURIAL

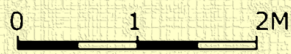
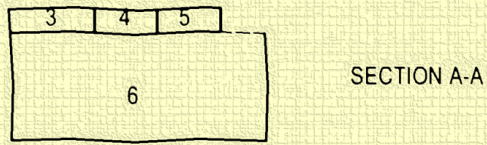
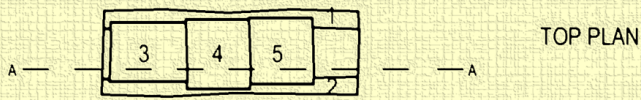
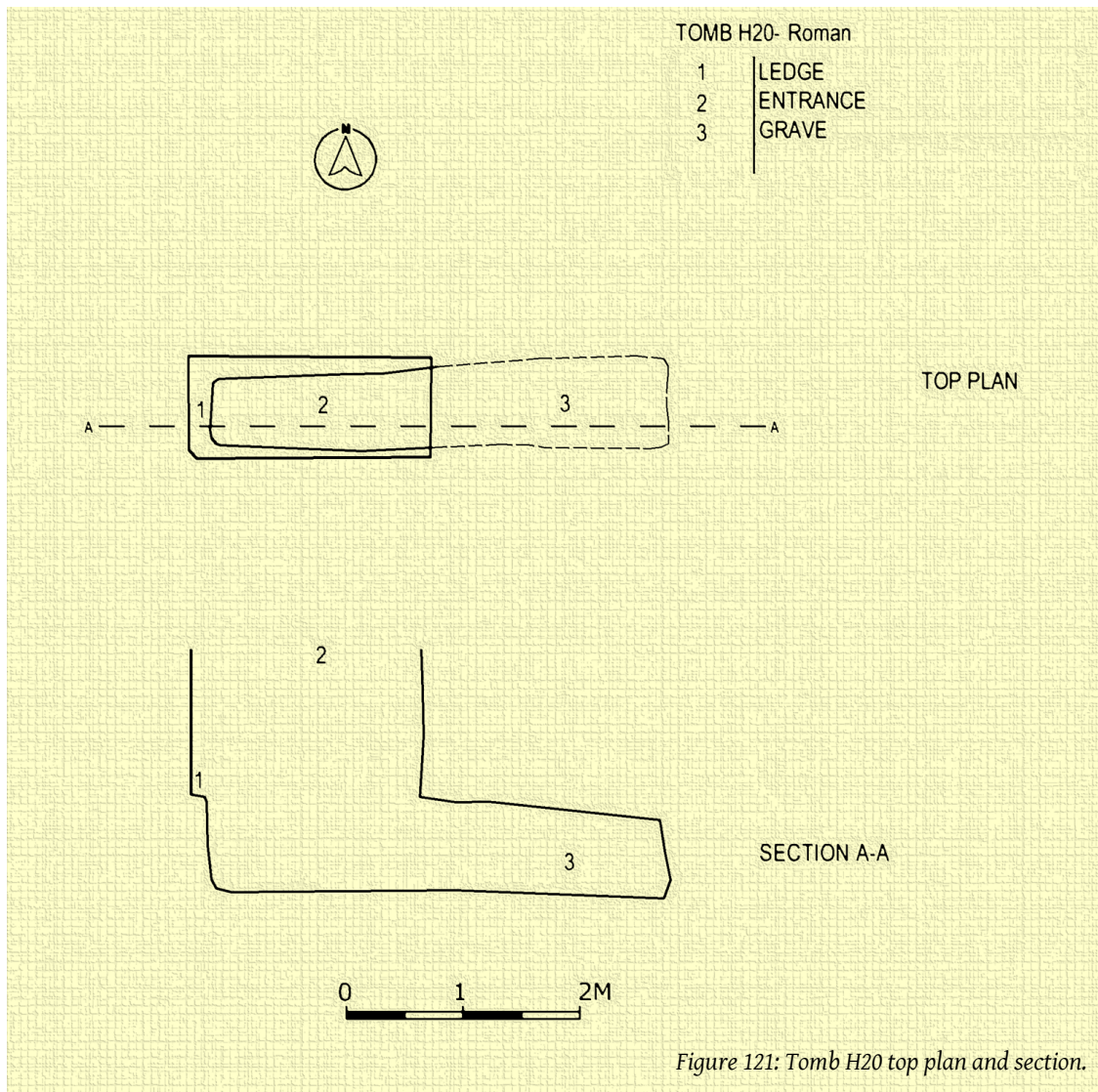
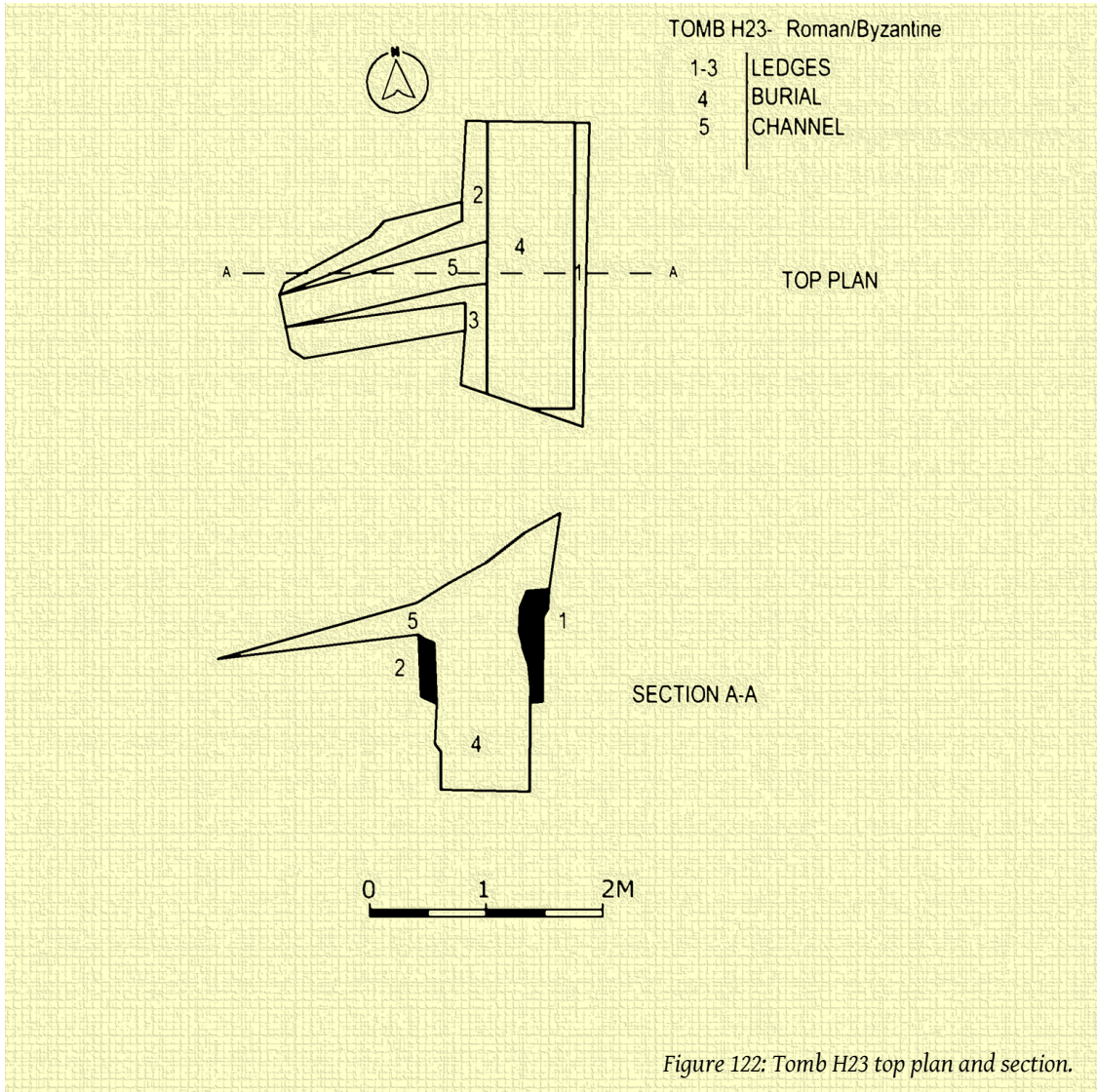


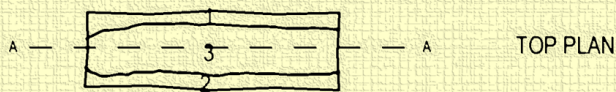
Figure 120: Tomb H9 top plan and section.



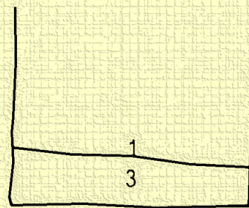


TOMB H24- Roman/Byzantine

- 1-2 | LEDGES
- 3 | GRAVE



TOP PLAN



SECTION A-A

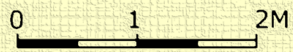
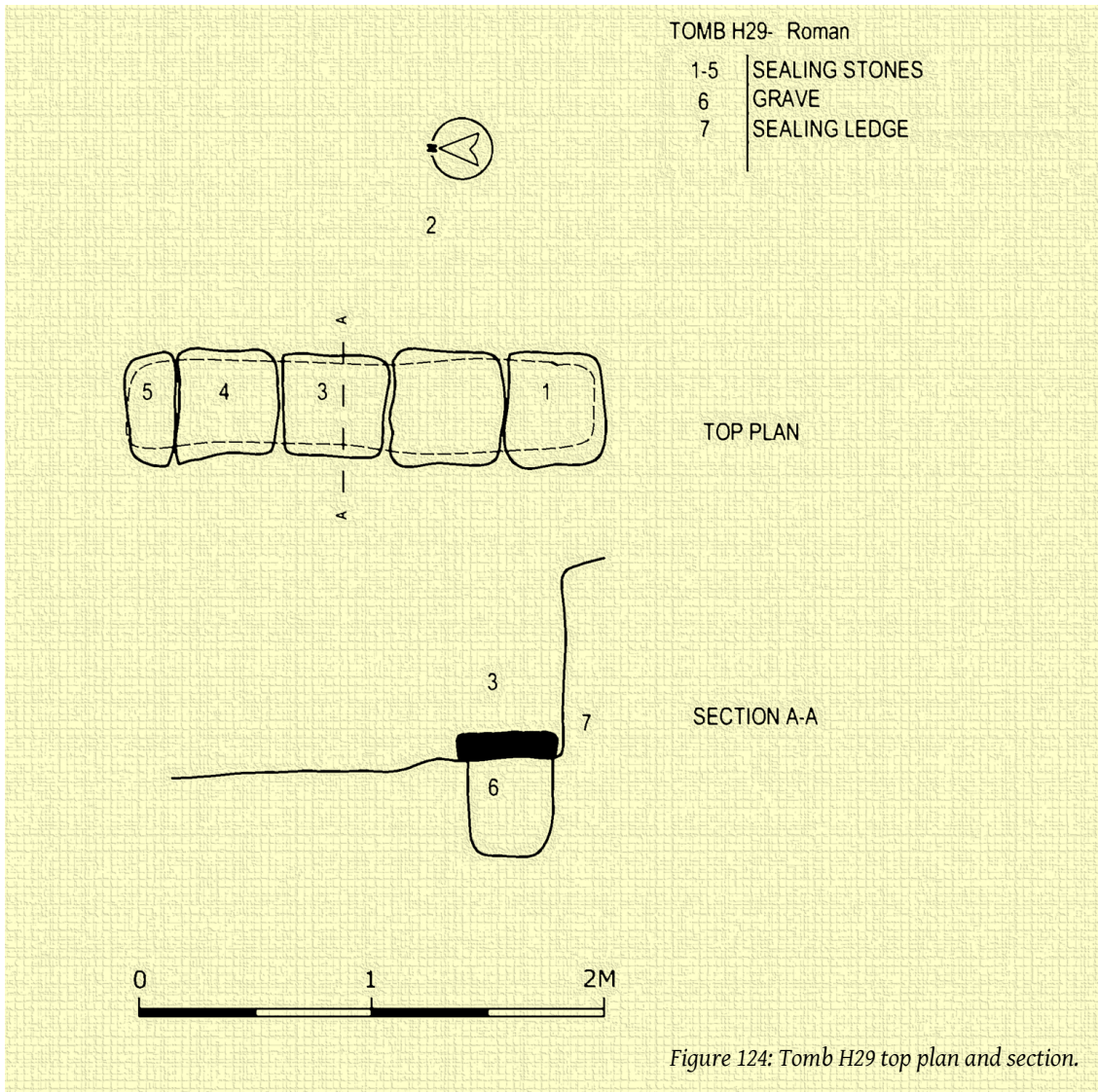


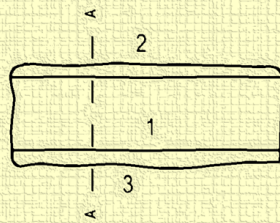
Figure 123: Tomb H24 top plan and section.





TOMB H30- Late Roman/Early Byzantine

- 1 GRAVE
- 2-3 SEALING LEDGE
- 4 SEALING STONE



TOP PLAN



SECTION A-A

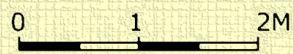
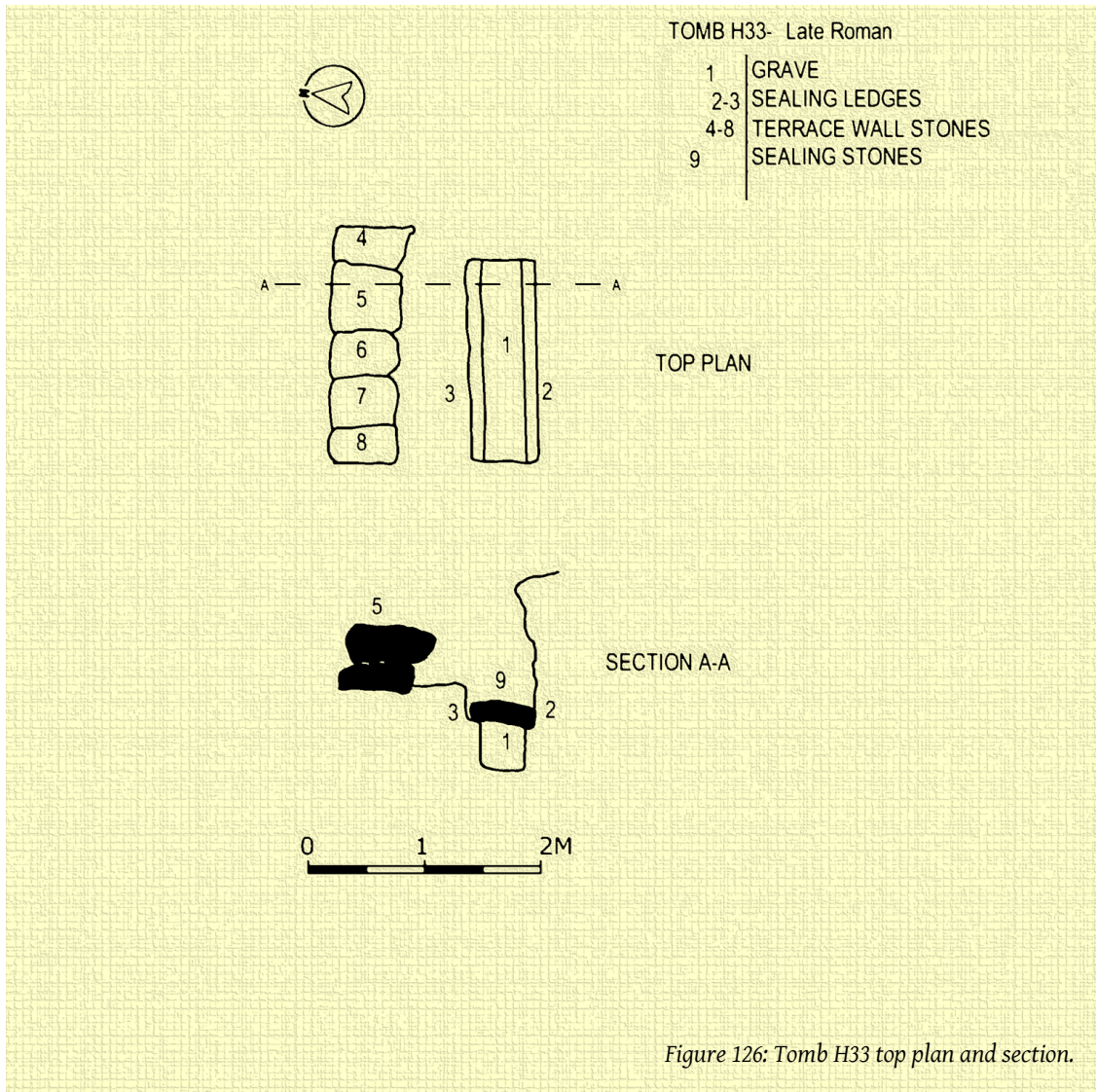
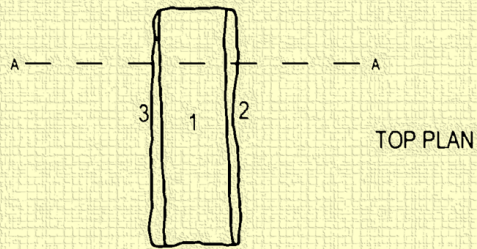


Figure 125: Tomb H30 top plan and section.

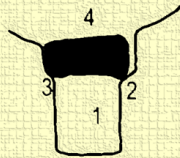


TOMB H34- Late Roman

- 1 GRAVE
- 2-3 SEALING LEDGES
- 4 SEALING STONES



TOP PLAN



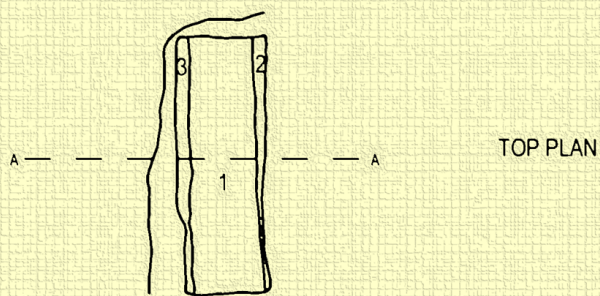
SECTION A-A



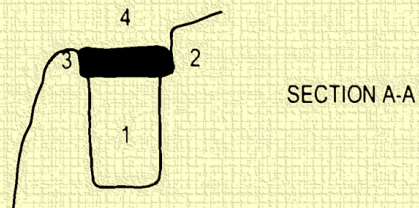
Figure 127: Tomb H34 top plan and section.

TOMB H35- Late Roman/Early Byzantine

- 1 GRAVE
- 2-3 SEALING LEDGES
- 4 SEALING STONES



TOP PLAN



SECTION A-A

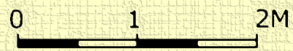
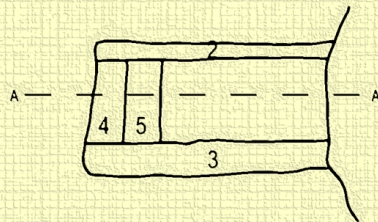


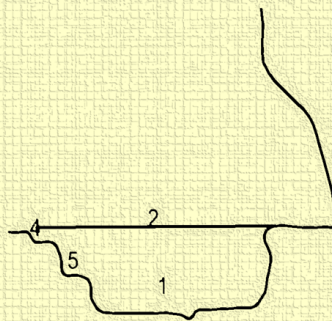
Figure 128: Tomb H35 top plan and section.

TOMB H37- Late Roman/Early Byzantine

- 1 GRAVE
- 2-3 SEALING LEDGES
- 4-5 STEPS



TOP PLAN



SECTION A-A

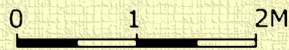


Figure 129: Tomb H37 top plan and section.

TOMB H42- Roman/Byzantine

1-4 | SEALING STONES  
5 | GRAVE

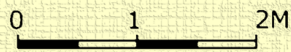
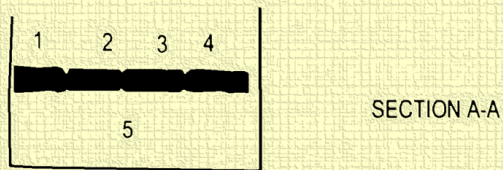


Figure 130: Tomb H42 top plan and section.

TOMB J9- Byzantine

- |     |                |
|-----|----------------|
| 1-4 | SEALING STONES |
| 5   | GRAVE          |
| 6-7 | LEDGES         |

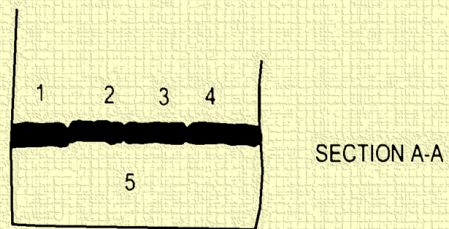
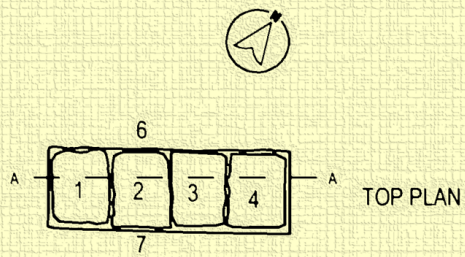


Figure 131: Tomb J9 top plan and section.

TOMB J10- Byzantine

- 1-4 | SEALING STONES
- 5 | GRAVE
- 6-7 | LEDGES

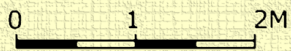
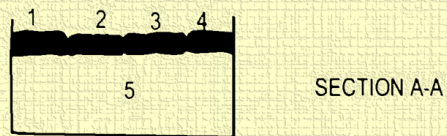
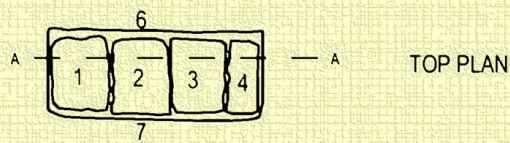
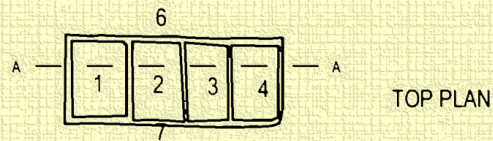


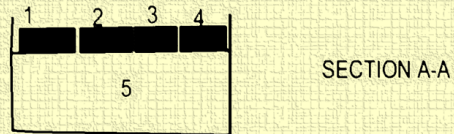
Figure 132: Tomb J10 top plan and section.

TOMB J11- Byzantine

- |     |                |
|-----|----------------|
| 1-4 | SEALING STONES |
| 5   | GRAVE          |
| 6-7 | LEDGES         |



TOP PLAN



SECTION A-A

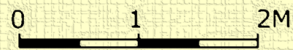


Figure 133: Tomb J11 top plan and section.

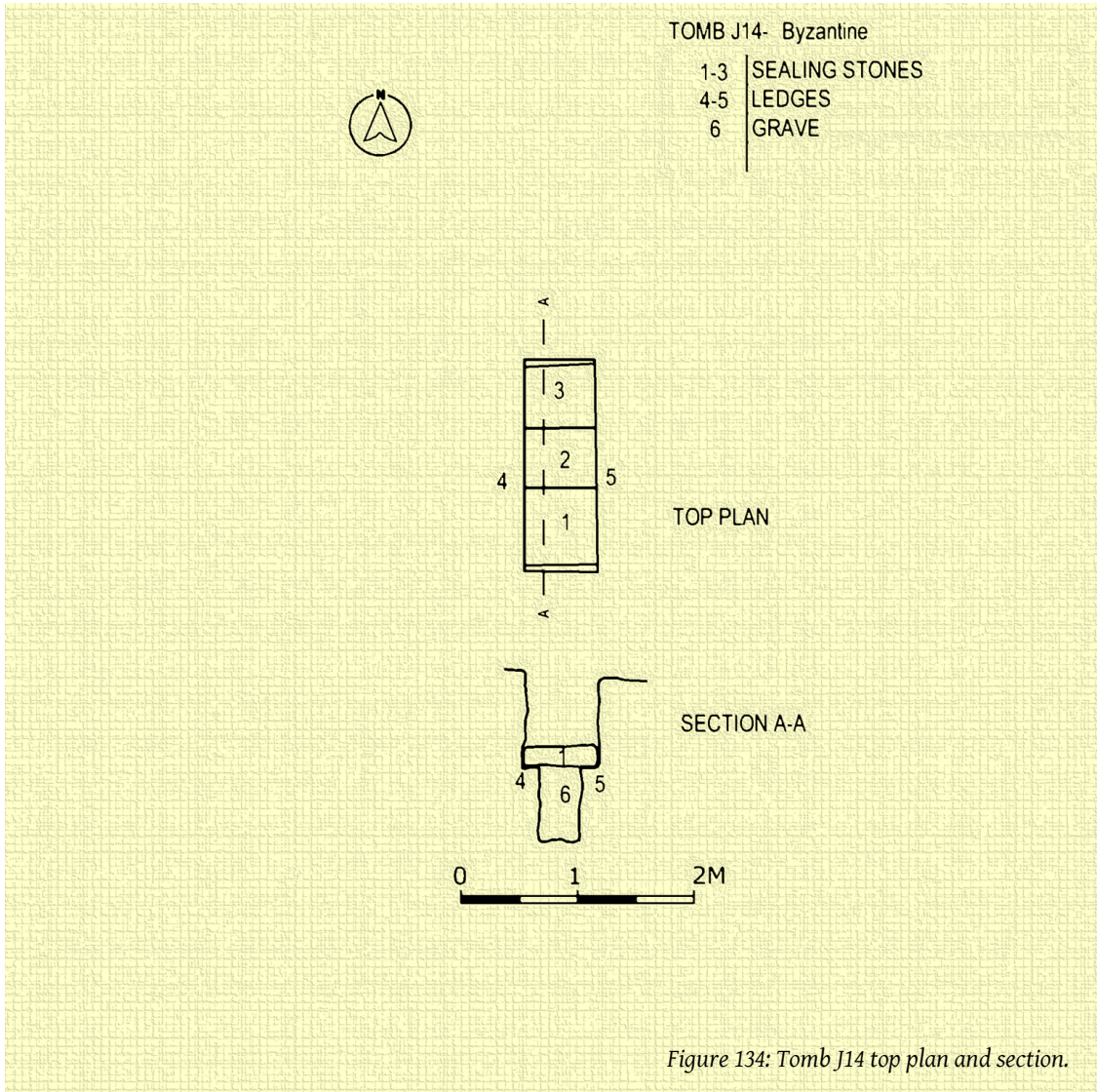
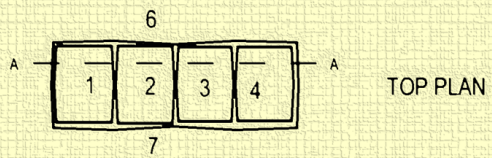


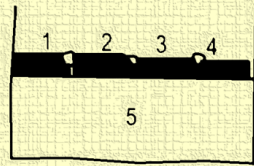
Figure 134: Tomb J14 top plan and section.

TOMB J15- Byzantine

- |     |                           |
|-----|---------------------------|
| 1-4 | SEALING STONES            |
| 5   | GRAVE                     |
| 6-7 | LEDGES FOR SEALING STONES |



TOP PLAN



SECTION A-A

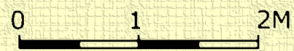
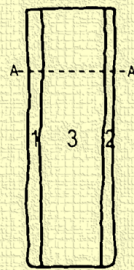


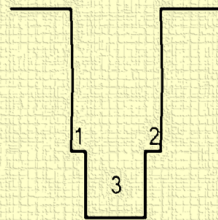
Figure 135: Tomb J15 top plan and section.

TOMB L19- Late Roman/Byzantine

1-2 | LEDGES FOR SEALING STONES  
3 | GRAVE



TOP PLAN



SECTION A-A

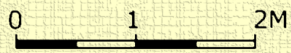


Figure 136: Tomb L19 top plan and section.

TOMB L20- Late Roman/Early Byzantine

- 1 | DROMOS
- 2 | ENTRANCE
- 3 | GRAVE

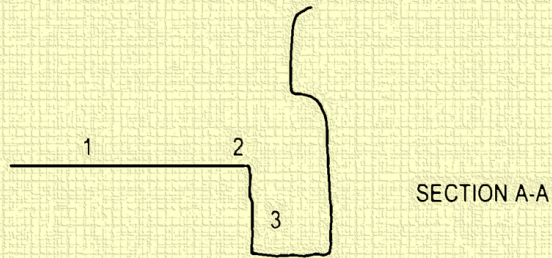
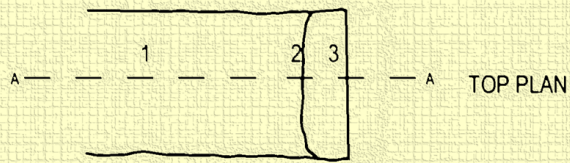


Figure 137: Tomb L20 top plan and section.

TOMB L87 - Byzantine

- 1-3 STEPS
- 4 GRAVE
- 5 LEDGE

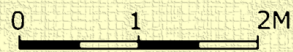
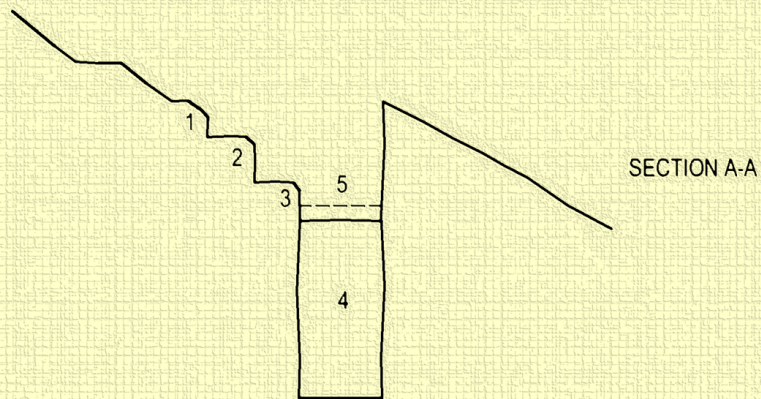
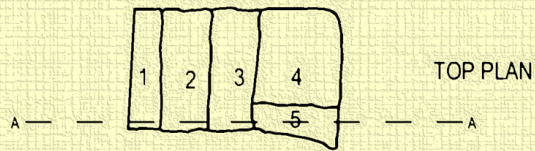
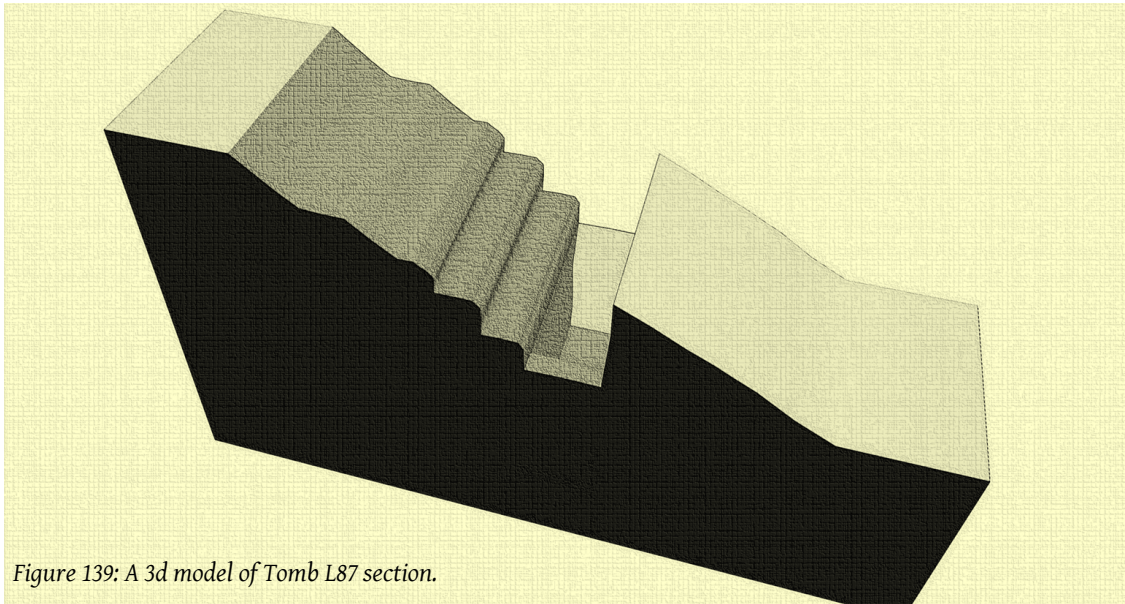


Figure 138: Tomb L87 top plan and section.



*Figure 139: A 3d model of Tomb L87 section.*

## PLANS OF TYPE VC

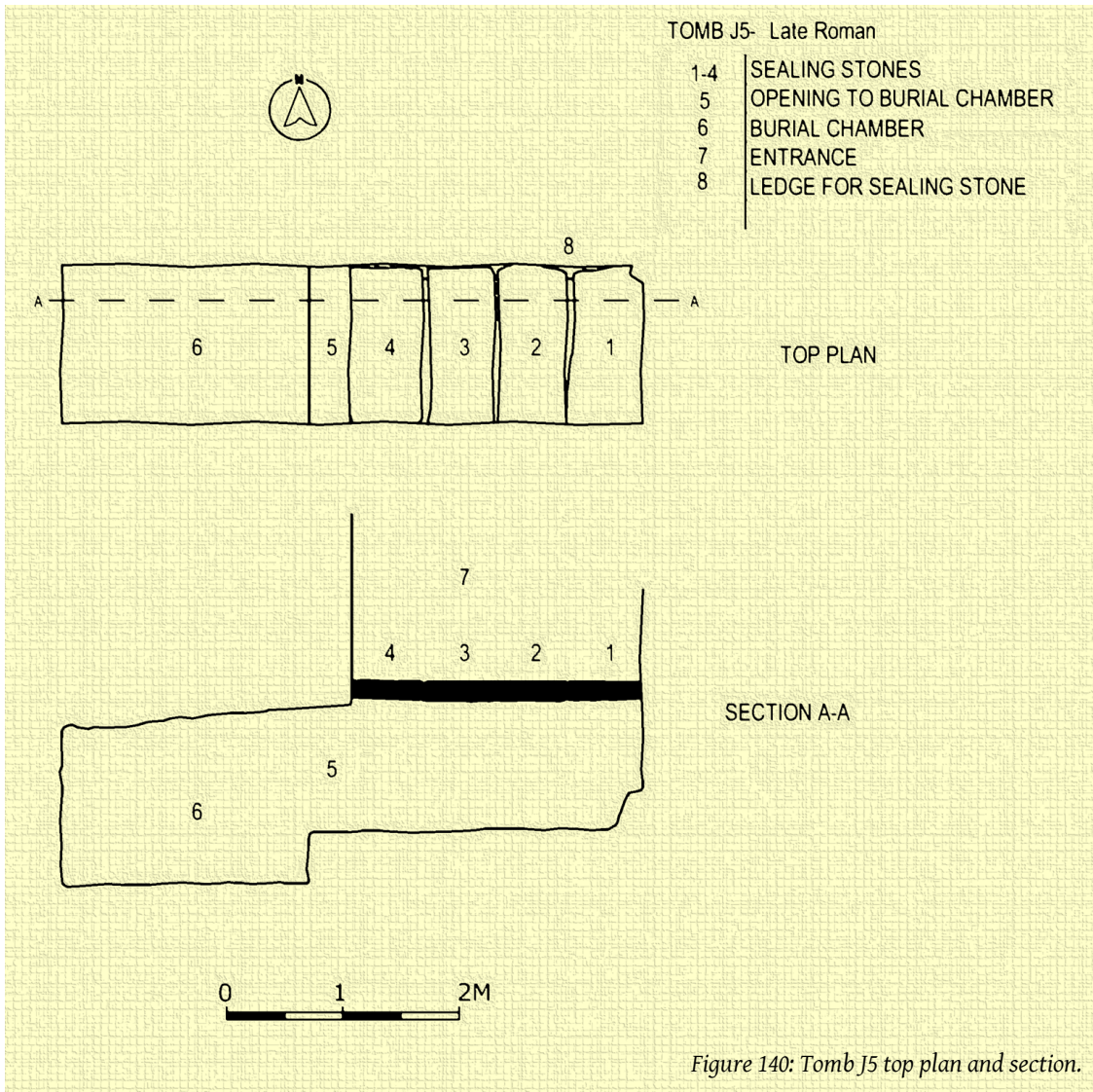


Figure 140: Tomb J5 top plan and section.

TOMB H51 Early Roman

1	VERTICAL SHAFT
2	SLABS
3	BURIAL CHAMBER
4	LEDGE FOR STONE SLABS

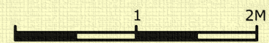
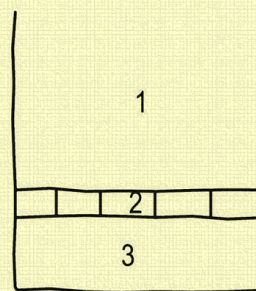
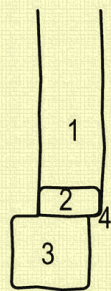
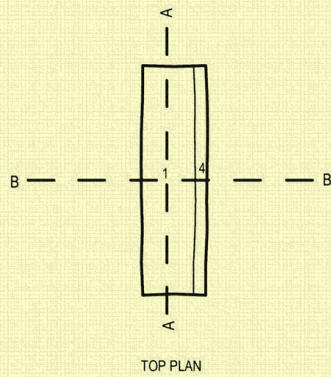


Figure 141: Tomb H51 top plan and sections.

TOMB H52 Early Roman

1	VERTICAL SHAFT
2	BURIAL CHAMBER
3	LEDGE FOR STONE SLABS

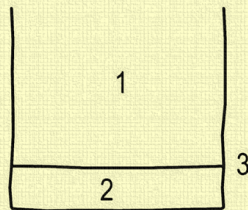
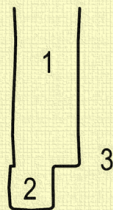
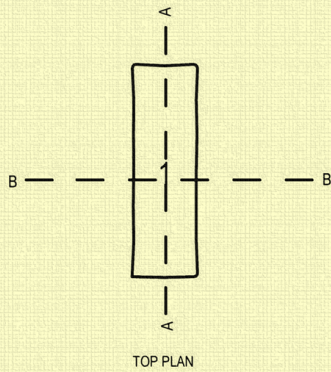
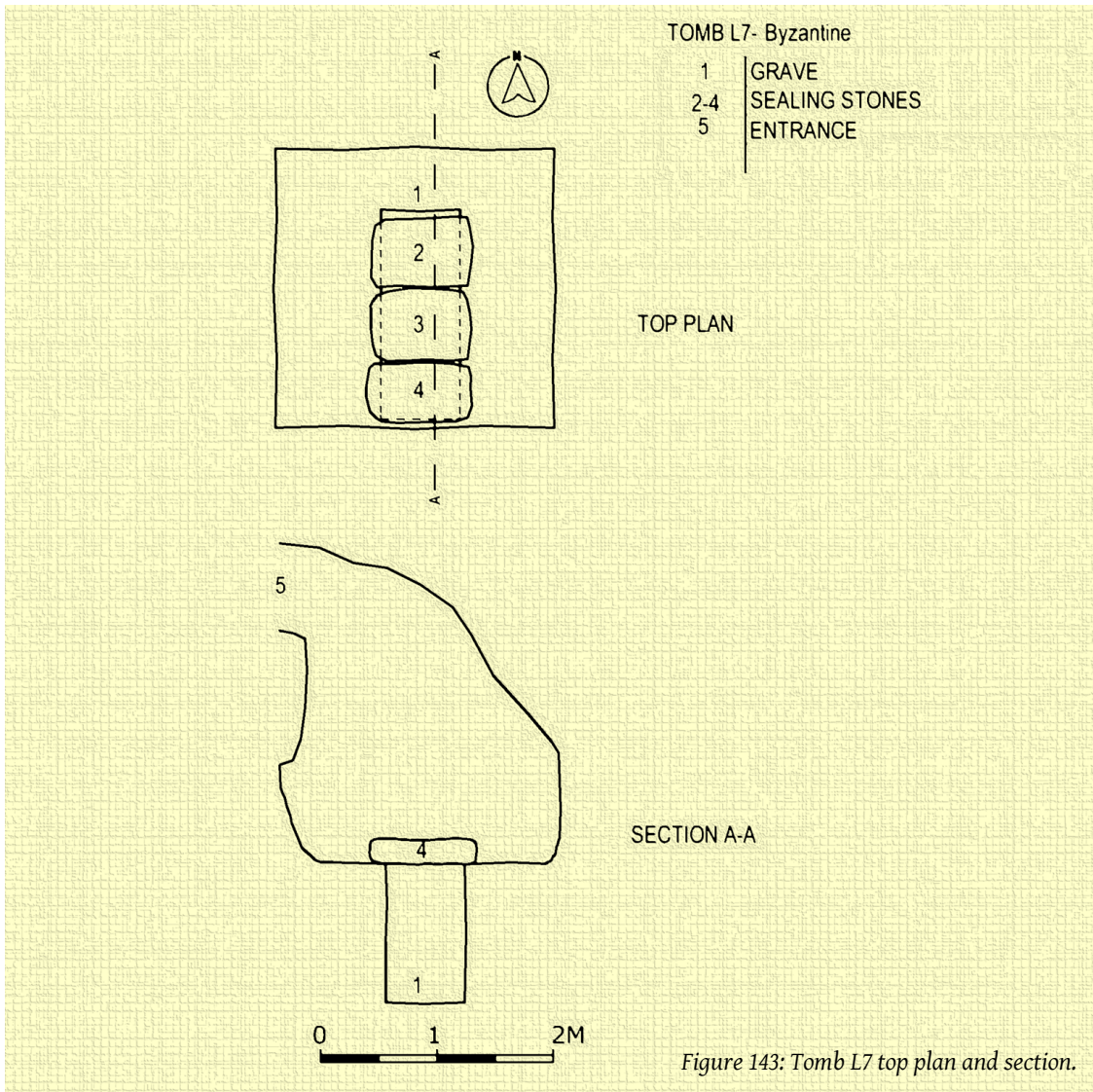


Figure 142: Tomb H52 top plan and section.



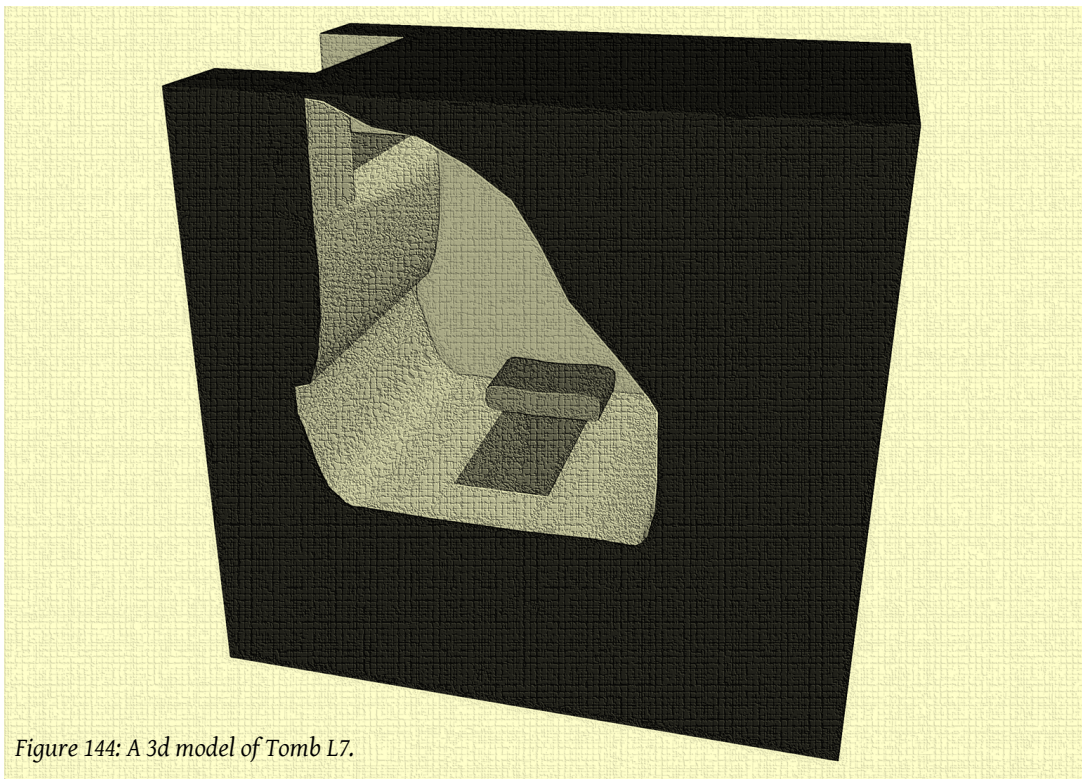
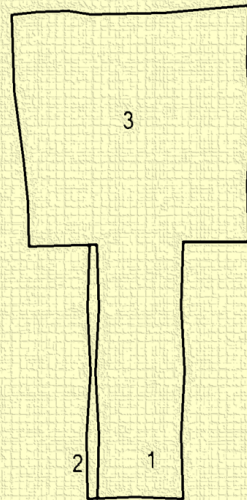


Figure 144: A 3d model of Tomb L7.

TOMB L16- Late Hellenistic/Early Roman

- 1 | ENTRANCE
- 2 | LEDGES FOR SEALING STONES
- 3 | BURIAL CHAMBER



TOP PLAN

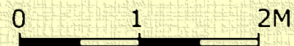


Figure 145: Tomb L16 top plan.

## PLANS OF TYPE VD

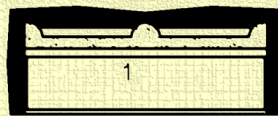
TOMB K2- Roman



- 1 | SARCOPHAGUS
- 2 | BEDROCK



TOP PLAN



ANTERIOR VIEW

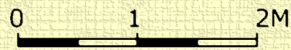
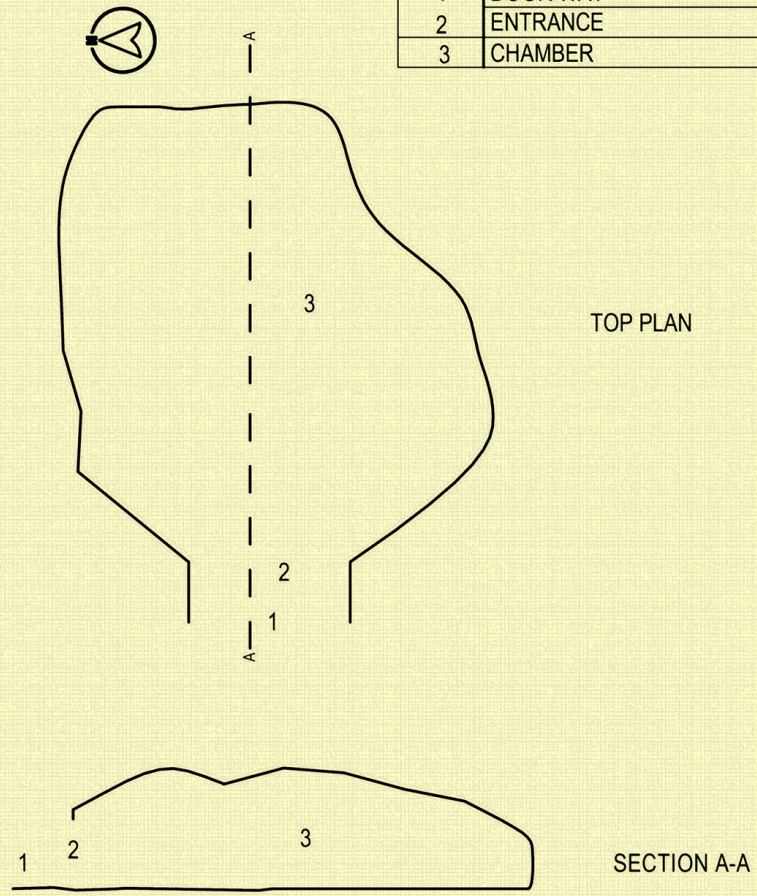


Figure 146: Tomb K2 top plan and elevation.

## PLANS OF TYPE VI

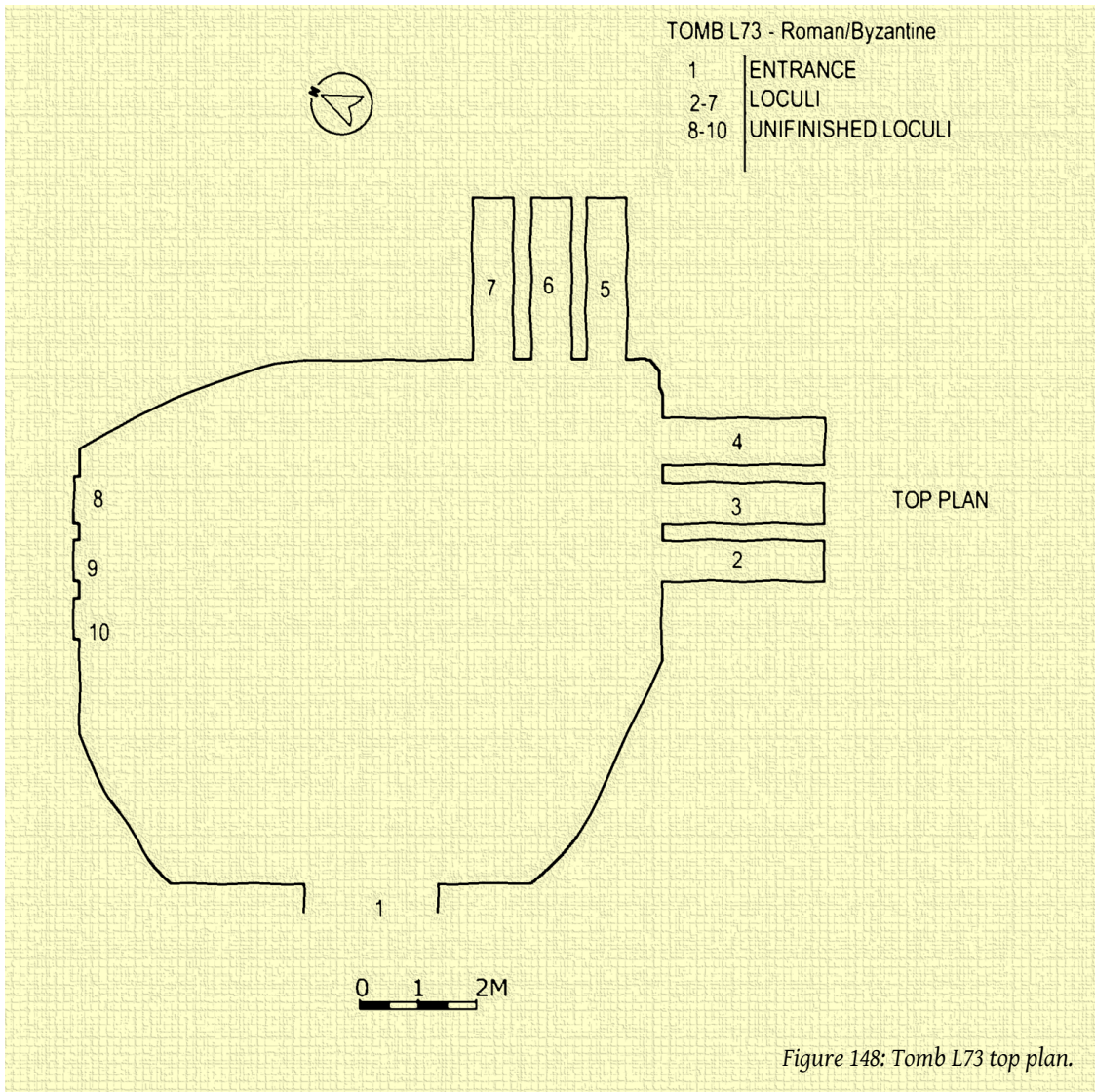
TOMB J32 Late Roman/Early Byzantine

1	DOOR WAY
2	ENTRANCE
3	CHAMBER



0 1 2M

Figure 147: Tomb J32 top plan and section.

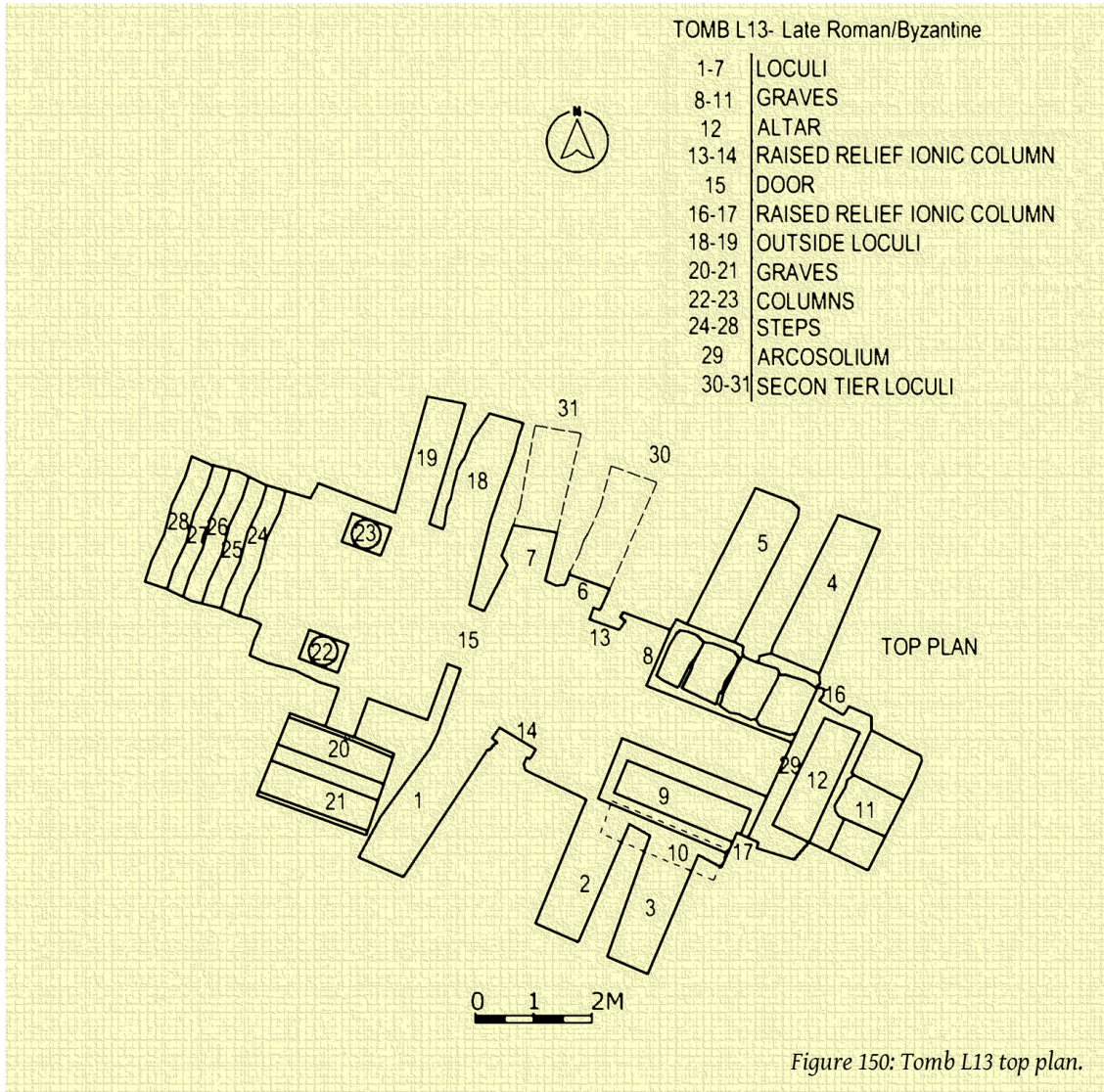


## PHOTO OF TYPE VIII



*Figure 149: Tomb L12, Photo from the Rami Khouri collection at ACOR, Amman, Jordan.*

## PLANS OF TYPE IX



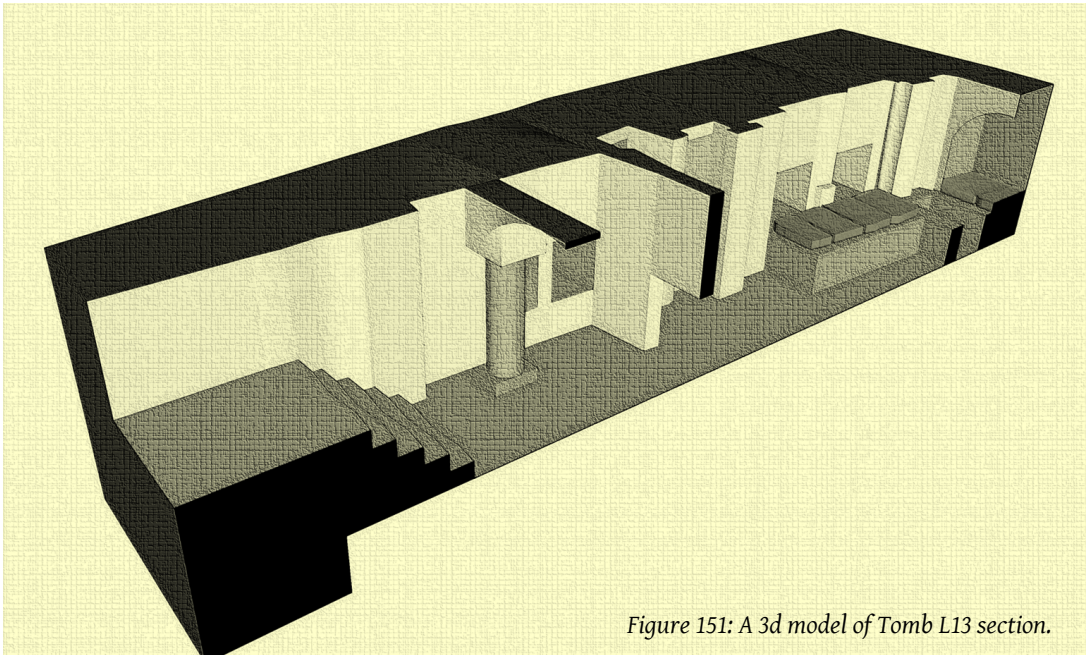


Figure 151: A 3d model of Tomb L13 section.

## TOMB TYPE X- COLUMBARIA



*Figure 152: Columbarium H61, provided by Professor Michael Fuller, St. Louis Community College.*

## TOMB TYPE XI

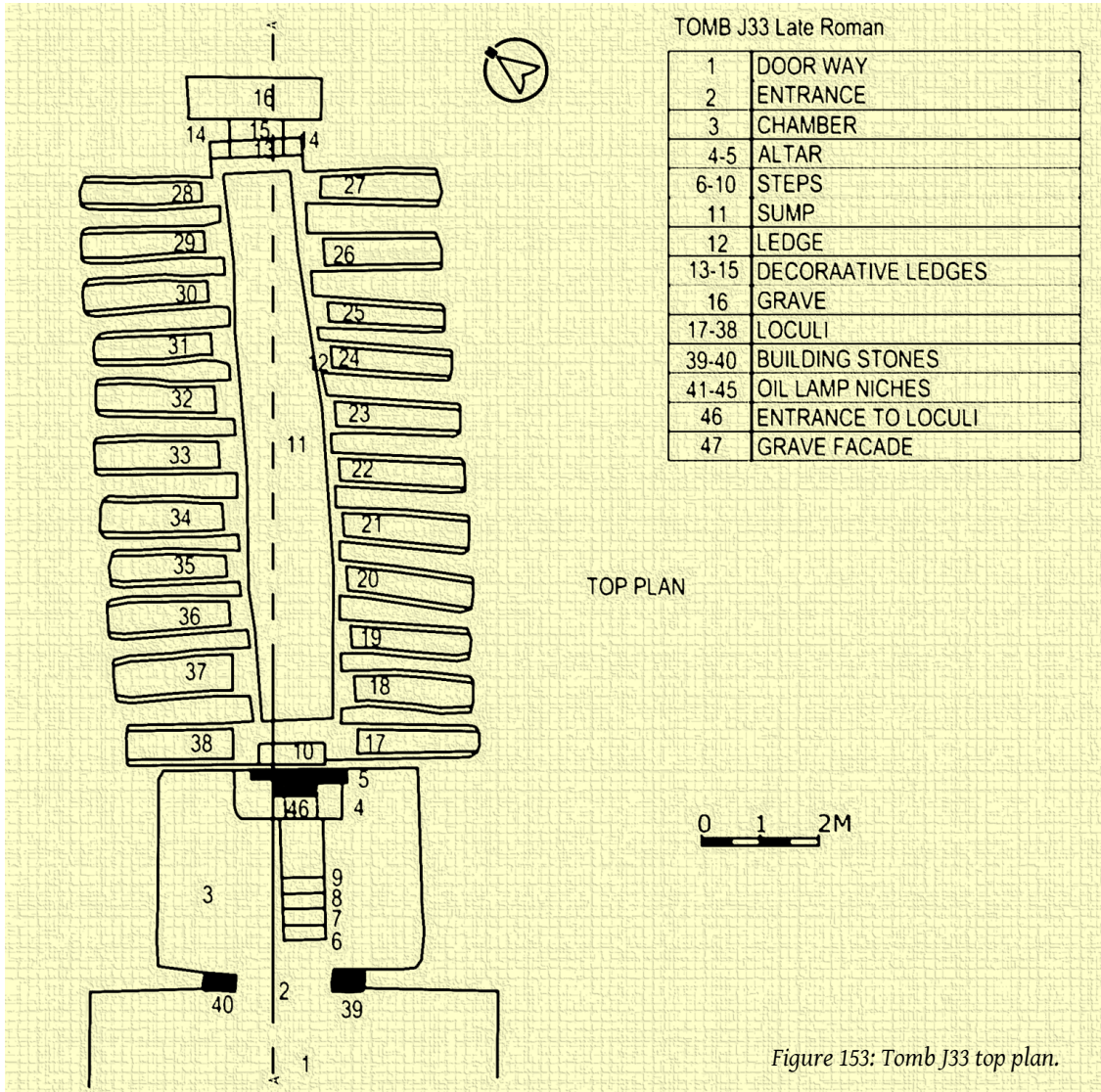
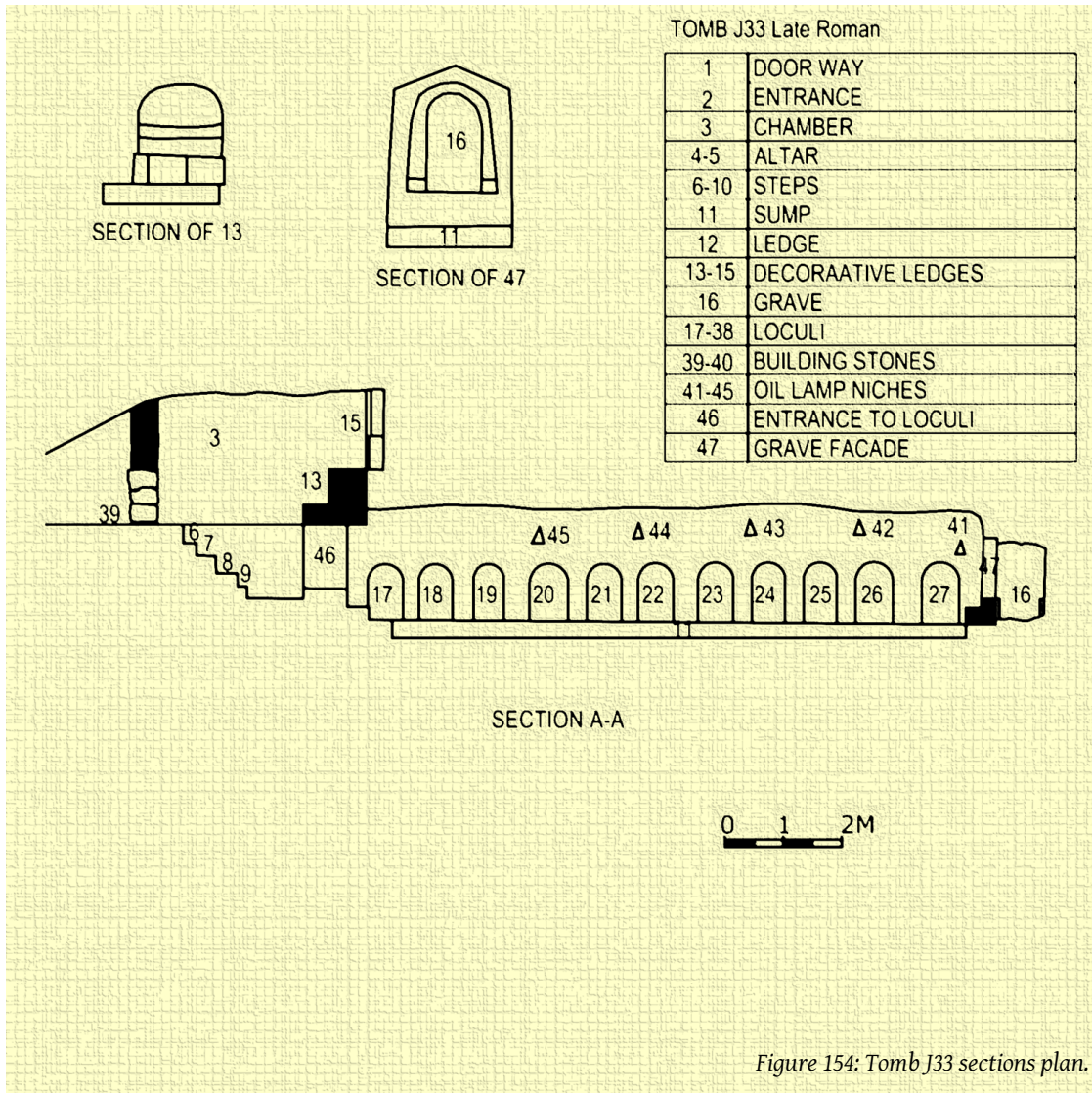


Figure 153: Tomb J33 top plan.



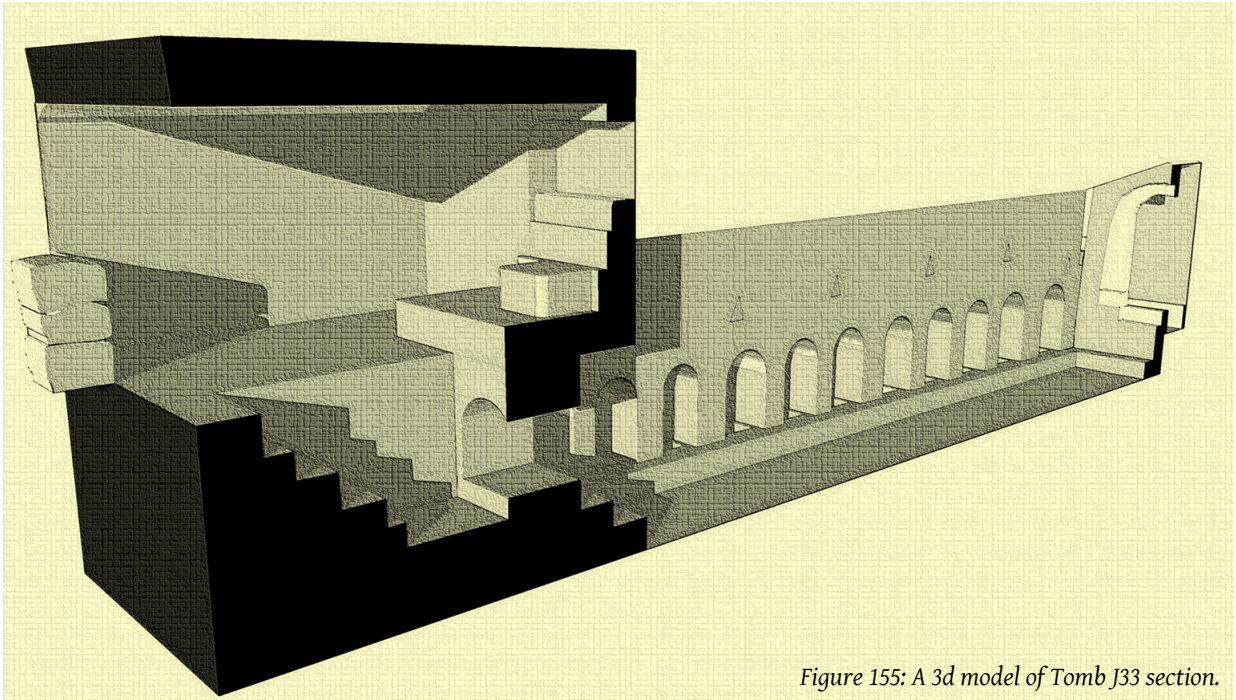


Figure 155: A 3d model of Tomb J33 section.

## PHOTOGRAPHS



Figure 156: Photograph of the interior of Tom L3a.  
Photographed by Hussien Deebajah.



Figure 157: photograph of the interior of tomb L70.  
Photographed by Hussien Deebajah.



Figure 158: Photograph of the interior of Tomb L82.  
Photographed by Hussien Deebajah.



Figure 159: Photograph of the interior of Tomb L4.  
Photographed by Hussien Deebajah.



Figure 160: Photograph of Tomb L87. Photographed by Hussien Deebajah.



Figure 161: Photograph of Tomb L71, natural cave. Photographed by Hussien Deebajah.



Figure 162: Photograph of Tomb J29. Photographed by Hussien Deebajah.



Figure 163: Photograph of Tomb L88. Photographed by Hussien Deebajah.



Figure 164: Photograph of Tomb 84. Photographed by Hussien Deebajah.



Figure 165: Tomb J33.



Figure 166: Tomb J34.



Figure 167: Tomb N1.



Figure 168: Photograph of Tomb L8.

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