THE WADI EL-YABIS SURVEY AND EXCAVATIONS PROJECT: REPORT ON THE 1992 SEASON

by
Gaetano Palumbo, Jonathan Mabry, Mohammed Abu Abileh,
Elena Avellino, Michèle Biewers, Cecilia Conati,
Ruba Kana'an and Stefano Mammini

Introduction

The 1992 fieldwork season of the Wadi el-Yabis Project was conducted between June 15 and July 31, 1992. This year's work was financed by the Italian Ministry of Foreign Affairs and the Italian National Research Council (CNR).[1]

Fieldwork included soundings at Tell el-Meqbereh (WY8) and at er-Raheb (WY180), intensive survey of three transects in the project area for a total of 23 km², and an architectural survey of the historic structures in the village of Kurkuma, on a wide terrace above the Ghor.

The aim of the research in Wadi el-Yabis, beside the recording of all archaeological features as a result of intensive survey, is to study rural adaptations during different time periods, and to understand environmental, political and economic constraints which may have influenced or modified human behaviour in the selection of settlement areas.

SOUNDINGS AT TELL EL-MEQBEREH (Jonathan Mabry)

During late June and early July test excavations were conducted at Tell el-Meqbereh (WY8), a 1 hectare mound in the Jordan Valley about 800 meters north of Wadi el-Yabis at its entrance into the Jordan Valley, at an elevation of about 200 meters below sea level (Palestine grid 205.80E 200.76N). These investigations were given high priority by the Wadi el-Yabis Project because of recent bulldozing of the edges of the site that revealed at least 3 meters of stratified Late Bronze Age and Iron Age deposits. Local villagers also reported finding secondary burials in jars during the bulldozing; further illegal pothunting also threatens the site. Shortly after the bulldozing the site was visited by Peter Fischer, director of the Swedish Excavation Project at Tell Abu el-Kharaz, a large fortified site located 300 meters to the east of Meqbereh, on the top of a high hill, at Palestine grid 206.2 200.6. Fischer reported the finding of a Late Bronze Age juglet, associated with the remains of a human burial (Fischer 1991: 69). Because of the name of the site (Meqbereh in Arabic means "cemetery"), Fischer advanced the hypothesis that the site could have been, at a certain moment during its history, the cemetery of Tell Abu el-Kharaz. Nelson Glueck considered Tell Abu el-Kharaz and Tell el-Meqbereh as a single site (a "double site"), given the similar occupational history as evidenced by his pottery readings (Glueck 1951: 261-275).

Method

Artifacts on the surface of the site were collected during several visits between 1987 and 1992, and datable potsherds indicated occupation of the site during the

1. Fieldwork was directed by Gaetano Palumbo and Jonathan Mabry; Elena Avellino participated as lithic analyst, Michelle Biewers as ethnologist (Kurkuma survey), Sarah Collins as ceramic analyst, Cecilia Conati and Stefano Mammini were in charge of er-Raheb excavations, Ruba Kana'an participated as architect for the Kurkuma survey. Volunteers were Suheil Abu el-Jamid, Holly Barber, Mohammed Dairi, Khaled Douglas, Ra'ed al-Far, Sylvie Freddi, Mohammed Jaradat, Florence Kuntzmann, Laura Lancaster, Tamara Mehyar, Khaled Nukho, Glen Peterman, Isabelle Ruben, Domenico Smaldone, Stefania Sofra, and Jad al-Younis. Department of Antiquities representative was Mohammed Abu Abileh, from the Ajlun office.

Chalcolithic, Early, Middle and Late Bronze Ages, the Iron Age I and II periods, the Roman and the Byzantine periods. A grid based on the Palestine Grid coordinate system was established across the site, the topography of the site was mapped at 1 meter contour intervals (Fig. 1), and the alignment of the exposed ancient stone fortification wall on the western edge of the site was recorded. In order to 1) confirm the sequence of occupation represented by datable potsherds on the surface, 2) to determine the depth and stratigraphy of cultural deposits, and 3) to recover samples of material culture and subsistence remains from stratified contexts for analysis, two excavation units spaced 20 meters apart were then opened on the north side of the tell. The southern unit (Area A) extended 4 meters north-south and 2.5 meters east-west, and the northern test unit (Area B) extended 5 meters north-south and 2.5 meters east-west.

The cultural deposits were excavated according to identifiable strata, and all excavated sediments were sifted through 4 millimeter mesh screen. Sediments with high proportions of visible organic remains, particularly floors, hearths, and storage pits and bins, were sampled for flotation of ancient plant remains. Several samples of wood charcoal and carbonized seeds were also collected from each major stratum for radiocarbon dating.

Stratigraphy and Chronology

Area A: More than 4 meters of ancient cultural deposits were excavated in Area A on the upper part of the northern edge of the site, beneath about 0.5 meters of recent bulldozer spoil. A soil horizon below the disturbed material marked the top of the ancient mound, and indicated that the cultural deposits below were not truncated by the bulldozing. The upper part of the ancient stratified deposits was comprised of about 1.5 meters of post-occupation colluvium, mudbrick detritus, stone wall collapse, and burned layers (Stratum 1), below which were almost 2.5 meters of undisturbed deposits representing seven major architectural phases (Strata 2-8) of stone and mudbrick walls of houses, and associated surfaces, hearths, storage pits and bins, and stone pillar bases (Pl. I, 1). Continuities in the alignments of rebuilt walls and the datable pottery sherds recovered from this sequence indicate uninterrupted occupation of this part of the site from the earliest to the latest phases of the Iron Age I period, thus making of Tell el-Meqbereh one of the deepest stratified deposits of the Iron Age I identified so far in Jordan. A radiocarbon sample from locus 038 (stratum 3) provided a date of 3100+/- 120 b.p. (Lab. No. Beta-61231), which gives a calibrated date of 1500-1135 B.C. Culturally sterile deposits were not reached in this sounding, however, and Early Bronze Age and Middle Bronze Age sherds found in these strata suggest the presence of earlier cultural deposits below the level reached this year.

Area B: Almost 1.5 meters of ancient cultural deposits were excavated in Area B to the north, beneath up to 0.75 meters of recent bulldozer spoil. Below the same soil horizon found in Area A was the foundation of a stone fortification wall extending east-west across the trench. According to the latest pottery found within and south of the wall, it probably dates to the Iron Age II. It is possibly more than 3 meters wide, although the northern face was not reached in the test unit (or it is obscured by collapsed stones). Preserved up to eight courses (1.1 m) high on the southern face, this wall is probably the northern stretch of the large stone fortification wall visible on the surface along the western edge of the site, about 65 meters to the west. The inner core of this wide wall was a narrower, earlier wall 2-3 rows (up to 0.75 m) wide, showing at least one phase of rebuilding. The founding level of this wall was not reached, and

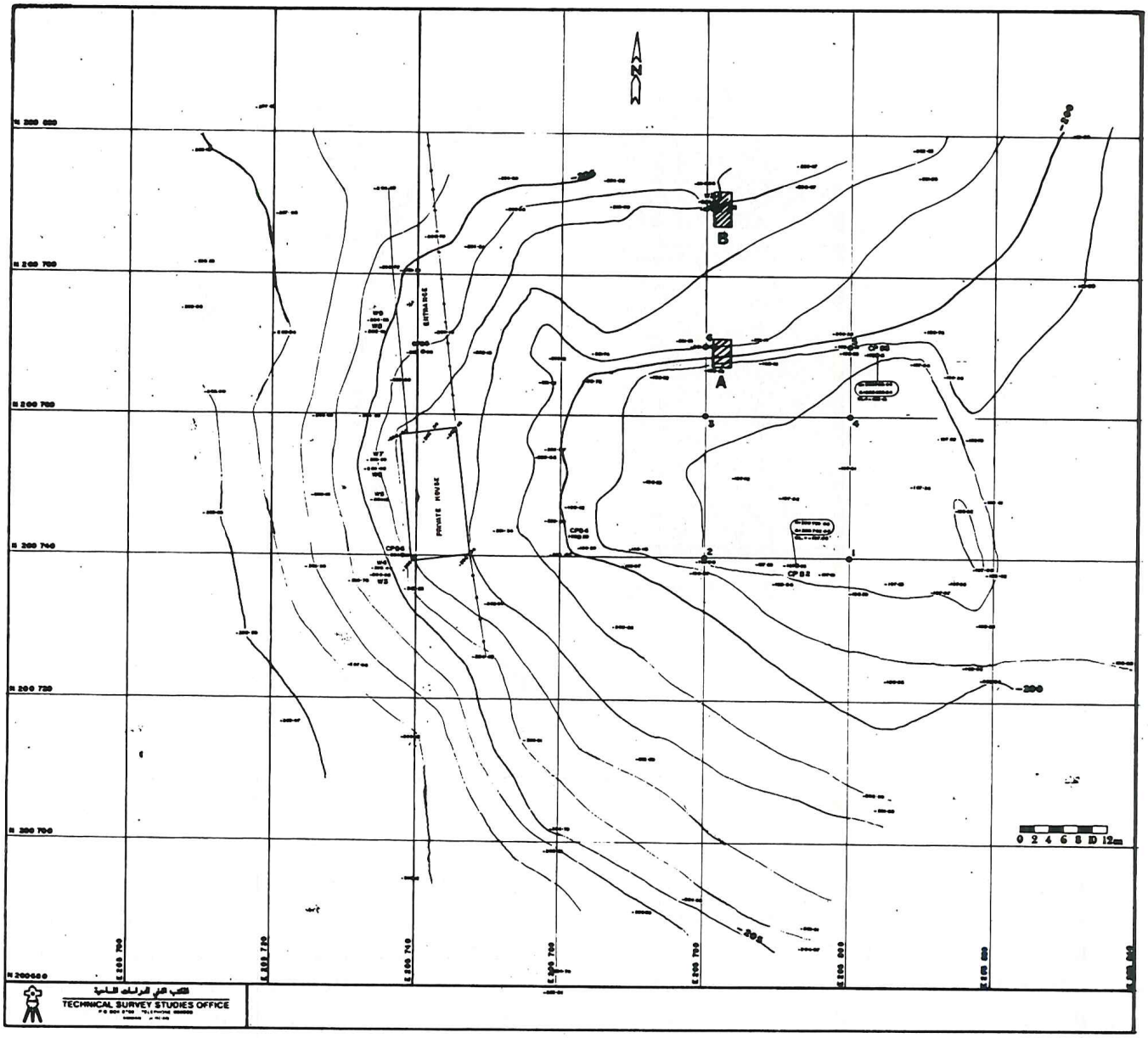

Fig. 1. Plan of Tell el-Meqbereh (survey and drawing by Abbas Khammash).

its age is not known. A smaller stone wall, 1-2 rows (0.4 m) wide and preserved 2-3 courses (0.3 m) high, was found extending east-west about 1 meter south of, and possibly contemporary with, the later fortification wall. Sterile cultural deposits were not reached in this unit as well, and the presence of Bronze Age pottery sherds in the excavated Iron Age deposits suggests that earlier deposits are preserved below.

Material Culture and Subsistence Remains

A total of 9522 pottery sherds were recovered from both test excavation units, including 7642 from Area A and 1880 from Area B. Of this total, 1204 sherds (12.6%) are potentially diagnostic of a specific chronological period based on ware, form, decoration, manufacturing technique, or a combination of these attributes. Based on the preliminary analysis, the majority of sherds recovered from Strata 2-3 date to the very late Iron Age I period, the majority from Strata 4-6 date to the middle Iron Age I period, and the majority from Strata 7-8 date to the very early Iron Age I period. Further analysis may allow some refine-

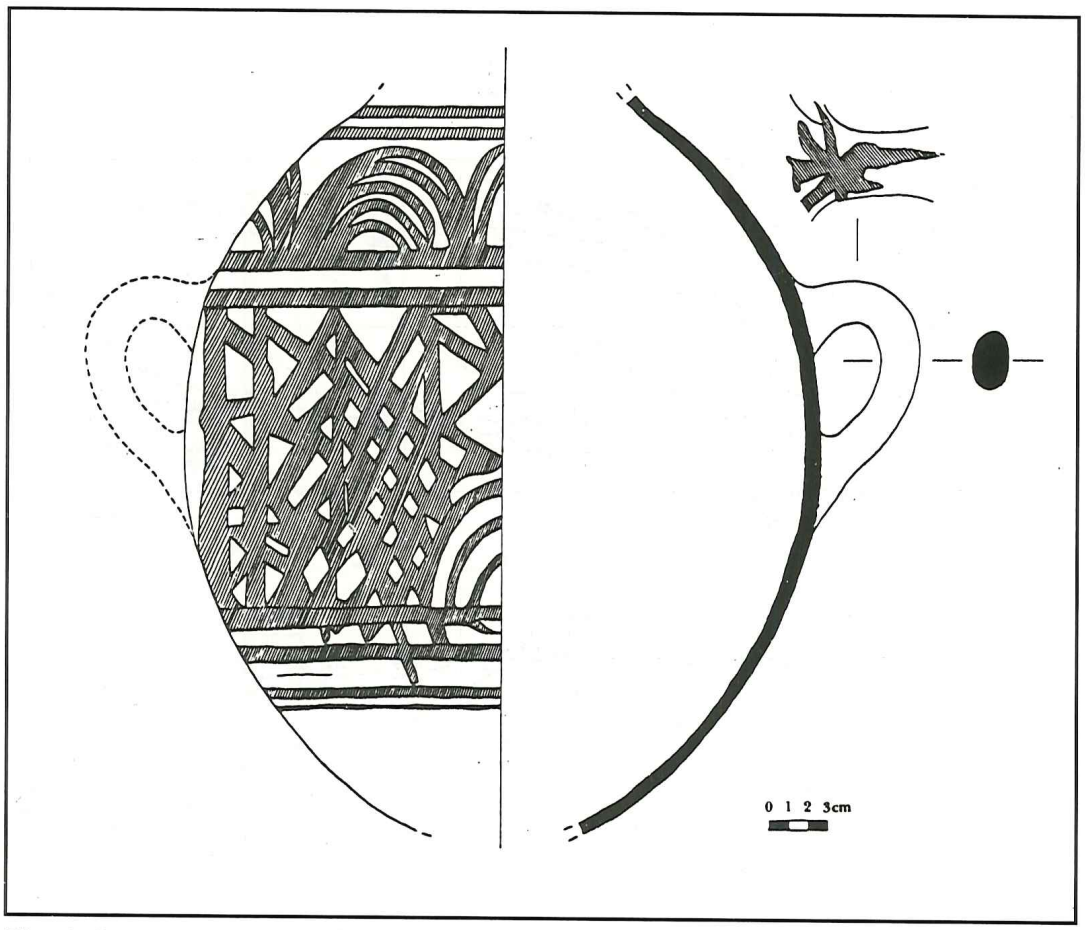

Fig. 2. Iron Age I painted jar from Meqbereh, Area A, locus 082 (drawing by Larissa Najjar).

ment of this dating.[2] The most interesting finds are a complete pyxis, a typical Iron I type derived from local imitations of Mycenaean prototypes of the Late Bronze Age, then independently evolved in Palestine and Jordan, and a painted jar, with its base and rim missing, also to be dated to the earlier phases of the Iron Age I period (Fig. 2; Pl. I, 2).

A total of 1645 chipped stone artifacts made from at least 8 types of fine-grained raw material were recovered from both excavation units, including 1407 from Area A and 238 from Area B. The total number recovered included 17 cores and 168 retouched tools (10.2%). Among the retouched tools, blades and bladelets represented more than a third of the total, followed in order by flakes, denticulates, and truncations. A characteristic tool type is a truncated and retouched rectangular blade segment, often with "sickle-sheen" on one edge. Backed blades and bladelets are also common. Further analysis of the chipped stone artifacts, seldom studied at historic sites, will allow more detailed characterization of the lithic industries and may identify temporal trends.

A total of 33 groundstone artifacts, primarily of basalt, were recovered from the test excavation units. These included grinding slabs and handstones, and from Area A a cache of spherical slingstones on a floor and a conical measuring weight.

Other finds from Area A included 6 ceramic spindle whorls, 2 plaster pierced

2. We would like to thank P. Jean-Baptiste Humbert and Dr. Moawiah Ibrahim for their useful comments and observations on the pottery found at Tell el-Meqbereh.

disks (also spindle whorls?), 2 ceramic jar stoppers, 2 bone awls, 1 carved bone or ivory peg, a stone pendant, 1 chunk of ochre, and 3 corroded fragments of metal (bronze?). From Area B were also recovered 2 fragments of metal (bronze?) and a bronze pin (fibula) (Fig. 3).

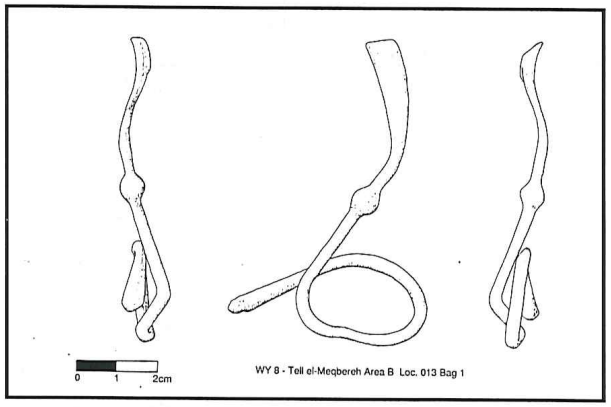

Fig. 3. Bronze pin from Meqbereh, area B, locus 013 (drawing by Chryssantos Kanellopoulos).

In addition to these types of material culture, large quantities of animal bones were recovered, primarily representing sheep, goat, cattle, and possibly equids. Charred olive pits and cereal grains were recovered during excavation, and carbonized seeds were also recovered from a number of flotation samples. These animal and plant remains will be analysed in more detail to provide information on the subsistence economies of this ancient settlement.

Future Investigations

This year's investigations have revealed an impressive sequence of Iron Age I occupation, of a depth rarely found at other sites, and thus provides useful sequences of pottery types, stone tool types, and other categories of material culture and subsistence evidence for reference by archaeologists working in the Jordan Valley and northern Jordan and Palestine. Middle Bronze Age and Early Bronze Age levels of occupation, indicated by artifacts on the surface, were not reached however. In future field investigations at the site, both test excavation units should be continued to culturally sterile levels to determine the full sequence of site occupation and to recover further samples of material culture and subsistence remains that span the Bronze and Iron Ages. Only after these soundings have been completed should large horizontal exposures be opened to better understand architectural plans and settlement organization in each major stratum.

SOUNDINGS AT ER-RAHEB (WY180)

(Cecilia Conati Barbaro, Elena Avellino and Stefano Mammini)

Soundings at the Pre-pottery Neolithic B site of er-Raheb ("the monk") (WY180), first identified by the Wadi el-Yabis Project in 1990 (Palumbo 1992), were conducted during three weeks between the months of June and July, 1992. Surface artifacts were spread on a terraced hill slope between about 530-550 meters above sea level, over an area of 5-6 hectares, which defines the site as a medium size PPNB settlement[3]. In order to determine the presence of subsurface remains, two test excavations units were opened on the site, after the topographic survey was completed and an excavation grid was outlined on the site (Fig. 4).

Stratigraphy

Area A: This trench was opened where there was the highest concentration of artifacts on the surface. In fact, the test unit (2.5 x 2.5 m) has shown that there is no evident relationship between the surface artifact density and the presence of subsurface remains, because of ploughing and slopewash. The limestone bedrock was soon reached at a depth of 75 cm and the deposit

3. The site is positioned at the following coordinates: Palestine grid 218.1 200.2; UTM 7560 35876, map 3154.IV.NE (K737).

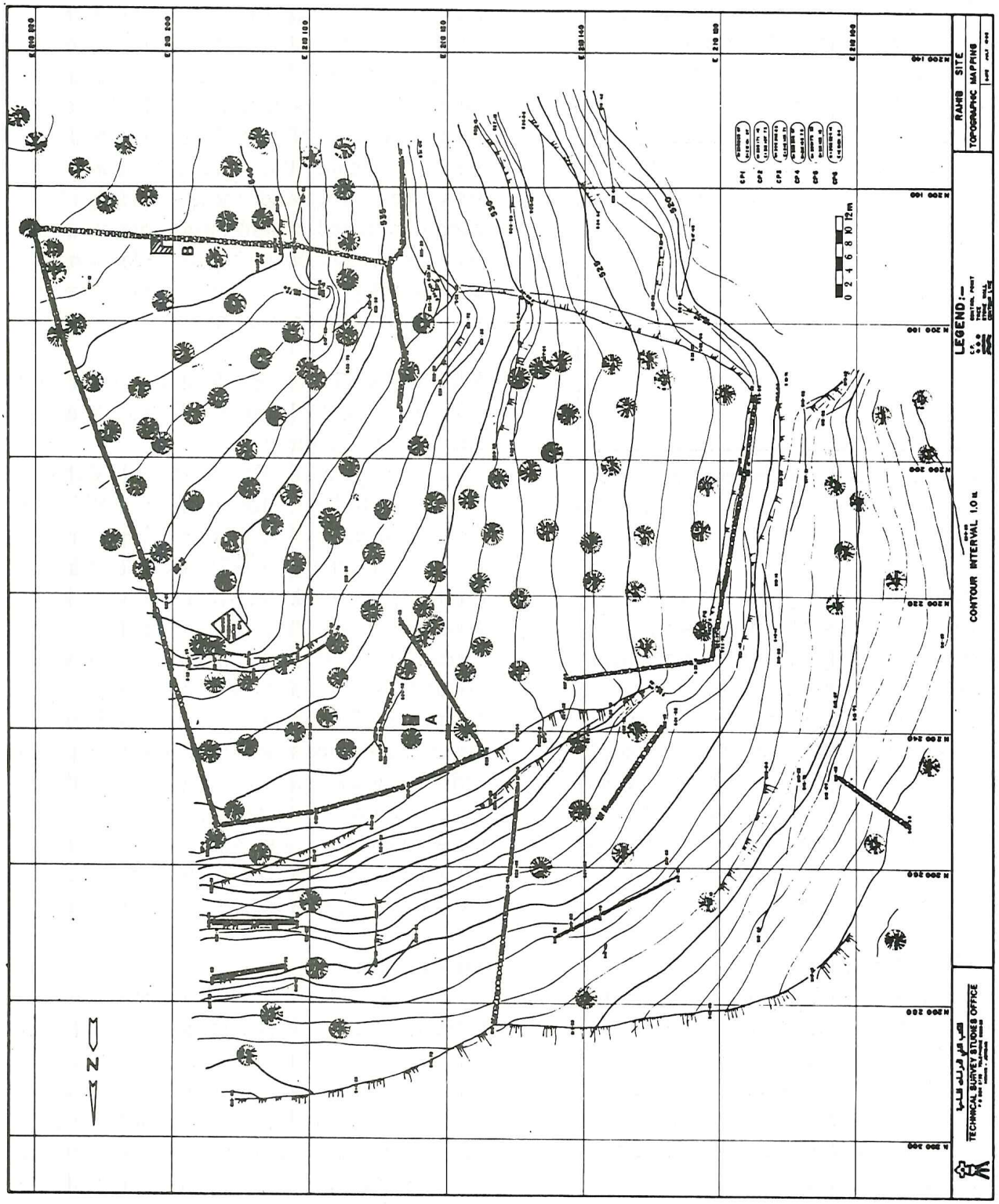

Fig. 4. Topographic plan of er-Raheb (survey and drawing by Abbas Khammash).

was almost entirely disturbed by ploughing. No undisturbed *in situ* layers were identified and only a few chipped stone artifacts, Byzantine sherds and bones were recovered. Excavation on this part of the site was discontinued.

Area B: An L-shaped trench was opened in area B, approximately 40 meters to the South of Area A. It measures 13 m², with the long (5 m) side oriented east-west. Here a stratigraphy of cultural layers of over one meter in depth was excavated, together with a structure described below. Unfortunately, the entire sequence is disturbed by roots and animal burrows. The stratigraphic sequence (from the top to the bottom) can be summarized as follows:

1. a thick (40-50 cm) *terra rossa* deposit of stony colluvium disturbed by ploughing;
2. a 30-40 cm sequence of layers composed of loose sediment with stones probably deriving from the collapse of the structural wall described below and another wall belonging to an adjacent structure (mostly in the northeast corner of the trench); these layers almost reach the bottom of the trench;
3. a more compact layer, sandy and with few stones, clearly identified in the north half of the test unit, but also, at a lower depth, in the southern half.

Cutting into the entire sequence a structure was found, which has been only partially exposed. The excavation of the entire structure has been in fact prevented by the presence of an olive tree, which was planted, possibly, in the center of the structure itself.

The structure has an oval or apsidal shape, and is composed of a two-course stone wall formed by large stones with earth and smaller stones and pebbles packed between them. The floor and the internal part of the wall were covered by plaster, which was well preserved in the southeastern part of the test unit (Pl. II, 1). The plaster has an average thickness of 2 cm. Some fragments of polished plaster (black and red), daub and clay lumps were found above the floor and near the wall face. Determination of the shape of the entire structure was prevented by the limited extension of the trench and because of two gaps in the eastern and western ends of the wall. The deposit lying outside of the structure appeared to be very rich in archaeological remains. The amount of lithic industry and faunal remains is quite remarkable, despite the limited lateral extent of the soundings.

Material Culture and Subsistence Remains

The dominant classes are chipped stone artifacts and animal bones. The animal bones are presently being examined. From a preliminary analysis of a sample, the bones seem to belong mostly to sheep and goat. A small fragment of tortoise (?) shell and two fragments of crab chelae are to be mentioned. Crab is still found today in the nearby Wadi el-Yabis, and a large amount of crab remains were found in the PPNA layers of close-by 'Iraq ed-Dubb (WY130) (Kuijt, Mabry and Palumbo 1991).

A preliminary study of the lithic materials was conducted in order to classify the main artifact classes. A more detailed analysis of the lithic material of er-Raheb is being conducted, and focuses on the selection of raw material, the reduction sequence, and the range of artifacts which were produced.

The most common raw material is a fine-grained chert, which ranges in color from light gray to brown. The patina on flints is white to light gray. Obsidian is extremely rare: only five débitage elements and two retouched blades were found.

Only 13 cores were recovered. Two are opposed platform cores, one being of the "naviform" type, five are single platform type, while six are unclassifiable. The high percentage of core trimming elements, chunks and chips (80% of the total débi-

tage) from this restricted area of excavation could testify that part of the chipping activity was made *in situ*. From this preliminary analysis it can also be observed that the characteristic products of the blade reduction sequence (such as crests and rejuvenation flakes) are not well represented (0.5% and 0.1% respectively of total débitage), despite the high percentage of retouched blades and tools made from blades.

Among tools, retouched blades and bladelets are the most well represented (37.9% of tools). The retouch is usually a use-retouch. Sickle elements made from denticulate blades are present. Some points were re-used as sickle elements and they have the characteristic gloss on one side.

Burins and burin spalls are also represented. Some of them were made from points. Some points also show little burin blows on their distal end that might have been caused by the impact.

Points are another well represented tool class (9.5% of tools total). Jericho and Byblos points are the most numerous. Helwan points are also present. A remarkable quantity of tang and point fragments was also recovered. Therefore, we should consider the points as the main class of artifacts that was produced (or utilized) by the inhabitants of er-Raheb. The same tools, after having lost their primary function, probably re-entered into the reduction (or production) sequence, in order to be re-used as other kinds of tools, such as burins or sickle elements.

A few perforators and truncations have been recorded. Bifacial tools are also present, as well as some polished artifacts, mainly axes. One little axe made of green stone and one axe made of basalt with traces of ochre have also been found.

The finds also include groundstone artifacts, such as two shaft straighteners, one fragment of a bowl, grinding stones and pestles.

Some necklace elements have also been recovered: a few perforated shells (*Tellina* sp., *Cyprea* sp.) and beads (one made of green stone).

The test excavations at er-Raheb confirmed the preservation of the site structure and the richness of the cultural deposit. The preliminary analysis of the material culture remains supports the initial dating of the site to the late PPNB period. A more detailed chronological interpretation could be defined after the analytical study of the archaeological evidence. The study of the faunal and botanical evidence is also essential in order to understand the economic organization and the exploitation of natural resources by the inhabitants of the site. The analysis of the obsidian, green stone, and shell provenance could also shed more light on the exchange network among the PPNB sites in the Middle East.

THE SURVEY (Gaetano Palumbo)

Three weeks of intensive pedestrian surveys were conducted in three transects in the Wadi el-Yabis catchment area. The three transects, numbered 4 to 6 (Transects 1-3 were surveyed during the 1989 fieldwork season), are 1 km wide (east-west) by 7 to 9 km long (north-south), and are located between the following coordinates:
Transect 4: from 209.0 197.0 (SW corner) to 210.0 204.0 (NE corner);
Transect 5: from 217.0 195.0 (SW corner) to 218.0 204.0 (NE corner);
Transect 6: from 221.0 196.0 (SW corner) to 222.0 203.0 (NE corner).

In addition to the intensive survey, some purposive visits were made to sites where the presence of antiquities was suspected.

Intensive and purposive visits identified a total of 61 previously unrecorded archaeological sites. They are distributed as follows:
Transect 4: 14 sites (plus 5 sites already known from previous surveys);
Transect 5: 25 sites (plus 6 sites already known from previous surveys);
Transect 6: 2 sites (plus 7 sites already

known from previous surveys).
Purposive visits: 20 new sites.

Method

The three transects were intensively surveyed by four to six people, walking in a line with an average distance of 30 to 40 meters between each other. Approximately 1 km^2 was covered daily. Within each square, the procedure was to walk in a north-south direction only where flat ground was present, otherwise contour elevations were followed on hill flanks in order to minimize time and effort required to cover the area.

Site forms were completed for each new site found, and artifacts were collected in order to date the site. During artifact collection, special precautions were made to avoid the deflation of the sites, thus leaving *in situ* most of the artifacts visible on the ground, especially at poorly recognizable sites. Periods of occupation were identified on the spot, and only important diagnostic artifacts were kept for comparative collection and illustration for later publication.

In addition to the description of each new site found, the entire area of each transect was divided into "survey units", usually identified by their morphological and vegetative characteristics (e.g. southern slopes of hill, ridge top, valley bottom, cultivated, grazed, forested, etc.). Each survey unit was described on forms, and color-coded on a map to identify the general degree of visibility of the ground. This approach identifies the environmental setting of modern and ancient settlements and should be extremely useful during later phases of this project, when all kind of variables will be taken into consideration to understand patterns of settlement through time and in different environmental zones.

Results

Transect 4: Of the 14 new sites found, the majority are flint scatters dating to the Middle Palaeolithic period. One of these flint scatters is the second Lower Palaeolithic site found in the Wadi el-Yabis area. Other site types include an Early Bronze Age shaft tomb cemetery (partially robbed) (WY245), probably related to the Early Bronze Age site of Tell Ras Ḥamid (WY63 — Palestine grid 208.9 197.8) and a dolmen field (WY215).

Transect 5: Of the 25 sites found, the majority are flint scatters, mainly of the Middle Palaeolithic period. Another site found is a Roman fort on a hilltop dominating the Wadi el-Yabis gorge and the villages of Ba'un and 'Irjan (site WY192). This fort probably controlled the road from Pella to Jarash, which most likely crosses Wadi el-Yabis in the vicinity of Tell el-Maqlub, three kilometers downstream, and continues towards Jarash, passing in the vicinity of Ba'un and to the south of the fort.

Transect 6: Only two new sites were found in this transect. This is due to the extremely thick vegetation cover of oak and pistachio trees which made intensive survey almost impossible.

Purposive visits: These were made to several locations in the area. Some of the sites, mainly flint scatters, were found during the transect survey, but outside of the actual transect alignment. A purposive survey of Ottoman water mills was also made between the village of Rasun and Tell el-Maqlub. As a result of this survey, three new water mills were located, beside the six already known from the 1989 and 1990 surveys.

Among other sites found this year, the most interesting are the partially fossilized human mandible and vertebrae found in a road cut near Tell el-Maqlub (Mdawwara, site WY243), in an alluvial terrace deposit which gave a C14 date (AA-10266) of 3760+/- 65 b.p. (calibrated date 2308-2041 B.C.). This date, in the EB IV period, is much later than we expected (Late Pleistocene), because of the height of the alluvial

terrace above the present Wadi el-Yabis stream course. More investigation, however, will be conducted at the site in order to further clarify the date of the human remains and the association with the charcoal fragments which were analyzed for the C14 date.

Another Roman fort was located near Kurkuma (site WY246), and a Byzantine farm or hermitage site with mosaic-paved water tanks above a spectacular 40-meter waterfall in the lower Wadi el-Yabis gorge (et-Tannur, site WY217; Pl. II, 2).

Summary of Survey Results

In conclusion, the most important results of this survey season are as follows:

- the large number of Palaeolithic (especially Middle Palaeolithic) sites found at middle and upper elevations, where no such early sites were known before (all the Palaeolithic sites known previously in the area are close to the Ghor). Now our reconstruction of Palaeolithic occupation in the Wadi el Yabis area can be based on a more complete picture of site locations. More work is needed in order to understand the extent of this occupation, possibly by locating sites where stratified deposits are still preserved;
- the location and study of ancient river terraces in the wadi bottoms, especially of Wadi el-Yabis itself, and the identification in one of them of fossil human remains. Further study will help to better date this "terrace sequence" throughout the wadi;
- the identification of a large Early Bronze Age cemetery (WY245) associated with one of the Early Bronze Age sites already known from previous explorations (Tell Ras Ḥamid — WY63);
- the discovery of two Roman forts in strategic position (WY 192 and WY246) controlling respectively the road from Pella to Gerasa and a wide area of the Jordan Valley just south of Pella;
- the purposive survey of water mills, which played an important role in the economy of villages in the area during the Ottoman period and early this century, considering their density in proximity of villages like 'Irjan and Judeita.

VERNACULAR ARCHITECTURE SURVEY AT KURKUMA (WY7)

The Site, its History and its People (Michèle Biewers)

As part of the study of settlement patterns in the Wadi el-Yabis area, a first season of survey of vernacular architecture was carried out in the village of Kurkuma, which lies above the Ghor at an altitude of 27 to 38 meters above sea level. The survey aimed at identifying and studying the different types of traditional architecture. Kurkuma (WY7) lies at Palestine grid coordinates 207.8 198.3. In 1987 the site was surveyed for its ancient remains, and pottery was collected on the surface. The pottery helped to identify the following periods of occupation for the site: Roman, Byzantine, Umayyad, possible Abbasid/Fatimid, Ayyubid/Mamluk, Ottoman and Modern (Mabry and Palumbo 1987). Within the framework of the Wadi el-Yabis survey, it was decided to record traditional villages threatened by modern development and the abandonment of the traditional structures. The choice of Kurkuma as the first village where traditional architecture could be recorded is due to two main reasons:

- its distinctive architectural character, including the integration of Roman and Byzantine columns and other architectural elements in the buildings;
- the fact that Kurkuma was probably never permanently occupied, being a seasonal reference for peasants cultivating the surrounding fields. The stone house may have substituted for the tent that was set-up in the fields; this type of occupation has not been documented or

studied so far.

The fieldwork at Kurkuma in 1992 was conducted by Michelle Biewers, Ruba Kana'an and Tamara Mehyar, and assisted by students from the Department of Architecture of the University of Jordan. A plan of the village in its existing status was prepared (Fig. 5). Some of the houses, courtyards, ovens (*ṭawabeen*), and chicken-houses were also recorded in detail, using special forms to record their features.

The 19th and early 20th century references to the village include: Merrill (1883), who refers to Kurkuma, but without describing it. The village of Farah (modern Hashemiyyeh), five kilometers to the east of Kurkuma is also mentioned. Robinson on May 15, 1852 reported the presence of peasants coming from the village of Farah around the exit of Wadi el-Yabis in the Jordan Valley. According to his description, these people stayed there just for the time of the harvest. Robinson also mentions the "ruin of Kurkuma", in a plain with wheat fields (1856: 317).

The first oral interviews conducted with peasants present in the village during our survey work, gave the following indications:

- the first stone houses in Kurkuma probably date not much before 1936. Before that, people would camp beside the fields during the agricultural season;
- their fields extend from the Jordan Valley to Hashemiyyeh;
- the presence of a village in Kurkuma is probably due to the presence of a perennial spring, 'Ain Zaqaziq;
- the inhabitants of Kurkuma are all from Hashemiyyeh (the ancient Farah). They continue until today to seasonally occupy their houses in Kurkuma;
- the population is composed by the following tribes (*'asha'er*): Bani 'Aṭa, Rabab'eh, Qawaqneh, Za'areer, Gharaibeh, Ḥadidieen. No families originate from the Jordan Valley.

These preliminary results need confirmation, and more research will be conducted in the village of Hashemiyyeh in 1993.

If, as it seems, Kurkuma was just a village seasonally occupied, its study will complete works that have been conducted so far on sedentary villages or on nomads in their sedentarization process. The study of Kurkuma will allow documentation of a different type of occupation: the inhabitants of a village (Hashemiyyeh) camp in the lower part of the valley during the agricultural season, and decide to build houses that they occupy only temporarily every year. If the village is now mostly abandoned, it is because of the development of communication and transport between the Jordan Valley and the mountain escarpment where Hashemiyyeh is located. The number of private cars and trucks and the communal use of these vehicles allows the people of Hashemiyyeh to drive down to the Kurkuma area in the morning to cultivate the fields there and to go back in the evening.

The study of the village of Kurkuma will be conducted according to the same methods and techniques of those employed at 'Aima, Ḍana, and Khirbet Nawafleh (Biewers 1993). This will allow the comparison between these different habitats and their evolution.

The Architecture (Ruba Kana'an)

The first season at Kurkuma included a general visual survey that took into consideration identifying a wide variety of house typology in the village. This phase depended mainly on detailed field notes and sketches that covered all the standing structures in the village. An immediate result was the identification of some specific examples that we considered representative for different house types in Kurkuma from both spatial and structural aspects. Such examples include two major courtyards and four separate houses that were systematically studied, surveyed and measured for documentation.

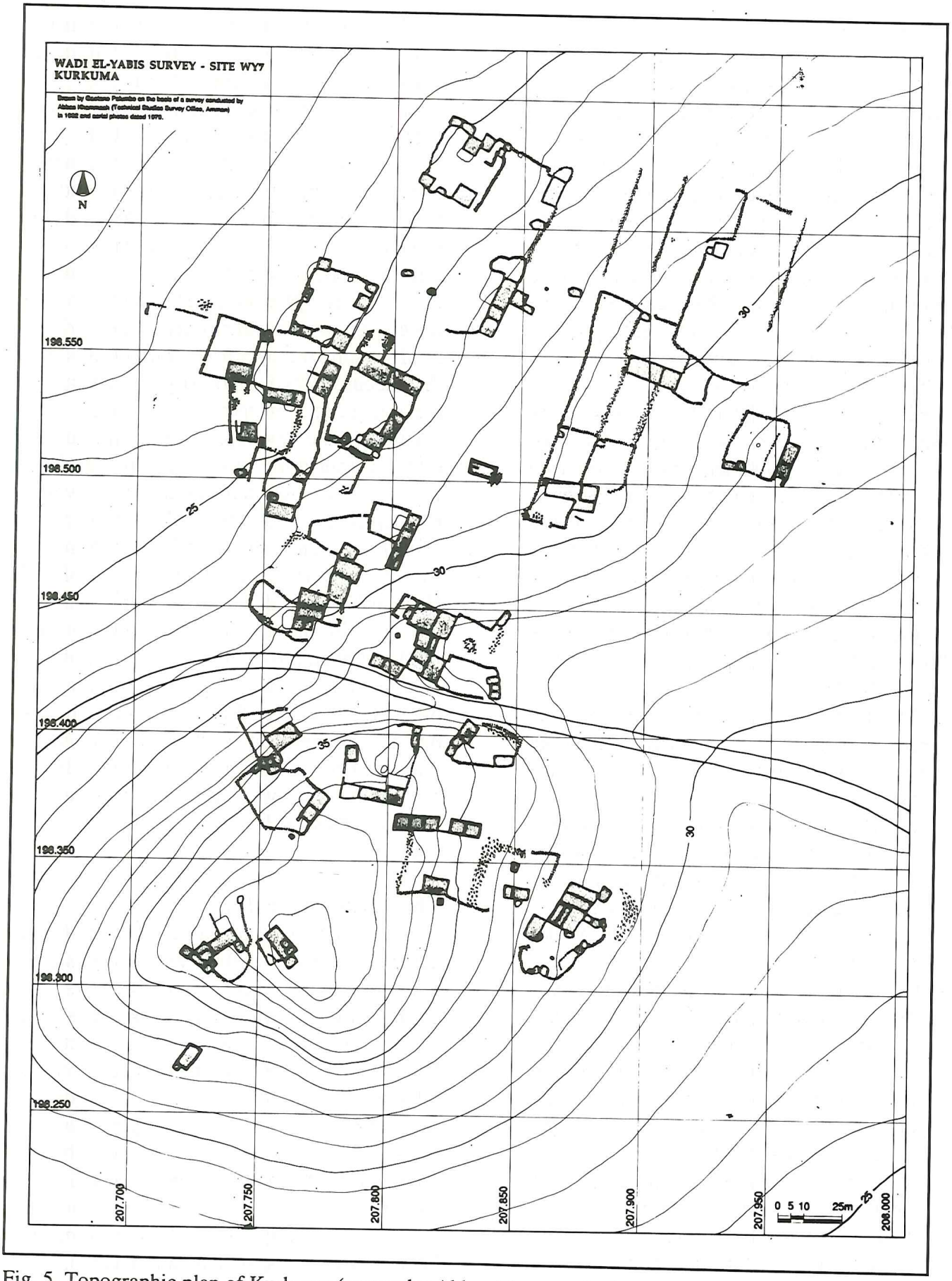

Fig. 5. Topographic plan of Kurkuma (survey by Abbas Khammash, drawing by Gaetano Palumbo).

The immediate result of this season shows a distinctive architectural character that needs to be compared to similar villages in Wadi el-Yabis. The village does not have a coherent pattern that is common in other villages but is rather sparse and comprised of small plots of arable land as part of its spatial structure. The basic architectural unit is a rather typical limestone block construction with mud mortar and mud plaster. The interiors are generally mud-plastered with a layer of white-wash and some fine examples of open-shelf *kawayer*. Structurally, the unit/house varies from the typical arched supports for the earth and reed-constructed roof to the more spectacular stone pillars that support wooden logs and flat roofs. This pillared house is rare in Jordan but it is characteristically well represented in Kurkuma, where a number of houses have one or two columns. Two houses, both located on the tell of the Roman-Byzantine period, have three columns. It is to this distinctive character that further research will be directed in the coming season as we are only aware of the presence of columns in some houses at 'Iraq el-Amir, another vernacular composition built in relationship with an archaeological site.

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G. Palumbo
Università di Roma "La Sapienza"

J. Mabry
University of Arizona

M. Abu Abileh
Department of Antiquities

E. Avellino
ERA 28, CNRS, Meudon, France

M. Biewers
IFAPO

C. Conati Barbaro
Stefano Mammini
Università di Roma "La Sapienza"

R. Kana'an
University of Oxford

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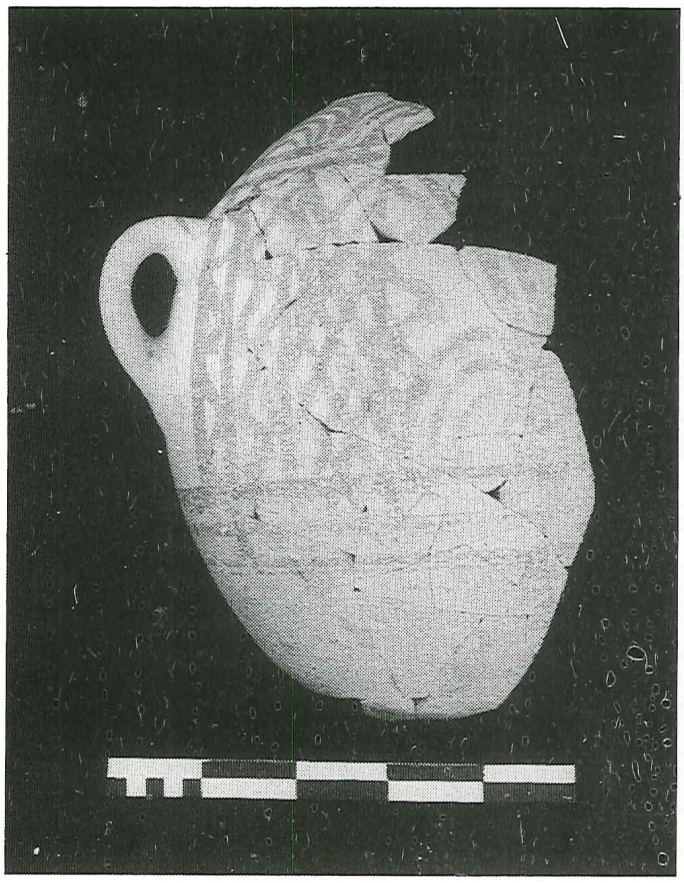
APPENDIX:

The following is the list of the sites found in 1992, with their Palestine grid coordinates and apparent periods of occupation:

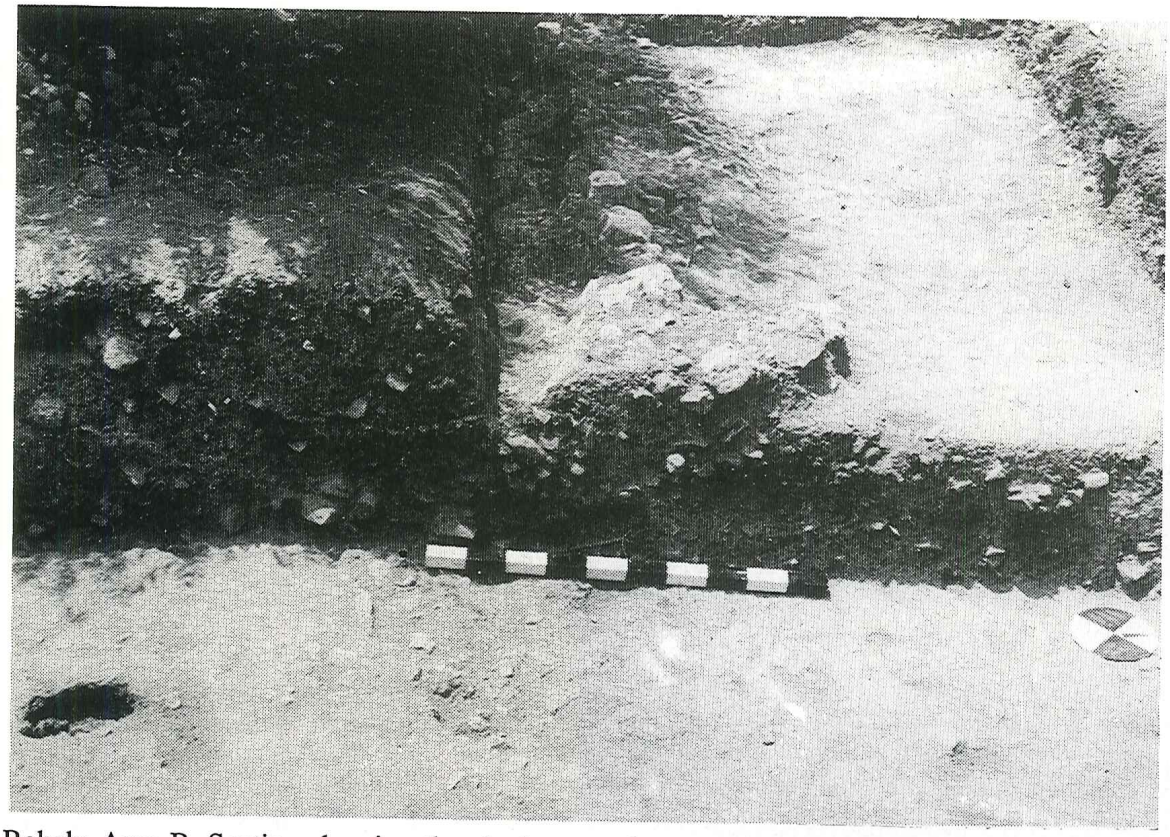
Site N.	*Site Name*	*East*	*North*	*Periods*
WY186	'Iraq Sumayda	220.9	202.0	Byz, Um, Isl, Ott, UD
WY187	'Urqan Rasun	222.0	201.8	Rom/Byz, UD
WY188	Abu esh-Shawk	221.9	202.2	MP?, EB?, Maml, Ott, UD
WY189	Jubeil	217.9	198.8	IRII, Rom?, Byz, UD
WY190	-	217.2	198.4	LP?,Chal?, IR, LByz, UD
WY191	-	218.2	200.0	Rom
WY192	Ras el-Qaṣr	217.9	197.6	IR?, Rom?
WY193	-	218.4	199.9	Rom, Isl
WY194	-	217.3	199.5	MP, NL/Chal, UD
WY195	-	217.7	199.8	EByz, Isl
WY196	-	217.8	197.8	MP?, NL/Chal?, UD
WY197	-	218.0	197.9	MP?, UD
WY198	-	217.4	198.0	Pal, IR?, Rom, Byz, UD
WY199	-	217.4	197.7	MP, NL/Chal?
WY200	-	217.2	200.3	MP, LByz
WY201	-	217.0	200.5	MP, Chal
WY202	-	217.2	201.1	MP, UP, NL/Chal?
WY203	-	217.8	202.4	---
WY204	-	217.6	202.4	Maml/Ott
WY205	-	217.7	202.1	UD
WY206	-	217.5	201.9	UP/EP?, NL/Chal?
WY207	Jabal Abu Sfeid	209.6	198.3	MP, EB, UD
WY208	-	217.7	202.9	Byz, Maml/Ott (dom)
WY209	Khirbet el-Ḥawi	218.1	204.3	Ir, Rom?, LByz, Um, Abb?, Ay/Maml, E+L Ott, Mod
WY210	el-Ḥawi	217.9	204.0	MP, UP
WY211	Jabal Sardub 1	209.9	199.2	UP, EP, Chal/EBI, EB IV, IRII, Rom, Byz, Isl
WY212	Jabal Sardub 2	209.5	199.2	MP?, UP/EP?, Ott, UD
WY213	-	208.9	198.7	UD
WY214	-	208.8	198.7	Rom, Byz, Um, Isl
WY215	-	209.3/7	199.7/9	dolmens
WY216	-	209.5	200.0	IR, Byz, UD
WY217	Tannur	208.9	200.0	LByz
WY218	Ma'raba	209.1	199.8	MP?, UD
WY219	-	209.9	200.0	MP?, Iron, Byz
WY220	-	210.0	199.5	UD
WY221	-	209.4	199.8	MP, IR?
WY222	-	209.0	199.1	MP/UP?
WY223	-	209.0	199.5	MP, UP
WY224	-	209.0	199.9	MP?

WY225	-	209.1	199.6	MP/UP?, IR, Byz, UD
WY226	-	217.0	196.4	MP, Rom
WY227	-	217.2	196.6	Rom, Byz
WY228	-	217.3	196.7	MP?, UP/EP?
WY229	-	217.6	196.5	Byz
WY230	-	217.8	196.8	MP?
WY231	-	209.9	200.9	---
WY232	-	217.6	195.2	MP
WY233	-	217.2	195.2	MP
WY234	-	217.1	195.6	UP/EP?
WY235	-	209.9	201.5	MP. UP/EP
WY236	-	221.1	203.3	MP, UP?
WY237	-	221.1	203.0	MP?, LByz
WY238	Naqlat Warda	222.0	198.4	MP, UP
WY239	-	226.6	201.4	MP, UP
WY240	-	219.9	201.5	water mill
WY241	-	218.0	200.3	water mill
WY242	Misq'at Ṭaḥuna	216.1	200.2	water mill
WY243	Mdawwara	215.3	200.8	UP/EP?, UD
WY244	ez-Za'faran	215.5	200.1	EP
WY245	-	209.6	197.7	EB I, EB IV
WY246	-	207.7	198.8	Rom, E+LByz, Um?

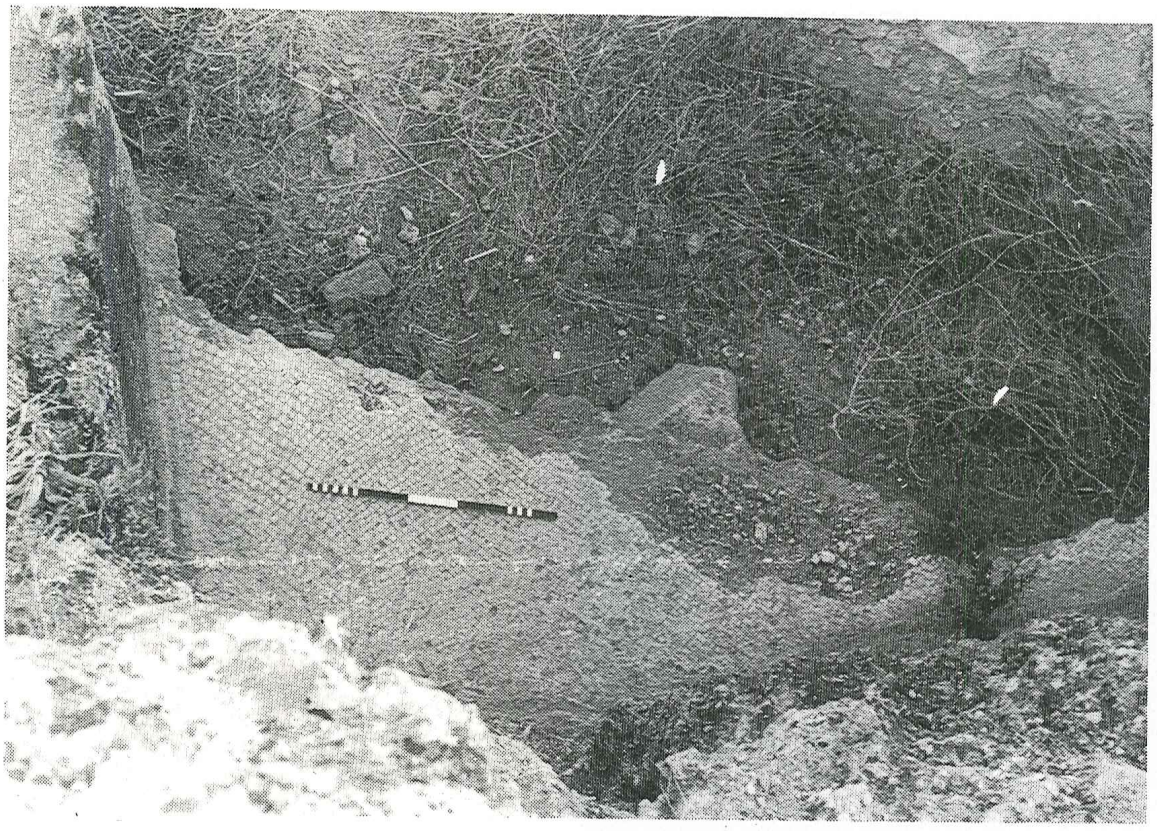
1. Tell el-Meqbereh: Area A, locus 054, domestic structures with partially preserved mudbrick wall on stone foundations.



2. Tell el-Meqbereh: Area A, locus 082. Iron Age I painted jar.



1. Er-Raheb: Area B. Section showing the single row of stones marking the limit of the house unit with partially preserved plaster floor.



2. Tannur (site WY217): Partially preserved water tank with mosaic floor.