

## 'AIN EZ-ZARA EXCAVATIONS 1986

by  
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A second season of excavations was conducted at 'Ain ez-Zara in 1986 from September 15th to October 23rd, on behalf of the German Protestant Institute (Jerusalem/Amman) and in cooperation with the Department of Antiquities (Amman). The project, direct by Prof. Dr. A. Strobel, was funded by the Deutsche Forschungsgemeinschaft and the German Protestant Institute. The staff consisted of the author, responsible for the excavations and photography; Ute Arents, Martina Delfs and Güde Hahne (area supervisors); Prof. H. Reichert and B. Abushanab (surveyors) and K. Weindel (restoration). Associated with the project were Prof. Dr. Ing. W. Böser, assisted by A. Rieger, Susanne Wiesner, and H. Wiese (mapping of thermal water sources and establishment of a topographical map). Theological students from Germany and local workers helped with the fieldwork. The representative of the Department of Antiquities, Emsaytef Suleiman, was most helpful, and himself supervised an excavation area.

In the plans we have designated -401 as the arbitrary height of the Dead Sea and have reckoned the excavation height from this level instead of using negative measurements. Thus, the height given as 28.20 represents the absolute height of -372.80. The absolute height was communicated by Prof. Böser and refers to the contour map prepared by him.

The main aim of this season was to expose as much of the architectural remains as possible and to collect as much data as possible, in order to try to understand the functions of the buildings and their occupational phases.

The excavation was continued on the lower terrace in Area II, where several trial trenches and squares had been opened during the 1985 season (Strobel and Clamer 1986: 381-384, Pls. LXXXVII-XC. Here, Area II was called Area MM and Area MN). Work concentrated on the

large central structure, Building A, and its northern appendage, Building B. In Area III, ca. 75 m northeast of Area II, a few trenches were opened, revealing a house complex, while in Area I near the Dead Sea shore ca. 250 m to the southwest, prospecting was conducted on the site of the assumed ancient harbour.

### Area II (Fig. 1)

The lower rock terrace, today situated about 150 m inland, rises ca. 30 m above the present Dead Sea level. The terrace surface slopes considerably towards the Dead Sea and breaks off abruptly at the west side in a steep cliff, with huge blocks of tumbled rocks below or half way down. It is covered by a deposit of a coarse-grained gravel, which is either a deposit of beach gravel, indicating an ancient beach terrace, or constitutes a Holocene wadi sediment. The gravel, embedded in a layer of granular travertine, is covered in several places by loose, weathered travertine.

The archaeological remains are very close to the western cliff; the western walls are not more than a few metres away from the line of the scrap. As mentioned in the previous report, all the buildings are in a very poor state of preservation. Erosion and possible destruction and removal by modern Bedouin farming have caused considerable damage to the structures. No walls above the present surface and almost no fallen building material were found, e.g. around Building B, or in Area III, although no renewed building activity (except for a few Bedouin shelters) seemed to have taken place here since antiquity.

### *Building A*

#### *Stratigraphy and Architectural Remains*

Building A is a long, rectangular structure (29 m x 35 m) and occupies the centre of the terrace. We resumed excava-

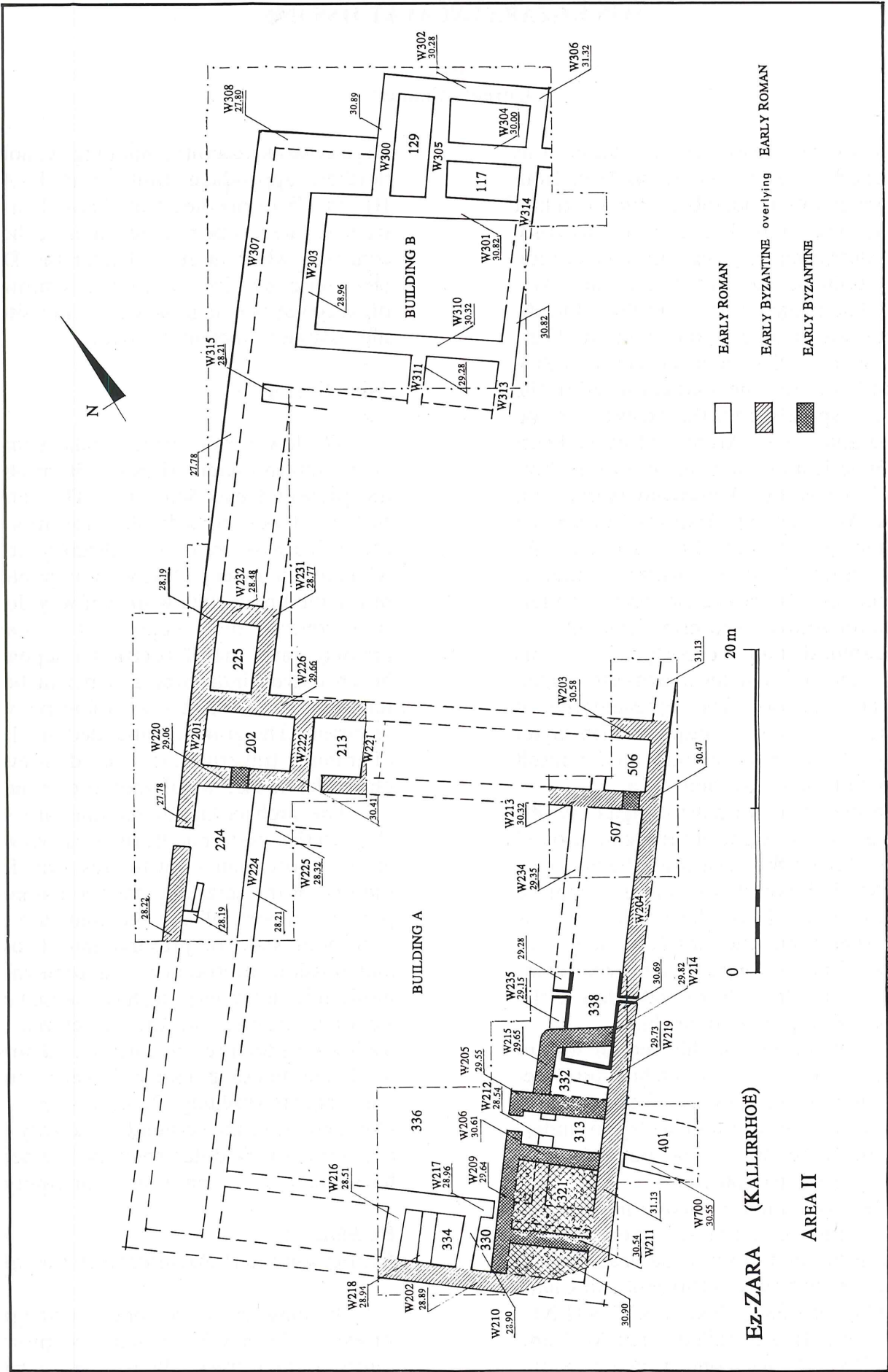


Fig. 1. A sketch plan of Area II with Buildings A and B



tion inside the building in the southeastern and the northwestern corners (see Strobel and Clamer 1986: 383; Squares 0 18/2, P 17/1, P 17/2) and opened a number of squares along the walls and towards the centre.

There are apparently four structural phases to be discerned within the building, two of which represent major stratigraphic phases or strata, and two which indicate minor changes within the strata. The first stratum belongs to the Early Roman period and the second to the Early Byzantine period. Minor structural changes, on the other hand, seem to have taken place towards the end of the Early Roman occupation and possibly at the end of the Early Byzantine settlement. However, evidence has been scanty, due to the lack of architectural remains. The two major strata are separated by an occupational gap, during which the building was flooded.

The construction of Building A dates to the Early Roman period. The foundation walls go down to bedrock or are set on the gravel layer. As mentioned above, the gravel layer here is a natural deposit, but it may have also been partly redistributed artificially, in order to create a levelled surface. The walls are either built of dressed stones of local tuff, of wadi pebbles laid in rows and set in mortar, or of a combination of both, with alternating rows of smaller stones separating rows of larger stones.

Along the outside walls, a series of rooms are laid out, with a deep pool in the middle of the eastern wall, while the inner space seems to be occupied by an open space or "courtyard". The rooms, which are 3.5 m wide, are of varying length. They have connecting doorways (202/224, 506/507) or entrances leading into the "courtyard" (213, 330, W212). There is a western door in room 224 leading out of the building, which seems to belong to this period, although conclusive evidence for this is missing. Within the rooms, several living floors were discovered. Only one of these was plastered and showed a real floor make-up, with a thick layer of crushed travertine overlying the gravel deposit

(202). The rest of the floors were loose pebble surfaces, partly reinforced with travertine grit, or else loose soil surfaces with small pebbles.

The Early Roman stratum ended in a thorough destruction, with some buildings apparently have been razed to their foundations. The following period of abandonment is characterized by evidence of horizontal washed-in soil layers, covering the inner "courtyard" and overlying the gravel layer: deposits of alluvial and colluvial soil, travertine grit, grey to blackish swampy soil with decayed organic substances, mixed with occupational debris, containing masses of sherds, glass, bones, ash and charcoal pieces.

During the Early Byzantine period, a re-occupation of Building A took place. The outer walls seem to have been reused and part of the inner rooms rebuilt on a raised level. Entrances were closed (202/224, 506/507) and in the south-eastern corner, new structures (321, 313, 332) were built on top of the earlier remains. Much Early Byzantine pottery was found in surface layers, as well as inside Rooms 213 and 313.

At the end of the Early Byzantine occupation, the building was flooded again. Thick layers of swampy soil and travertine deposits were found in the courtyard, covering the floors and filling up the rooms. After this, the buildings collapsed.

*Room 202.* Half of this room was excavated during the 1985 season and described in the first report (Square 0 18/2, Strobel and Clamer 1986: 383, Pl. LXXXIX: 2 with the text of picture 1). A plaster floor runs up to plaster-covered walls, which were built of well-dressed stones. Only one course of the early walls, however, has been preserved (W226, W220, W222). Within the plaster layers in the join between Wall 226 and the floor, fragments of a small limestone mug were found, which confirm a date in the Early Roman period. During the Early Byzantine period, Room 202 was reused and the walls were rebuilt on top of the earlier course, while the doorway to Room 224 was blocked. Most



of the pottery found here came from the Early Byzantine occupation.

*Room 213.* The whole room was covered by fallen stones, among them several column drums; below these was a fill of washed-in layers of very loose, greyish-blackish soil, alternating with white travertine deposits and brownish soil layers. This fill also extended into the doorway leading into the "courtyard". In the southern half of the square, the room was excavated down to bedrock without encountering a surface that could be called a living floor. However, Early Byzantine pottery was abundant in the greyish-blackish soil layers, as well as glass and charcoal pieces, while evidence of Early Roman occupation was meagre. Only a few sherds were found in the bottom layers, which were mixed with pebbles. Since bedrock here is as high as the plastered floor in Room 202, it seems that the bedrock itself served as a living floor, perhaps levelled by a pebble layer.

*Room 225.* Attached to Room 202 on its northeastern side, Room 225 was covered with a heavy tumble of large stones. Among the debris and on a surface of beaten earth below it, we encountered an assemblage of Early Byzantine pottery vessels, among them two complete cooking pots and several coins. Below this layer, a travertine grit and gravel surface contained some Early Roman sherds.

*Room 224:* This room was filled in its northern side only with debris similar to that found in Room 213. Fallen stones, among them numerous dressed stones obviously from secondary usage, belonged to the Stratum 2 destruction and lay above thick washed-in soil layers with large amounts of Early Byzantine pottery. Early Roman pottery was found on top of the lower gravel layer, a living floor, partly preserved with a hardened travertine grit surface. Wall 224, which abuts Wall 220 at a right angle, runs parallel to the outer wall and forms a large "gallery" with Wall 201. Another wall, perpendicular to Wall 224

on its eastern side, may indicate an annex or installation built in the central courtyard (W225). Since both walls (W224 and W225) have only been preserved for one course, this "gallery" was obviously not rebuilt in the Early Byzantine period. Wall 201, on the other hand, shows large, well-dressed masonry of the Early Roman period (for example next to the Western entrance), as well as repairs with roughly-cut boulders, executed during the Stratum 2 occupation. It seems that the western entrance was rebuilt during the Early Byzantine period on a raised level as discovered by A. Strobel in 1966 (Strobel, 1966: 152), with threshold stones in secondary usage. South of the entrance, some large stones are set on edge. Here an annex, built of headers, is attached on the inside to Wall 201 and connects with a row of three larger stones, running parallel to wall 201. They seem to belong to Stratum 1.

*Rooms 334 and 330,* on the southern side of the building, belong to the early Roman Stratum 1. Room 330 is cut by Wall 209 and partly built over by the later Byzantine structure (Pl. XXXVI,1), while Room 334 is divided by Wall 218, which abuts Walls 202 and 217. Wall 218 seems to be an addition of the later phase of the Early Roman occupation. Accordingly, we distinguished two floors, the upper consisting of a rather loose soil surface, connected with Wall 218, and the lower one on top of the gravel layer. Heaps of tar were found stored in the southeastern corner, while a complete four-handled storage jar was discovered *in situ* in the southwestern corner, in connection with the lower surface. The jar was deeply embedded in the pebble floor and held in place by some medium-sized stones (Pls. XXXVI,2; XXXVII,1).

*Room 313.* At the eastern side of Building A, Room 313 has destruction layers similar to those described in the north-western corner of Building A. It was filled in with layers of fallen building material, including many column drums, embedded in and covering thick washed-in soil layers and



travertine deposits (see Square P 17/1, Strobel and Clamer 1986: 383, Pl. LXXXVIII,1). Room 313 had an entrance to the "courtyard" in Wall 209 and a living floor, consisting of reddish-brown, rather loose soil layers, intermingled with pebbles. Much Early Byzantine pottery as well as glass fragments were found here.

Room 313 was built over a Stratum 1 level, which we discovered on top of the gravel layer and in connection with Wall 212 (entrance). It was also covered by water-laid deposits, probably washed in during the occupational gap.

*Platform 321.* A final phase of construction seems to be traceable in the southeastern part of Building A. Cut at the southeastern corner by modern road construction, the rectangular "platform", measuring ca. 7.20 m x 9.50 m and supported by Walls 204, 202, 206, 209, is built over stratum 1 structures (W212). It is filled in with boulders and pebbles. One may assume it was the foundation for two or three narrow rooms. If the top level is indeed a surface level, it is raised almost 1 m above the floor of Room 313. Further investigation in this corner could prove fruitful, providing further information about the stratigraphy and a more precise picture of the latest phase of the Byzantine occupation.

*Room 332.* Built over the Early Roman pool (338), (W214 and W215), Room 332 is attached to Room 313 with which it seems contemporary, but has suffered much erosion.

*Pool 338.* (Pls. XXXVII,2; XXXVIII,1) North of Room 313, the plastered water installation (338) obviously represents a thermal bath or pool, which was fed by one of the hot springs in the area (see below). The pool has a plastered inlet in Wall 204 and a narrow channel for the overflow in its western wall (W235). It silted up, showing finely-laid laminated silt layers, and was sealed by layers of greyish-blackish soil and travertine. In the Early Byzantine period, Walls 214 and 215 were built over it (Room 332).

The pool was discovered towards the end of the season, and to our regret, time did not suffice to excavate even its southern part completely. Although we dug down almost 3.50 m from the ledge of the basin, we still did not reach its bottom. The excavation of its entrance and steps have been left for the next season, and the feeding channel and settling basin will have to be looked for east of the inlet.

It looks as if the pool had silted up towards the end of the Early Roman occupation and, for a short while, was used as a pottery dump. Much pottery was retrieved from the silt, and because the fill was sealed on top, this represents a fine assemblage from the Early Roman period. Most interest was aroused by the "Cream Ware", found in abundance within the pool, and also in the other Early Roman contexts within Building A (Pl. XXXVIII,2-3). This pottery, which has been published from Petra (e.g. Murray and Ellis 1940: 20) and other Early Roman sites such as Oboda (Negev 1986: 71, 72) is nevertheless not well known and has often been mistaken for a later ware, because it resembles pottery from the early Islamic periods in fabric, colour and decoration (Amr 1989). The evaluation of the pottery assemblage from 'Ain ez-Zara will therefore be of great interest.

It seems worth mentioning that water drilling was carried out in recent times ca. 10 m east of the pool. Rusty, reddish-brownish soil and travertine deposits covering the surface around the drilling spot and extending in the direction of the lower southwestern corner indicate an artesian overflow. During the first day of excavation of the pool, hot air emerged from behind the plastered wall, and the temperature between the fill and the plaster reached 42 degrees Celsius. This phenomenon had already disappeared by the next day.

*Room 506, 507.* Excavation at the north-eastern corner of the building revealed additional Early Roman floor levels in Roms 506 and 507, which were about 1.20 m higher than in the rest of the building,



probably due to the terrace surface. The living floors consisted of hardened soil, with small pebbles overlying the gravel deposit. A Corinthian column base was found upside-down on the floor in Room 507, while a doorway between Rooms 506 and 507 was blocked, probably at a later stage, when the rooms were reused in Early Byzantine times. Otherwise, Stratum 2 is represented only in the surface layers.

From the northeastern corner of Building A, a partly destroyed wall line continues northeastwards in alignment with Wall 204. In the adjacent square, the wall is buried under a quantity of pebbles, which slope off towards the west, where a deposit of finely laminated, silted travertine layers was discovered. It does not seem possible to understand these water-laid layers without further investigations.

Excavation was carried out in four squares in the open "courtyard". A similar picture was obtained from all four squares: a sequence of horizontal deposits overlay the wadi pebbles, layers of alluvial and colluvial soil, and fine disintegrated travertine lenses, as well as occupational debris with many sherds, bones, ashes and carbonized wood pieces. (Similar deposits found inside the rooms were less regular and more compact in the lee of the walls). While the top layers contained only Early Byzantine pottery, the lower layers were Early Roman and in between they were often mixed. It remains an open question as to whether some of these layers were also surfaces which were later flooded — such as the loose, greyish tuffic soil layers, mixed with gravel and containing a lot of pottery, mainly cooking pots and jars — or whether they were just washed-in deposits.

*Locus 401.* In conclusion, I will mention Square P 17/2, opened the previous season outside the eastern wall (Square P 17/2; Strobel and Clamer 1986: 383, Pl. XXXIX, 1 with the text of picture 2). We widened the excavation area and again encountered masses of Early Roman pot-

tery, as well as coins within a dump level, overlying a natural gravel deposit. The level was bordered on its southern side by a retaining wall (W700), and on its northern side by a row of stones. Material from this dump is among the earliest found at 'Ain ez-Zara and probably came from another building higher up on the terrace.

The Early Roman building, which, according to numismatic and ceramic evidence, existed from the very end of the first century B.C./the beginning of the first century A.D. to the end of the first century/beginning of the second century A.D., was thoroughly destroyed. The destruction was followed by a phase of abandonment, during which winter rain and water from the thermal sources washed in soil layers over the ruins.

The hiatus was followed by renewed settlement in the Early Byzantine period. Coins found in this stratum were dated to the second half of the fourth and the fifth centuries A.D. It seems that only part of the Building A ruins were reoccupied. The outer walls were repaired, using column bases and drums from the Early Roman structure within the walls (W204, W203), while only part of the inner structures was rebuilt (northwestern and southeastern corners). Construction was generally coarser with roughly worked boulders of local tuff, the interstices filled with gravel and a sort of greenish-yellowish clay layers of the Lisan, which are calcareous and can therefore be used as mortar. The largest amount of this mortar was found in Room 224 among the fallen stones from the Stratum 2 destruction level. Most of the stones, however, came from secondary usage.

The latest occupation level (Stratum 3) consisted of some simple square or round rooms or shelters, 2 m x 2 m in size, and built of stones from the earlier structures, which seem to have been used by the local Bedouin population, while working the fields of the oasis. One is situated on the eastern side of the "platform" (Square P 17/7), the other is south of Room 213 (Square O 17/6, O 17/14).



*Building B* (Pl. XXXIX, 1)

From the northwestern corner two long walls connect Building A with Building B. The two walls were previously thought to be terrace walls. The renewed excavation, however, revealed cross walls and a room at the southern end (225) attached to Wall 226 (Building A). It may be assumed that further excavations will reveal additional rooms here, thus merging Building A with Building B into one building complex.

Excavation in 1985 uncovered three rooms with walls going down 1-1.50 m to bedrock or gravel surfaces. However, no floors were preserved. We dated them by a few surface coins to the Early Byzantine period, since pottery evidence was very scarce (Strobel and Clamer 1986: 383). With the new evidence from the renewed excavations in 1986, we can date the whole complex of Building B to the Early Roman period. The scanty Byzantine pottery as well as the coins found in the surface levels seems to be washed down from the higher terrace levels.

Excavation was resumed inside Building B. Excavation of Room 129 gave the same picture as the trench sunk down inside Rooms 117 in 1985. The foundation walls were constructed of pebbles (see above), while the superstructure, mostly preserved for one course, was built of large roughly-cut stones of local tuff. The foundations were filled from the bottom up to the beginning of the superstructure with sterile layers of gritty sand and gravel. The upper layers, on the other hand, seemed to consist of an artificial fill, laid down in order to level up the surface. They contained only a few nondiagnostic sherds.

Excavation was extended towards the escarpment on the west, in order to clear the corners of the foundation walls (W308/W307, W301/W303/W310). They are set on bedrock and the corners are strengthened by large, dressed masonry.

Excavation was carried on further towards the southwest, where we opened five new squares. Here, an "open courtyard" was discovered, surrounded by

walls. On the southwestern side of the "courtyard", two walls (W311, E313) extended towards Building A, giving the impression of an arrangement of rooms similar to that on its northeastern side. No large amounts of destruction debris, no signs of flooding and little pottery, mainly of the Early Roman period, were encountered.

In conclusion we can say that the large Building A originally formed a larger unit with Building B during the Early Roman occupation of the site. It was probably used for some public thermal bath (activities that took place in Kallirrhoe, as known from literary sources and as depicted on the Madaba map. The original Roman building was decorated with columns, and one would expect additional thermal baths or pools surrounded by colonades, that were perhaps within the "courtyards" or between Building A and B. Future excavations will prove or disprove these expectations.

The Roman "thermal bath complex" seems to have lasted from the beginning of our era to the time of the First Jewish Revolt, several coins of which were found within the deposits. During the time of upheaval and war, the use of the thermal bath was probably interrupted, and the pool then silted up, while some life still continued in the oasis. The date of the final destruction is still unclear, but a final evaluation of the pottery will help to answer this question.

Reoccupation took place in the later fourth century A.D. Only part of Building A were reoccupied. Whether or not the reoccupation in Area II was also connected with any thermal bath activities, as depicted on the Madaba Map (sixth century A.D.), is out of the scope of our present knowledge. Further excavations will contribute more details and help to clarify the history of the site.

### Area III

*Building C* (Fig. 2)

On a narrow terrace, overgrown by

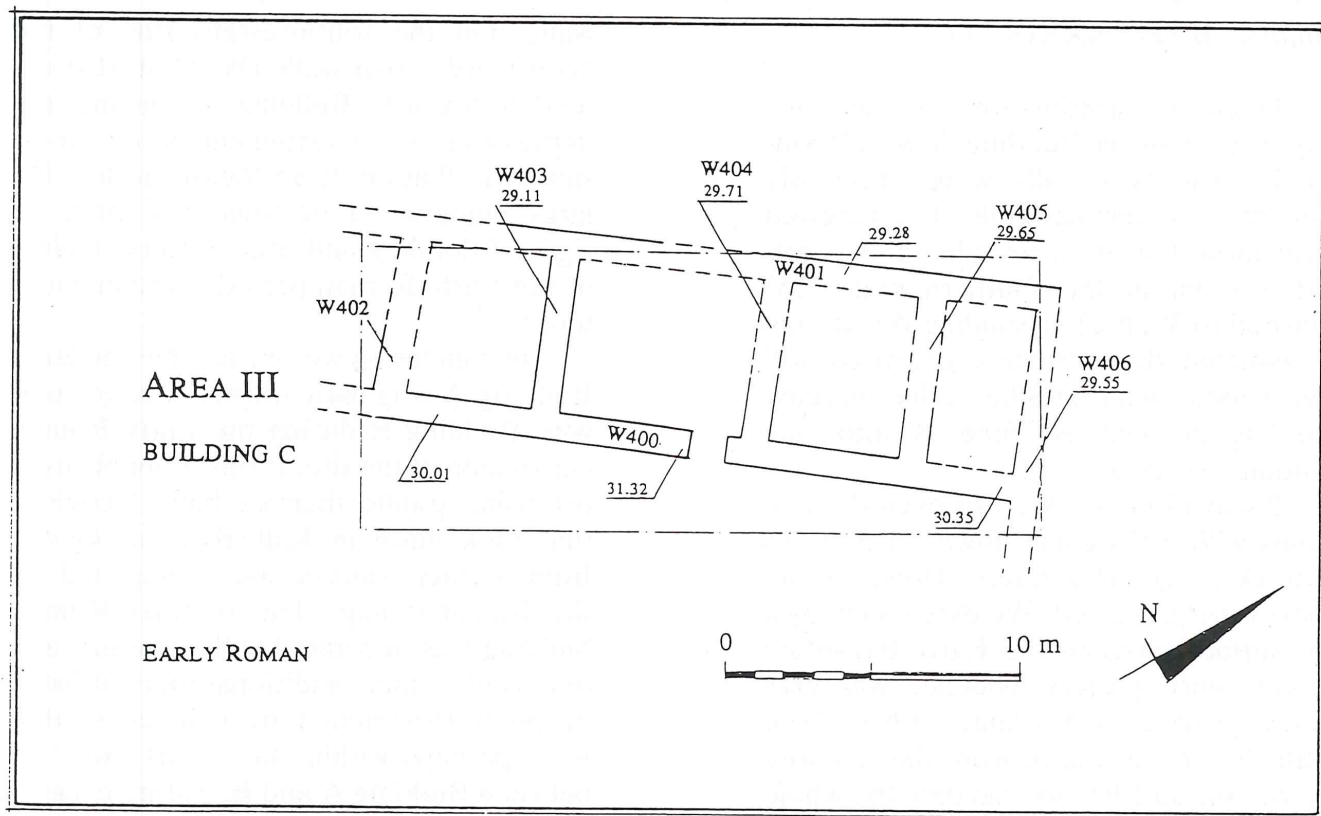


Fig. 2 A sketch plan of Area III with Building C

many bushes, walls were traced on the surface very close to the escarpment. A few squares were laid out and foundation walls of a three room house were exposed. The rooms were filled with sterile, powdery greyish (tuffic) soil, which seems to be connected with a nearby thermal source. In the eastern wall (W400) a threshold was preserved, just level with the present surface, giving way to what seems to be a cobbled area in front of the house. The walls of the building extend further to the southeast, continuing here on a lower level, while another wall on the west — probably a supporting wall — has been almost completely eroded.

Among the pebbles east of Wall 400, Early Roman pottery was discovered, associating the building with Stratum 1.

#### Area I

##### *The Harbour (Pl. XXXIX,2)*

Today the ancient ruins of the “water-front” of ‘Ain ez-Zara are situated ca. 30 m east of the eastern shore of the Dead Sea.

Three long foundation walls, running north-south, can still be traced. In 1965, the easternmost one extended for 145 m (Schult 1966: 147, Abb. 3), though today one end is destroyed or buried under heaps of mud and pebbles. At the point where two of the walls join, a small house with an entrance on the east is cut into the bed-rock. Numerous column drums are dispersed on the beach terrace. We laid out a small sounding between two parallel walls. It revealed a sort of “channel”, 3.45 m wide, whose bottom and side walls were covered by a thick layer of plaster. Within the fill we found thick plaster pieces with reed impressions from the roofing, as well as some Early Roman pottery sherds. The type and function of the plastered building are still unknown. Two constructional phases were recognized, but could not be dated due to lack of material.

These ruins, together with constructions at the end of the long walls, a “stairway” and a well preserved house (Qaşr el-Baḥr) are described by H. Schult as belonging to the ancient harbour of Kallirrhoe. A. Strobel agrees with the



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“harbour” hypothesis, while he assumes that the “city” stretched further east up on the terraces of the oasis (Strobel 1966: 151). H. Donner (1963: 79-86), on the other hand, sees here part of the “thermal bath” buildings, situated near the Dead Sea shore rather than up in the oasis. There construction conditions are difficult, because of the terraced and sloping bed-rock, deep ravines and the many thermal springs, which frequently change their courses, making the surrounding soil a swamp.

Today, modern road construction has

damaged the site. The so-called Qaşr el-Baḥr has disappeared (Strobel and Clamer 1986: 381), probably being partly destroyed and partly buried under enormous heaps of pebbles (one of the side walls is still visible), while the lateral buildings and the stairway have been covered up or damaged.

Extended excavations are urgent in order to try to rescue some of these unique antique structures on the Dead Sea shore.

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