

## CHAPTER 1 INTRODUCTION AND VADE MECUM

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A more detailed version of this chapter can be found in *Tell Abu al-Kharaz II: The Middle and Late Bronze Ages* (FISCHER 2006a) or in *Tell Abu al-Kharaz I: The Early Bronze Age* (FISCHER 2008a). The most essential information is repeated here in order to provide crucial background to this volume without the need to consult either of those published earlier.

### TOPOGRAPHY

Tell Abu al-Kharaz, “The Mound of the Father of the Beads”, lies in the ancient landscape of Gilead in the Central Jordan Valley<sup>1</sup> and is located just above the Valley’s eastern border, north of the perennial Wadi al-Yabis,<sup>2</sup> about 4 km east of the Jordan River (see Fig. 1). According to the Palestine Grid Coordinate System the coordinates of the summit are E 206 196.54 and N 200 623.07.

The summit of Tell Abu al-Kharaz lies 116.00 m below mean sea level (according to the locally established grid system: VV/WW30/31; see below). The valley floor at this latitude lies approximately 250 m below mean sea level. The isolated, impressive mound of Tell Abu al-Kharaz lies approximately 300–400 m east-south-east of the smaller hillock of Tell al-Maqbarah (see below), which lies close to the main road west of it. This road runs along the Transjordanian Jordan Valley from north to south. The area occupied by the tell is approximately 300 m (north-south) by 400 m (east-west), i.e. 12 ha. The tell is to some extent of the “shelved type” (PORTUGALI 1982: 171–172, Fig. 1), i.e. later remains only partially cover remains from earlier occupations.

The view from the summit of the tell includes, from north-west to south-west, the hills around Nazareth, Mount Tabor, Beth-Shean and the eastern Jezreel Valley; the Samaritan hills and the area some kilometres north of Tell es-Sa‘idiyeh. The view to the east



Fig. 1 Map of the location of Tell Abu al-Kharaz including selected sites with Iron Age occupation

is restricted by the rising hillocks of western Gilead, which are the outcrops of the Transjordanian plateau further east.

<sup>1</sup> The extent of the region of biblical Gilead, east of the Jordan River, is not exactly defined. It covers approximately today's North-West Jordan from the Wadi Yarmouk (the Syrian border) in the north to, in the south, the Wadi Mojib (River Arnon) east of the Dead Sea (cf. OTTOSON 1969: 9 and map). There are various definitions of the term “Central Jordan Valley”. In this publication the area around

Tell Abu al-Kharaz is considered to be the Central Jordan Valley; for a discussion see e.g. MAEIR 1997: 10–13.

<sup>2</sup> The name of this wadi has fairly recently been changed to Wadi el-Raiyan; however, the traditional name, Wadi al-Yabis, will be retained in the archaeological reports from Tell Abu al-Kharaz in order to avoid confusion when consulting references and older literature.

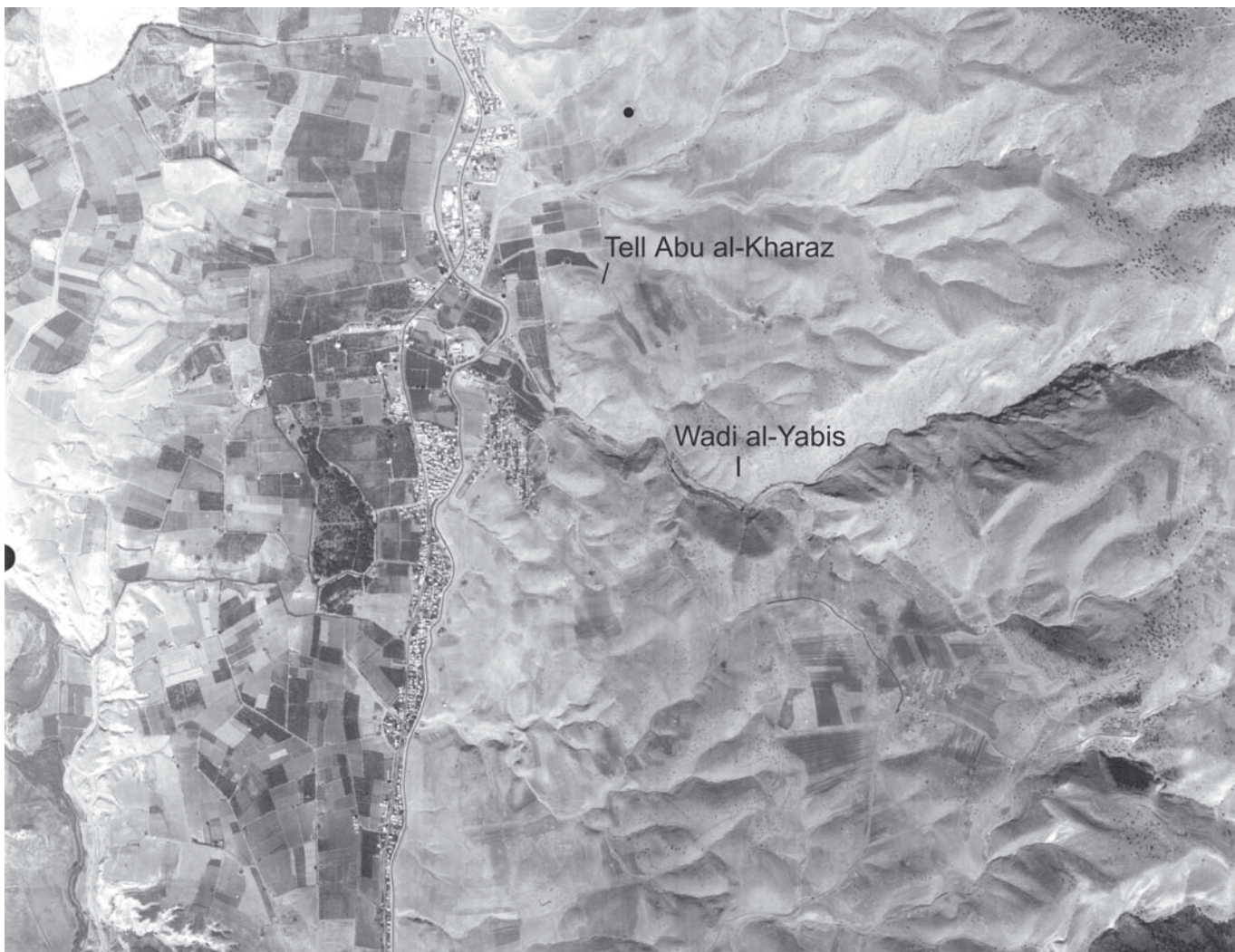


Fig. 2 Aerial photograph of the Central Jordan Valley taken in 2000



Fig. 3 Tell Abu al-Kharaz from the north-west. Rocky façade facing the Jordan Valley to the right





Fig. 4 Southern slope of Tell Abu al-Kharaz. Jordan Valley in the background



Fig. 5 View from the summit of the site, looking north-west. Area 7 in the foreground; Jordan Valley, Jezreel Valley and Mount Tabor in the background





Fig. 6 View from the summit of the site, looking south-west; Jordan Valley and Westbank in the background



Fig. 7 View from the summit of the site. Eastern foothills leading up to the Transjordanian plateau in the background

Tell Abu al-Kharaz lies along the ancient north-south trade route which connects the Sea of Galilee and the Dead Sea, just south of the point where this road crosses the extension of the important road linking, among other sites, Beth-Shean and Megiddo with the Mediterranean Sea in the Mount Carmel area. The distance between Tell Abu al-Kharaz and the Mediterranean Sea along this north-west/south-east trading route is approximately 80 km. Approximately 6 km to the north of Tell Abu al-Kharaz is Tabaqat Fahil (Pella of the Decapolis). Beth-Shean (Scythopolis of the Decapolis) is approx. 15 km to the north-west, on the western side of the River Jordan.

The site of Tell Abu al-Kharaz is located at a strategically important point, where the Wadi al-Yabis emerges from the eastern hills into the Jordan Valley. Irrigation systems, ancient as well as modern, can be seen everywhere in the fertile surrounding land. A large area in all directions can be supervised from the top of the site, which makes it the most easily defended settlement mound within quite a large area. The steep slopes are a natural obstacle to prospective invaders, especially the rocky western slopes facing the Jordan Valley. The relatively flat summit of the hill is oriented approximately east and west. From the summit “plateau” the ground at first drops gently to the west until reaching the rocky escarpment mentioned. In the northerly, easterly and southerly directions the immediate descent from the summit is somewhat steeper. The plateau on the summit measures about 120 m in the east-west and about 90 m in the north-south direction. Traces of stone walls, which follow the natural course of the tell, were visible on the surface on the upper part of the tell during the initial survey in February 1989 (the later Area 10). Longitudinal (east-west) and transverse walls could also be traced, especially to the south and east of the tell (the later Area 9). Traces of additional encircling walls can still be seen lower down the southern slope (below Area 9).

The outlines of a square building of about 10 m × 10 m could be observed close to the summit of the tell:<sup>3</sup> crop marks of a variable growth of briars and weeds, indicating the outlines of this building, could easily be seen during the author’s survey in February, but were almost invisible during the excavation campaign in October–November 1989, when vegetation was scanty.

There are at least two explanations of the Arabic name of the site: firstly – and this is maybe the more

likely – in the appearance of Tell Abu al-Kharaz as seen from a distance, for example from the much lower Tell al-Maqbarah (see below): the entire mound is covered with blocks of bright stones, which are remains of ancient buildings and which resemble beads when seen from a distance; secondly, less probably, it may be named after beads of particular faience which are quite frequently discovered, as was verified during our surface surveys.

There has certainly been a connection between Tell Abu al-Kharaz and the much lower, smaller and quite flat mound of Tell al-Maqbarah nearby. Tell al-Maqbarah will therefore be described briefly. Tell al-Maqbarah, “The Mound of the Cemetery”, is approximately 1 ha in area. The coordinates of the “summit” are approximately E 205 800 and N 200 750. Its summit elevation is minus 194.60 m. Traces of mudbrick and stone constructions, together with a considerable quantity of sherds, were evident during our surface survey in the winter of 1989. Unfortunately about a third of the hill was demolished by a bulldozer at two levels between the writer’s survey in February 1989 and the start of the excavations at Tell Abu al-Kharaz in October the same year. The upper cut terrace, about 2 m from surface level, revealed scattered skeletal remains of a female and a possible tomb, but no accompanying pottery. It is not unlikely that the upper part of this tell was used as a burial place during Islamic periods, which might serve as a plausible explanation of the Arabic name. This is common practice in the area (cf. for example the cemetery on top of Jordan’s largest tell, Tell al-Hussein, south of Irbid; or Tell al-Kefrein, north of the Dead Sea). A deep bulldozer cut reached Late Bronze Age levels: a characteristic intact juglet from this period was found in the autumn of 1989 when the excavations started at Tell Abu al-Kharaz. Trial soundings at the remaining part of Tell al-Maqbarah in 1992 (PALUMBO *et al.* 1993) exposed settlement layers, mainly from the Iron Age although artefacts from earlier periods were also discovered. The entire tell was unfortunately flattened by a bulldozer after 1992 and has been used for farming since, and today nothing is visible of this small tell.

#### SURVEYS IN THE AREA<sup>4</sup>

The Transjordanian part of the Jordan Valley, including the Wadi al-Yabis area, has been visited in the past

<sup>3</sup> This building was partly excavated in 1996 and 1997 (INGEMARSDOTTER 1997: 137–142; FISCHER 1998a: 221–222). It is of Iron Age and later date.

<sup>4</sup> For the bibliography for every excavated site in Jordan see HOMÈS-FREDERICQ and HENNESSY 1986; HOMÈS-FREDERICQ *et al.* 2010; and HOMÈS-FREDERICQ and HENNESSY 1989 for a summary of elder field reports.



by travellers and scholars who have described the inland scenery of the region and evidence of earlier human activity. Surveys have been published by – *inter alia* – MERRILL (1881), ROBINSON (1889), STEUER-NAGEL (1925 and 1926), McCOWN (1930), ABEL (1967), AUGUSTINOVIC and BAGATTI (1952), and KHOURY (1988).

The American scholar Nelson Glueck was the first, in the 1940s, to start a series of surveys of Tell Abu al-Kharaz/Tell al-Maqbarah. He saw the sites for the first time on December 12<sup>th</sup>–13<sup>th</sup>, 1942, when he visited the domains of Mohammed Zeinati. In order to date both tells he collected artefacts during a survey which took a couple of years (GLUECK 1951: 261–275; 476, 477). GLUECK (*ibidem*: 266) recorded pottery which he assigned to the following periods: Early Bronze Age I–II, Early Bronze Age IV–Middle Bronze Age I, Middle Bronze Age II, Iron Age I–II, Roman and Byzantine. He stated that the sherds of the Early Bronze Age and the Iron I and II predominate, and this was to some extent confirmed by the Swedish excavations; however, he did not recognize the Late Bronze Age remains, plenty of which were exposed later by our expedition. He also maintained that the sherd repertoire of Tell Abu al-Kharaz was identical with that of Tell al-Maqbarah, which may be correct but difficult to prove under the present circumstances.

Further surveys of the area were performed by MELLAART (1962), DE CONTENSON (1960 and 1964), MITTMANN (1970), YASSINE *et al.* (1988), MABRY *et al.* (1988), MABRY and PALUMBO (1989), PALUMBO *et al.* (1990), and our team in 1989. The dating of the surface sherds differs to some extent between the different surveys. The team led by YASSINE, IBRAHIM and SAUER (1988: 167), for example, recorded pottery from the following periods from Tell Abu al-Kharaz: Early Bronze Age, possible Early/Middle Bronze Age, Late Bronze Age I and II, Iron Age I and II, Early Roman, Late Byzantine and Ayyubid/Mamluk; and from Tell al-Maqbarah: Early Bronze Age, Late Bronze Age II, Iron Age I and II, Early Roman and possibly Umayyad. They recognized correctly, for instance, the presence of Late Bronze Age I and II sherds at Tell Abu al-Kharaz, which Glueck did not identify as such in his report, advancing at that time and also later the theory that there was an occupational lacuna during most of the Middle and Late Bronze Ages in much of Transjordan (contrary to the findings of our excavations; see also SAUER 1986). However, there was almost complete agreement between Glueck and later scholars as regards the overall nature of Tell Abu al-Kharaz: it was considered a multiperiod site with remains mainly from a period extending from the Early

Bronze to the Iron Ages. There were also indications of occupation from Roman to Islamic periods, in particular on the upper part of the tell. The summarized and roughly quantified results of our survey in 1989 showed that the most abundant pottery was from the Early Bronze Age I and II, followed by pottery from the late Middle and Late Bronze Age and the entire Iron Age, and then by Late Roman/Byzantine and Islamic, mainly Abbasid, pottery. This picture has been to a large extent verified by the subsequent excavations.

#### THE POSSIBLE BIBLICAL IDENTITY OF TELL ABU AL-KHARAZ

GLUECK (1951: 268–275) devoted special attention to the discussion of whether Tell Abu al-Kharaz or Tell al-Maqbarah, located further east along the Wadi al-Yabis, was the biblical site of Jabesh Gilead (mentioned in the Old Testament in I Sam. 11:1–13; 31:10–13; II Sam. 2:5–6; 21:12; I Chron. 10:11–12; Judges 21:8–14). He followed the common practice of the past of discussing the Biblical identity of sites in the “Holy Land” which had been surveyed or which were under excavation. Jabesh Gilead is cited frequently in the Old Testament, for example in connection with King Saul’s and King David’s battles against the Philistines and Ammonites, which may correspond approximately to the 11th/10th centuries BCE. In the light of his conclusions a positive identification of Tell Abu al-Kharaz with Jabesh Gilead was made. He expresses some valid points, but it is obvious that only further archaeological or historical evidence could support his theory (see the extended discussion in Chapter 5: Written Sources, Administration and Politics).

#### THE AIMS OF THE PROJECT

There are numerous field projects, including our project at Tell Abu al-Kharaz, which have started with surveys and excavations with certain objectives but where findings during the course of the project have resulted in spin-off activities which have modified the original aims. Therefore the original aims will be presented, followed by new objectives which have arisen as a consequence of the excavations.

The original aims of the project were:

1. to locate by means of surveys a site where connections with other cultures of the Eastern Mediterranean are likely to have existed
2. to find a site which in addition to satisfying aim no. 1 has a long sequence of occupation in order to provide material for chronological studies

3. to study the various occupational periods of this site in order to shed light on the life style of its inhabitants and their habitat
4. to establish a reliable absolute chronology of the various periods of the site based on radiocarbon dating, and, if possible, dendrochronology and other methods
5. to establish a reliable relative chronology of the various periods of the site based on parallels from other Eastern Mediterranean cultures
6. to establish this site's local, regional and international interactions
7. to investigate the site by means of limited excavations aiming to obtain maximum information allowed by the constraints of time and finance, i.e. the thorough and complete stratigraphical investigation of small areas spread over the occupied area of the tell
8. to leave as much as possible of the site untouched in order to make it possible for future generations to apply new methods during the course of renewed excavations
9. to preserve important archaeological remains
10. to launch field schools during the campaigns
11. to seek international cooperation in regard to participants and scholars and the processing of special groups of finds or any other specialist study
12. to submit instantly preliminary reports after each season; to present special studies of important finds in international journals without delay after their discovery; and to submit popular reports on the project to international journals which also reach a wider lay public (see list of publications at the end of this chapter).

Additional aims formulated as the project progressed were:

1. the study of the intercultural relationship between Tell Abu al-Kharaz and Egyptian cultures during the first part of the Early Bronze Age because of the presence of Egyptian-imported finds at the site (see FISCHER 2008a)
2. the study of Chocolate-on-White Ware and its subgroups from the late Middle and the Late Bronze Ages, which turned out to be very well represented at Tell Abu al-Kharaz, and to contribute to the solution of the enigma of the provenance of this fine table ware (see FISCHER 2006a, b)

3. the petrographic study of Early, Middle and Late Bronze Age wares
4. the integration of the Early Bronze Age finds into ARCANE,<sup>5</sup> which is an international project financed by the European Science Foundation (ESF). Its aim is to establish a reliable chronology for the cultures of the Eastern Mediterranean and the Near East during the fourth and third millennia BCE
5. the integration of the project into SCIEM2000<sup>6</sup> in order to synchronize the site, in relative and absolute terms, with other cultures in the Eastern Mediterranean during the second millennium BCE
6. the study of the Iron Age sequence, and the Iron Age chronology.

### The Selection of the Areas of Excavation

#### *Area 1 (1989, 1995, 1996)*

Back in the 1940s Glueck observed traces of a “fortification wall”, which “once had completely surrounded the flattish top of the hill”, with a possible Iron Age I/II date (GLUECK 1951: 263–266). He also suggested the possible presence of a stone glacis built against it (southern slope). Verification of the presence of a defence system and its date was considered to be one of the main tasks of the 1989 campaign. In order to investigate the architecture, which was visible on the surface (FISCHER 1991: 69), trial soundings were taken in the south-west corner of the plateau of the upper tell (*idem*: 1991). The soundings included, with ample margins, areas to the north and south of the visible architecture (1989: Trench I – Grid QQ30,<sup>7</sup> Trench II – PP30, Trench V – PP31, Trench VI – NN31). The presence of city walls from different periods (Early Bronze to Iron Age) and a casemate system from the Late Bronze Age was verified. The area was later extended to the north along a steep slope in order to investigate the architecture inside the defence system (1995: Trenches XXVI–XXVIII; 1996: Trenches XXIX and XXX (the trenches from 1995 and 1996 are in MM/NN/PP28/29/30; *idem*: 1997a, b).

#### *Area 2 (1989, 1991–1993, 1995, 1997)*

Trial soundings below the west part of the upper tell plateau on the slope leading to the rock ribbed western façade of the Tell, which faces the Jordan Valley, were made in order to establish the occurrence and duration of occupation of the lower part of the tell (1989:

<sup>5</sup> The author is a member of the steering committee of ARCANE.

<sup>6</sup> The author was responsible for Jordan and Palestine.

<sup>7</sup> See the description of the grid system below.



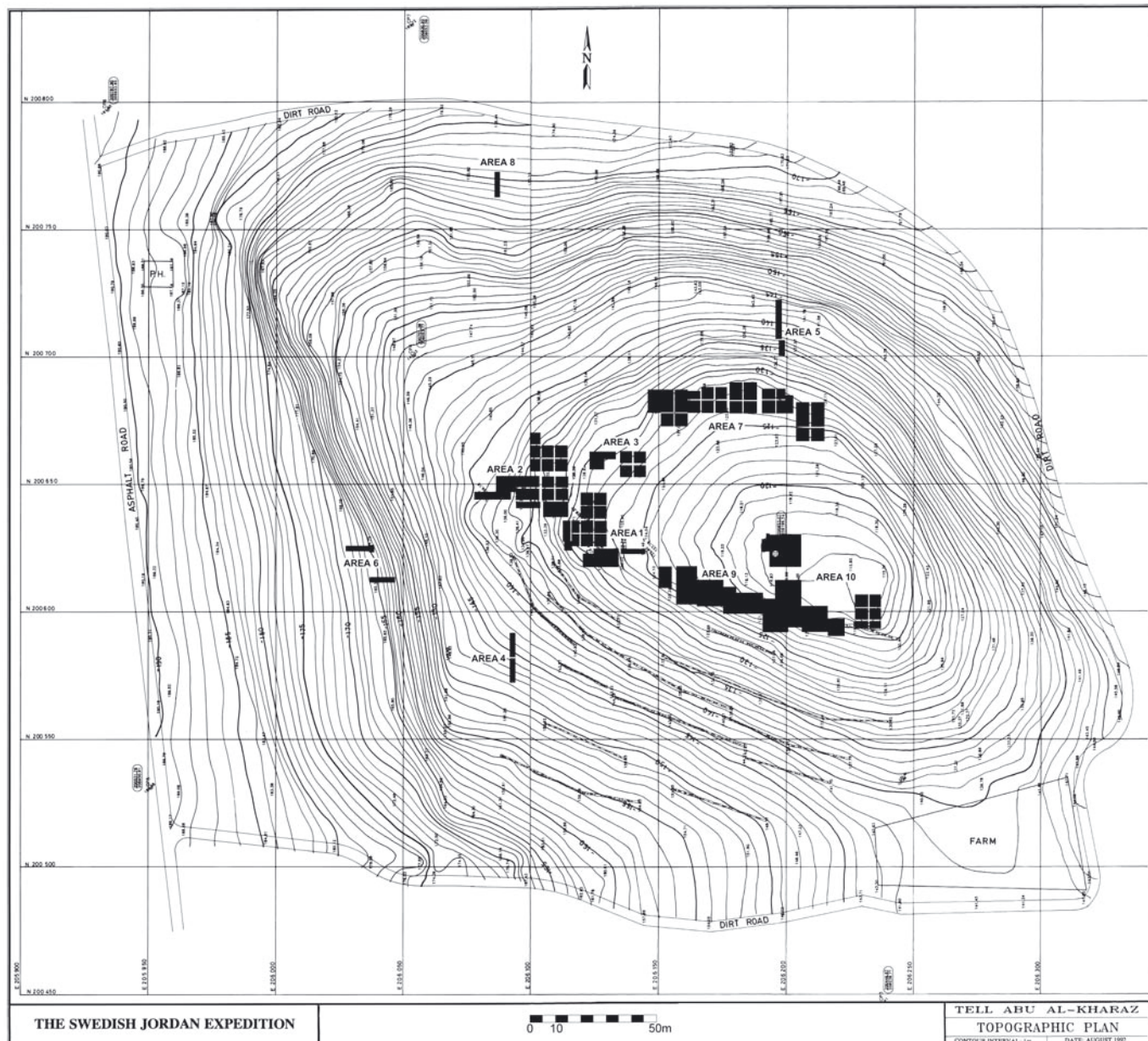


Fig. 8 Tell Abu al-Kharaz: Topographical map with areas and opened trenches included

Trench III – MM29, Trench IV – LL29, *idem*: 1991). Area 2 was later extended in order to expose more of the partly excavated Late Bronze Age temple, which was discovered in 1989, and to date the entire occupational sequence of this part of the tell (1991–1993: Trench VII – MM28, Trench VIII – LL28, Trench IX – KK28, Trench X – JJ28; 1997: Trenches XXXIV, XXXVII and XXXVIII, all in LL/MM26/27, *idem*: 1993a, b, 1994a, b, 1995a, b, 1998a, b).

#### *Area 3 (1992, 1998)*

This area lies to the north of Area 1 and to the east of Area 2. The main objective of the excavation in this

area, which lies on the path from the northern ascent of the tell to the summit plateau, was to compare the stratigraphy there with the results obtained in Area 2 and in due course to connect Areas 1–3 (1992: Trench XI – QQ27, Trench XII – PP27, *idem*: 1994a, b; 1998: Trench XLIII – NN/PP27, *idem*: 1999a).

#### *Area 4 (1993)*

Trial trenches were opened on the southern, gently sloping, part of the tell outside the defence walls in order to verify a possible glaciis or occupational remains outside the city walls (1993: Trench XIII – KK34; Trench XIV – KK35, *idem*: 1995a).



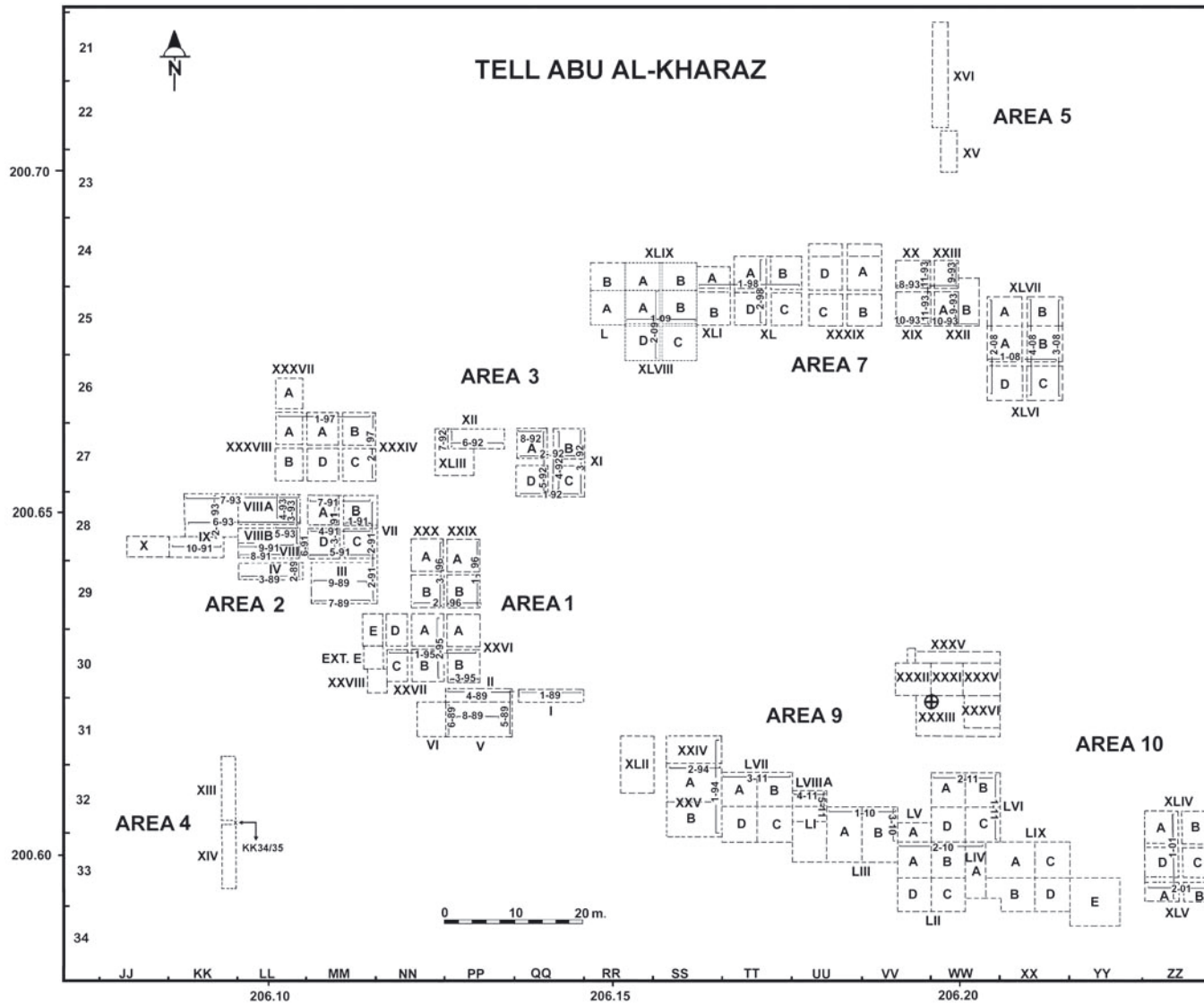


Fig. 9 The site's grid system in relation to the Palestinian Grid System. The summit (in Trench XXXIII), areas of excavation, the trenches (Roman numerals), the sub-trenches (capital letters) and the drawn sections (shown in consecutive numbers followed by the year of excavation) are indicated

#### *Area 5 (1993)*

Trial trenches were opened on the northern steep slope with emphasis on occupation and/or tombs (1993: Trench XV – WW22/23, Trench XVI – WW21/22, *idem*: 1995a).

#### *Area 6 (1993)*

Trial trenches were opened on the steep rocky western slope, which faces the Jordan Valley, in order to investigate two caves, which may have been used for burials (1993: Trench XVII – EE30, Trench XVIII – FF31, *idem*: 1995a).

#### *Area 7 (1993, 1994, 1997, 1998, 2008, 2009)*

Regular trenches were opened on the quite flat northern part of the tell, which lies just below the upper plateau. It was assumed that this rather flat part of the tell was convenient for building activities, which has been confirmed and which has led to a decision to extend the area towards the west. The aim was to investigate the occupational sequence in this part of the tell (1993 and 1994: Trench XIX – VV25, Trench XX – VV24, Trench XXII – WW25, Trench XXIII – WW24, *idem*: 1995a, b, 1996a, b; 1997: Trench XXXIX – VV/UU24/25, *idem*: 1998a, b; 1998: XL and XLI – SS/TT24/25, *idem*: 1999a; 2008: Trenches

XLVI and XLVII in WW/XX25/26, FISCHER and FELDBACHER 2009; 2009: Trench XLVIII – L in RR/SS24–26, *idem*: 2010).

*Area 8 (1993)*

A trial trench was opened just below the tell to the north-west with the emphasis on occupation and/or tombs (1993: Trench XXI – KK16, FISCHER 1995a).

*Area 9 (1994, 1995, 1998, 2009–2012)*

The main objective of the investigations on the southern edge of the upper plateau of the tell was the search for the continuation of the defence system in Area I. This part of the tell is the most vulnerable sector of the site. It was assumed that it must therefore have been particularly well fortified. In addition, the area was opened in order to find early Iron Age remains (1994: Trenches XXIV – SS31 and XXV – SS32, *idem*: 1996a, b; 1998: Trench XLII – RR31/32, *idem*: 1999a; 2009–2012: Trenches LII–LIXE – TT–YY32–34, FISCHER and FELDBACHER 2010, 2011; FISCHER 2012a; FISCHER and BÜRGE 2012; *idem*: forthcoming a–d).

*Area 10 (1996, 1997, 2001)*

During the survey in February 1989 crop marks pointed to an almost square building, approximately 10 m × 10 m in area, around the summit of the tell (FISCHER 1991: 69). The statistics of the collected surface sherds pointed to an occupation mainly from the Iron Age and later. The aim of the investigation of this area<sup>8</sup> was to confirm the results of the survey and to establish the occupational sequence of what was thought to represent the area of most recent occupation at Tell Abu al-Kharaz. The parts of the “White Building” exposed in 1996 were further exposed in 1997 (1996: Trenches XXXI–III, *idem*: 1997a, b; 1997: Trenches XXXV and XXXVI, all in VV/WW30/31, *idem*: 1998a, b). During the 2001 season of excavation the south-eastern corner of the plateau was investigated in order to expose what appeared to be a casemate system (2001: Trenches XLIV and XLV, both in ZZ32/33, *idem*: 2005).

**Measuring, Recording and Presentation, and Excavation Techniques**

Electronic distance measuring equipment (total station) is nowadays used at almost all excavations in the area. However, during the late 1980s these devices were only sporadically in use, at least in Near Eastern

excavations. Our reliable equipment, which we used during every season at Tell Abu al-Kharaz from 1989 onwards, consists of Wild’s electronic theodolite Theomat T 1000 and Distomat DI 1000, giving the measured spot in all dimensions.<sup>9</sup> The equipment incorporates a data storage unit, Wild’s GRM 10 REC module. The measuring accuracy was ±5 mm/km. The instrument was used for the following purposes: the topographical survey and maps, including the establishment of the grid system; the staking out of the trenches according to the grid system; the measurement of small finds, loci, architectural remains and strata in all dimensions (cf. FISCHER 1986a: 499–503).

Since all loci (and finds) with their position in relation to predating and postdating loci are plotted in the plans (and sections), a separate “Harris matrix” is not provided. We considered our detailed plans superior to a standard “Harris matrix”, which would have been much easier and less time-consuming to produce compared to our plans which include the exact positions of all loci (and finds) in all dimensions. This can be exemplified as follows: a specific locus is plotted in a well-defined spot on a plan which represents a certain phase of occupation. By comparing the plans of the previous and following phases of occupation one can easily disclose which locus/loci precede this specific locus and which locus/loci follow stratigraphically. The entire *modus operandi* is supported by detailed information in the adjoining tables where the loci and walls are described. In a “Harris matrix” only interrelated numbers can be seen without any precise meaning or possibility of interpretation unless much more recorded material is congregated and studied simultaneously.

The production of the plans and sections was very much facilitated by the total station. However, the devoted work of our surveyors, in particular Muwafaq Al-Bataineh and Elias Markou supported by Teresa Bürge, played the main part in enabling the topographic maps, plans, sections and object drawings, which document the remains of the Iron Age of Tell Abu al-Kharaz, to be included in the present volume.

The documentation is distributed as follows:

- 3 topographical maps including a general overview which shows the position of all the trenches and sections
- 41 plans of the seven phases of Iron Age occupation which were exposed in six areas, namely Areas 1, 2, 3, 7, 9 and 10

<sup>8</sup> Area 10 includes the entire flat summit plateau of the tell.

<sup>9</sup> This total station can only be handled by two persons.



- 57 drawings of the sections in the six areas
- 7 overviews, which correspond to the seven Iron Age phases, with each overview showing a specific phase of occupation in all areas, and one general overview where all the other overviews are compiled
- 153 plates of object drawings and 54 plates of pottery typology in addition to other drawings and photographs.

All altitudes of finds, loci, architectural remains etc. on the plans and sections are indicated in metres below the summit of Tell Abu al-Kharaz, which is equal to the site's Zero Level (which in absolute figures is actually 116.00 m below mean sea level).<sup>10</sup>

A number of Electromagnetic Very Low Frequency (VLF) detectors were utilized throughout the excavations.<sup>11</sup> VLF detectors have been used by the author in excavations since the second half of the 1970s. The advantages of such instruments in conjunction with conventional and careful excavation are well-documented (FISCHER 1980a: 479–484; 1980b: passim). The detectors can be used for the discovery of metal objects that are otherwise very difficult or sometimes impossible to find (e. g. small beads encrusted with soil; lead objects which often look like stones; very corroded objects which often cannot be distinguished from “soil” with the naked eye etc.). These devices indicated the presence of artefacts and allowed the definition of size and shape before the object was brought to light: extreme care could therefore be taken during excavation, obviating possible damage to the object, when the size and its depth were known in advance. The detectors also made it possible to discover non-metallic objects and features, for example ceramics, ash, minerals and changes in soil type and structure, which allowed a more precise differentiation between differ-

ent features and strata prior to excavation. It was the policy of the author during the entire project never to start to excavate a new stratum or a new locus before the surface had been surveyed with a VLF detector. An electrical resistivity survey was performed in 1991 in Area 2 by I. Hedley (see below) and a magnetometer was used sporadically.<sup>12</sup>

The size of a regular trench was 10 m × 10 m when so allowed by the topography. Each trench was subdivided into four sub-trenches, which were often (but not always) separated from each other by baulks, usually 0.5 m wide. Wider baulks were left between the trenches because of erosion and looting when excavations continued in the following year. As soon as the stratigraphy of an area was established baulks were used only occasionally. Conventional excavation techniques, including the use of sieves and dry-sieving<sup>13</sup> and the use of vacuum cleaners, were complemented with the sampling of soil from each stratum and from essential loci for flotation of plant remains.

All pottery was collected. Charcoal samples from all strata and crucial loci were taken for radiocarbon accelerator dating. All bones, teeth and shells were collected for classification and various analyses. Other samples collected included additional organic remains, minerals, pigments, and man-made items. A portable petrographic laboratory (*ad modum* Y. Goren) was used occasionally in advance of the conventional petrographic analysis in the laboratory.

Laptop computers together with a database software were utilized. Each day's records (loci, strata, finds etc.) were filed in the database, facilitating relatively fast processing and searching. Various databases were used during the progress of the excavations.<sup>14</sup> A number of analogue cameras were used for

<sup>10</sup> An example: a find on a plan has the height of –12.34 m. This means that the find was discovered 12.34 m below the summit of the tell, but its absolute level would then be –128.34 m mean sea level (–116 m minus 12.34 m). The advantage with this system is obvious: more exact measurements in the future may change the figure for the absolute height of the summit of the site but this will not have any effect on the measurements of our findings since they have been carried out in relation to the height of the summit.

<sup>11</sup> These devices are erroneously also called “metal detectors”. The VLF detectors which were used during the project are superior in all respects to simple “metal detectors” because they can indicate a number of different materials in addition to finds of metal, the nature of which can also be indicated.

<sup>12</sup> The use of these devices within the area of occupation of the tell was of limited value. They usually indicated architectural remains from the most recent occupational phase

(down to approximately 1–2 m), i.e. normally remains from the Iron Age, but the deeper structures were not indicated.

<sup>13</sup> Wet-sieving was not possible due to shortage of water.

<sup>14</sup> The database, which was modified by the author, is based on a program which was originally developed by Scandinavian PC Systems in 1988 (Register I). The program was used virtually unchanged during the first years of the project except for an update to Register III in 1992. It turned out that this software is not compatible with modern databases, for instance, Microsoft Access-based databases or “Stony Brook Modula-2”, the latter of which was used by the author during the project at Tell el-‘Ajjul in 1999 and 2000 (FISCHER and SADEQ 2000; 2002). In order to make the various databases compatible all information was transferred into an Excel-based database which is the currently used database: although quite simple it has the advantage of easy handling in principle by all participants, i.e. also by persons not used to the programming of databases.

the photographic documentation from 1989 to 1998: i.e. on all occasions when a find or a context was photographed, shots were taken with black-and-white film, colour film and slides, but after 1998 only digital cameras were used. Following sporadic use of video equipment in earlier seasons, the 2001 and 2008–2012 seasons were recorded thoroughly on video.

A conventional diary for the recording of the findings during the field work was kept by each trenchmaster, who was in charge of a sub-trench of 4 m × 4 m. Each diary includes – on a day-by-day basis – all field observations, rough sketches, a register of the containers and bags, discussions and working hypotheses, photos taken etc.

Finds were classified using a four-class system:

*Find class 1* (defined as such in the field): this group includes all finds with N ... numbers on the plans and sections;<sup>15</sup> these finds are usually complete or almost complete objects of any material. The find spot is recorded with the total station and the find is plotted on the relevant plan as N... with the altitude below the site's summit. These finds are drawn, and the description is in the catalogue of finds in the chapter "Stratigraphy" and elsewhere. This find group is also listed for registration and storage by the Department of Antiquities of Jordan.

*Find class 2* (usually defined as such after cleaning and during pottery/find reading, or occasionally already in the field): these are all finds with a hyphen and a number in connection with a certain locus (L), e.g. ...L108-4 means find number 4 in Locus 108. This find group includes diagnostic sherds and/or restored vessels of major importance. The find spot is recorded with the total station and the object is occasionally plotted on the relevant plan with the altitude below the site's summit. These finds are all drawn, and the description is in the Catalogue of Finds.

*Find class 3*<sup>16</sup> (defined as such after cleaning and during pottery/find reading): e.g. diagnostic sherds which can provide the shape of a vessel, sherds with pot marks or decoration, or other incomplete finds. They are counted and described within each locus. They are occasionally drawn if they derive from a crucial locus. They do not appear on the plans.

*Find class 4* (defined as such during pottery readings or cleaning procedures): e.g. non-diagnostic sherds, often body sherds without decoration or other

non-diagnostic finds. They are counted and described within each locus but they are not drawn and not on the plans.

### Nomenclature

Grid system: the entire area including Tell Abu al-Kharaz and Tell al-Maqbarah was divided into 10 m × 10 m squares (62 × 44 squares), labelled from A–Z, AA–ZZ and a–l in the west-east direction, and from 1–44 in the north-south direction (see FISCHER 1991: 71, fig. 2).

Area: Area plus numerals means a collection of adjoining trenches.

T = Trench: a trench with a specific Roman number is defined by a 10 m × 10 m square (the maximum size of a certain trench) whenever the topography allows. The numbering is consecutive regardless of area or year of excavation. A 10 m by 10 m Trench is divided into four sub-trenches labelled T "Roman number" with the suffixes A–D. Extensions have the suffix E.

N = N and a running find number regardless of area or year of excavation is used for all Class 1 finds (see above). In the plans the N... numbers appear together with their altitudes below 0-point (summit).

(-) = Altitudes are given in metres. All altitudes of finds and structures are given in relation to the summit of Tell Abu al-Kharaz which is considered as the prime fix point of the site at ±0.00 m (but actually -116.00 m mean sea level).

L (with encircled numerals on the plans) = Locus: i.e. a limited feature within a stratum, for example, a pit, a hearth, a work bench, a spot of ash etc, but not walls (see below); loci are labelled by serial numerals within each Area.

W = Wall; walls have their own serial number system with the prefix W ... within the entire tell area regardless of area or year of excavation, i.e. they are separate from the serial and area-dependent numbers of the loci.

S = Stratum; this term is not used in the final report. Stratum should only be considered as a term of convenience which was used during the field work and in the preliminary reports. Stratum is equivalent with a level of occupation within each trench or sub-trench regardless of the area and numbered as it was exca-

<sup>15</sup> A few, important, objects received N... numbers during pottery reading and not directly in the field. These objects are usually not plotted on the plans and sections.

<sup>16</sup> It has been mentioned that the finds of Find Classes 3 and

4 are not measured with the total station. However, they are always associated with a specific locus, the extension and level of which is always measured with the total station.



vated. In the alphanumeric code (see below), which was used in the preliminary reports, the numeral after the Roman trench number is the stratum number (without prefix “S”). Almost all excavations at Tell Abu al-Kharaz took place on slopes with an intricate stratigraphy quite different from that in flat areas. This means that the stratum numbers from different areas or trenches or even sub-trenches cannot be compared with each other in the preliminary reports: certain “strata” may be missing in some trenches because of, for example, varying erosion or a particular topography. The numbering system was slightly modified in the preliminary excavation reports from the 1995 season of excavation and onwards, in that it was decided that Stratum 1 and sub-divisions into A, B etc. would be reserved for the periods from the Iron Age onwards, Stratum 2 and sub-divisions into A, B etc. for the Middle and Late Bronze Ages, and Stratum 3 and sub-divisions into A, B etc. for the Early Bronze Age. The stratum number is omitted from the alphanumeric code in this publication in order to avoid confusion.

**Alphanumeric code:** This code was completed in order to fit our database and to contain as much information as possible in the alphanumeric code alone. Example of Find Class 1: K 93 (T)VIII B L412 N832, i.e. (Tell Abu al-) Kharaz – 1993 (year of excavation) – Trench VIII subdivision B – Locus 412 – (Find) Number 832; example of Find Class 2: K 94 (T)XXII B L104-4, i.e. that this find is the fourth find of its kind in Locus 104; the code for the Find Classes 3 and 4 ends with the locus number, i.e. these finds are subordinate to a certain locus.

### Legends

The pattern for the various soil types and features in the drawings of the plans and sections can be seen in Fig. 10.

The colour symbols for the various colours of the pottery can be seen in Fig. 11. In the description of single vessels colour tables, for instance Munsell’s which in fact refers to the colours of unfired soil, are not used: our tests have shown that different people may use different colour codes to designate the same fabric, slip or decoration (FISCHER 1999b: 4). When the slip of open vessels is described it is always on both the exterior and the interior unless otherwise stated. The pattern of the burnish on the vessel is always horizontal, and the decoration is always matt unless otherwise stated.

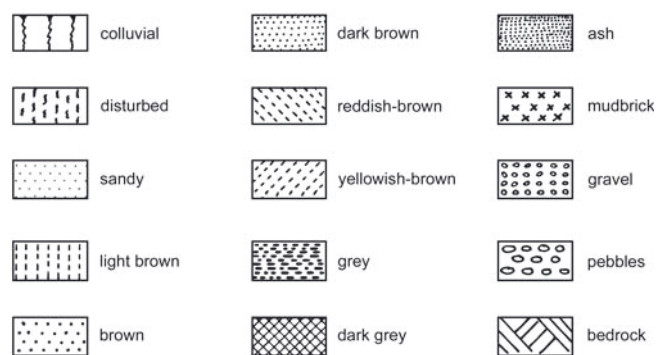


Fig. 10 The soil types

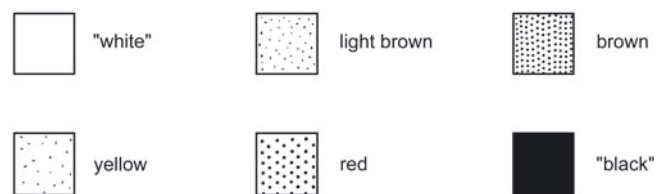


Fig. 11 The colours of the pottery

### Vessel volumes

The volumes of all vessels of which the profile is complete or almost complete were measured. The results are based on a programme which was originally provided by J.-P. Thalmann in 2003 and then continuously modified.<sup>17</sup> The measured volumes are the total volumes of the vessels, i.e. from the bottom of the vessels to the uppermost part of the rim.<sup>18</sup> The volumes of partially complete profiles are estimated and recorded in italics. The relevant figures in litres can be found in Chapter 3 “The Pottery: Typo-Chronological Conclusions”.

### The Annual Excavation Teams

1989, October – November

Peter M. Fischer, director

Hikmat Ta’ani, representative of the Department of Antiquities; area supervisor

Jörgen Ernstson, area supervisor

Lotta Holm, area supervisor

Elias Markou, architect and draughtsperson

Tony Bergstrand, photographer

Badri Madri Abu Issa, logistics

<sup>17</sup> I wish to thank J.-P. Thalmann for making his programme available.

<sup>18</sup> The total volume of a vessel is not equivalent with the usable volume of a vessel which was filled with a liquid.

Hassan Rahmi Abu Sami, logistics  
30 local workers<sup>19</sup>

Ghazi Bisheh, Director General of the Department of Antiquities of Jordan<sup>20</sup>  
Sultan Shreidah, District Director of the Department of Antiquities of Jordan

1991, September – November  
Peter M. Fischer, director  
Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
Richard Holmgren, trench master  
Linda Mol, trench master  
Anica Tanevska, trench master  
Eva Toivonen-Skage, trench master  
Jonas Robertsson, assisting trench master (part-time<sup>21</sup>)  
Elias Markou, architect  
Lamia Khoury, draughtsperson  
Sara Fritsch, conservator  
Ian Hedley, geophysicist  
Badri Madri Abu Issa, logistics  
Hassan Rahmi Abu Sami, logistics  
25 local workers

Safwan K. Tell, Director General of the Department of Antiquities of Jordan  
Sultan Shreidah, District Director of the Department of Antiquities of Jordan

1992, October – November  
Peter M. Fischer, director  
Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
Mohammed Darwish, trench master  
José Gallart, trench master  
Richard Holmgren, trench master, photographer, draughtsperson  
Torbjörn Jansson, trench master  
Hussein Mahmoud Ali, assistant trench master  
Laila Quutami, assistant trench master  
Elias Markou, architect and draughtsperson  
Ismail Melhem, participating part-time  
Nedal Hindawi, participating part-time  
Abbas Khammash, surveyor  
Badri Madri Abu Issa, logistics  
Hassan Rahmi Abu Sami, logistics

<sup>19</sup> Throughout all seasons the majority of the workers came from Tabaqat Fahil and Mashare'a; some came from the area between Mashare'a and Yabis. The numbers of workers are average numbers during a season.

<sup>20</sup> Directors General or the District Directors of the Department of Antiquities of Jordan did not participate in the

25 local workers

Safwan K. Tell, Director General of the Department of Antiquities of Jordan  
Sultan Shreidah, District Director of the Department of Antiquities of Jordan

1993, October – November  
Peter M. Fischer, director  
Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
Anna Berggren, trench master  
José Gallart, trench master  
Margrét Hermanns-Audardóttir, trench master  
Richard Holmgren, trench master, photographer and draughtsperson  
Torbjörn Jansson, trench master  
Linda Mol, trench master  
Jessica Randén, trench master  
Lilian Weman, trench master (part-time)  
Elias Markou, architect and draughtsman  
Badri Madri Abu Issa, logistics  
Hassan Rahmi Abu Sami, logistics  
Aladin Yousif Hasan, logistics  
20 local workers

Safwan K. Tell, Director General of the Department of Antiquities of Jordan  
Sultan Shreidah, District Director of the Department of Antiquities of Jordan

1994, September – November  
Peter M. Fischer, director  
Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
José Gallart, trench master (part-time)  
Madlaine Miller, trench master  
Dieter Vieweger, trench master  
Anders Kaliff, assisting trench master (short-time)  
Richard Holmgren, architect and draughtsperson  
Hussein Debajeh, photographer  
Hassan Rahmi Abu Sami, logistics  
20 local workers

Faisal Al-Qudah, acting Director General of the Department of Antiquities of Jordan  
Sultan Shreidah, District Director of the Department of Antiquities of Jordan

excavations but kindly provided the permits and other logistics.

<sup>21</sup> "Part-time" is mentioned only in connection with the field work. Other personnel participated before, during and after the excavations, for example, during preservation and conservation work, in connection with special studies etc.



- 1995, September – October  
 Peter M. Fischer, director  
 Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
 Susan Gomzi, trench master  
 Christopher König, trench master  
 Dieter Vieweger, trench master  
 Sara Viklund, trench master  
 Abdulah Ahmed Khrasat, assisting trench master  
 Muwafaq Al-Bataineh, architect  
 Lamia Khoury, draughtsperson  
 Hussein Debajeh, photographer  
 Ahmad Faris Juddeh, logistics Deir Alla  
 Umm Salem, logistics, Deir Alla  
 25 local workers  
 Ghazi Bisheh, Director General of the Department of Antiquities of Jordan  
 Sultan Shreidah, District Director of the Department of Antiquities of Jordan
- 1996, March – April  
 Peter M. Fischer, director  
 Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
 Susan Gomzi, trench master  
 Kristian Göransson, trench master  
 Helena Ingemarsdotter, trench master  
 Jennifer Randolph, trench master  
 Muwafaq Al-Bataineh, architect  
 Lamia Khoury, draughtsperson  
 Hussein Debajeh, photographer  
 Hassan Rahmi Abu Sami, logistics  
 25 local workers assisted by Michael Fischer and Björn Dahlöf  
 Ghazi Bisheh, Director General of the Department of Antiquities of Jordan  
 Sultan Shreidah, District Director of the Department of Antiquities of Jordan
- 1997, April – May  
 Peter M. Fischer, director  
 Hikmat Ta'ani, representative of the Department of Antiquities; area supervisor  
 Anna Ekström, trench master  
 Salameh Faiad, trench master  
 Stina Orsenmark, trench master  
 Monika Stolfer, trench master  
 Anica Tanevska, trench master  
 Muwafaq Al-Bataineh, architect  
 Nawal Hawari, draughtsperson  
 Hussein Debajeh, photographer  
 Friedrich Zink, conservator  
 Abu Haider, logistics  
 25 local workers
- Ghazi Bisheh, Director General of the Department of Antiquities of Jordan  
 Sultan Shreidah, District Director of the Department of Antiquities of Jordan
- 1998, April – May  
 Peter M. Fischer, director  
 Hikmat Ta'ani, area supervisor  
 Salameh Faiad, representative of the Department of Antiquities; trench master  
 Michael Cummins, trench master  
 Kristian Göransson, trench master  
 Mats Johansson, trench master  
 Muwafaq Al-Bataineh, architect and draughtsperson  
 Hussein Debajeh, photographer  
 Hassan Rahmi Abu Sami, logistics  
 20 local workers  
 Ghazi Bisheh, Director General of the Department of Antiquities of Jordan  
 Wajeeh Karassneh, District Director of the Department of Antiquities of Jordan
- 2001, March – April (Euro-Mediterranean Camp in Honour of the late King Hussein of Jordan)  
 Peter M. Fischer, director  
 Hikmat Ta'ani, area supervisor  
 Jihad Haron, representative of the Department of Antiquities; trench master  
 Muwafaq Al-Bataineh, architect and draughtsperson  
 Bruce Hartzler, photographer  
 Craig Mauzy, photographer  
 Trench masters:  
 Samir Kheloufi, Algeria; Christian Frébutte, Belgium; Rubina Raja, Denmark; Ezzat Mohamed Mahmoud Ramadan, Egypt; Audrey Guichon, France; Fabien Isnard, France; Connie Kelleher, Ireland; Asma Al-zebdeh, Jordan; Adnan Naqrash, Jordan; Ra'd Al Yhea, Jordan; Romel Ghryeb, Jordan; Yosha al A'mri, Jordan; Ra'eda Abdalla, Jordan; Sufyan Mohammad all Karemh, Jordan; Halima Naji, Morocco; Mohamed Belatik, Morocco; Hella Suzanne Hollander, Netherlands; Maria Manuella de Deus, Portugal; Maria Bartolich, Sweden; Clara Blennow-Nilsson, Sweden; Maria Lowe, Sweden; Mouna Hermassi, Tunisia; Mustafa Okan Cinemre, Turkey; Pinar Cilesiz Ermis, Turkey; and Daniel Swift, UK.  
 6 local workers  
 Representatives from the Museum for Mediterranean and Near Eastern Antiquities, Stockholm, Sweden:  
 Sanne Houbby-Nielsen, director  
 Suzanne Unge Sörling, curator  
 Fawwaz Al-Khreyshah, Director General of the Department of Antiquities of Jordan

Wajeeh Karassneh, District Director of the Department of Antiquities of Jordan

2008, September – October

Peter M. Fischer, director

Rainer Feldbacher, assistant field director

Hikmat Ta'ani, area supervisor

Muwafaq Al-Bataineh, architect and draughtsperson

Ismaeel Melhem, representative of the Department of Antiquities

Michaela Rinner, trench master

Martina Schmidl, trench master

Christine Wenger, trench master

Salim Suleiman Musa, transportation

Khalid Mohammad Dheeb, logistics

12 local workers

Fawwaz Al-Kraysheh, Director General of the Department of Antiquities of Jordan

Ismaeel Melhem, District Director of the Department of Antiquities of Jordan

2009, September – October

Peter M. Fischer, director

Rainer Feldbacher, assistant field director

Hikmat Ta'ani, area supervisor

Muwafaq Al-Bataineh, architect and draughtsperson

Khalid Janaideh, representative of the Department of Antiquities

Eva Björkander-Mannheimer, trench master

Michaela Rinner, trench master

Simone Schedl, trench master

Sheba Schilk, trench master

Katarina Nordström, assistant trench master

Musa Mohammed Ahmad, transportation

Khalid Mohammad Dheeb, logistics

15 local workers

Fawwaz Al-Kraysheh, Director General of the Department of Antiquities of Jordan

Ismaeel Melhem, District Director of the Department of Antiquities of Jordan

2010, September – October

Peter M. Fischer, director

Rainer Feldbacher, assistant field director

Hikmat Ta'ani, area supervisor

Muwafaq Al-Bataineh, architect and draughtsperson

Mohammed Es-Shalabi, representative of the Department of Antiquities

Jeremy Azzopardi, trench master

David Blattner, trench master

Teresa Bürge, trench master

Linda Franz, trench master

Amanda Gustafsson, trench master

Natalie Monschein, trench master

Mats Pehrson, trench master

Paul Täuber, trench master

Assistant trench masters (part-time) were I. Fischer, L. Längström, R. Lundh, S. Lundh, J. Martinell, S. Martinell, L. Nyström and M. Werngren.

Samir Esbeihat, logistics

Deeb Jawahreh, logistics

Musa Mohammed Ahmad, logistics

10 local workers

Ziad Al-Saad, Director General of the Department of Antiquities of Jordan

Nasser Khasawneh, District Director of the Department of Antiquities of Jordan

2011, September – October

Peter M. Fischer, director

Teresa Bürge, assistant field director

Hikmat Ta'ani, area supervisor

Muwafaq Al-Bataineh, architect and draughtsperson

Ziad Ghnaimat, representative of the Department of Antiquities

Sara Ahmed, trench master

David Blattner, trench master

Corinna Böhm, trench master

Rainer Feldbacher, trench master (part-time)

Frank Luckscheiter, trench master

Sebastian Scherzer, trench master

Annika Pihl, assistant trench master (part-time)

Samir Esbeihat, logistics

Deeb Jawahreh, logistics

12 local workers

Fares Al-Hmoud, acting Director General of the Department of Antiquities of Jordan

Nasser Khasawneh, District Director of the Department of Antiquities of Jordan

2012, September – October

Peter M. Fischer, director

Teresa Bürge, assistant field director

Hikmat Ta'ani, area supervisor

Muwafaq Al-Bataineh, architect and draughtsperson

Rakan Mohammad Odat, representative of the Department of Antiquities

David Blattner, trench master

Jessica van der Does, trench master

Katharina Heiß, trench master

Salim Al-Razzaz, trench master

Klara Sauter, trench master

Samir Esbeihat, logistics

12 local workers

Fares Al-Hmoud, acting Director General of the Department of Antiquities of Jordan



Nasser Khasawneh, District Director of the Department of Antiquities of Jordan

#### PUBLICATIONS

The following publications are related to the Iron Age occupation of Tell Abu al-Kharaz and form the basis of the present volume (all by FISCHER, P.M., unless otherwise stated):

1991

Tell Abu al-Kharaz. The Swedish Jordan Expedition 1989. First Season Preliminary Report from Trial Soundings. *Annual of the Department of Antiquities of Jordan* 35: 67–104.

1993

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1994

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1995

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1996

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1997

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1998

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2001

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2012

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*In press*

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