

THE SECOND SEASON OF EXCAVATION AT AL-MAGAŞŞ-‘AQABA, 1990

by
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Introduction

The second season of excavation took place at al-Magaşş area between January 10 and February 10, 1990. The results of the 1985 season have been published in *ADAJ*, 31, 1987 :481-483; *Dirasat*, 15, 1988, No. 7: 71-117; *SHAJ* IV, 1992:143-148. The excavation was sponsored and funded by the Deanship of the Scientific Research University of Jordan. The staff consisted of Ayish Abu Hilal (Jericho-man), Salam Ardah (assistant-photographer), Kamal al-Sarawi (driver), Nizar al-Turshan (Area B supervisor), Sawsan Fakhiri (Area A and C supervisor), Mayyada Jarallah (Hujayrat al-Ghuzlān supervisor), Ahmed al-Momani, Asma al-Zibdeh, Ibrahim Fayoumi and Abdul Majeed Tahir worked as square supervisors. Three employees of the University of Jordan Archaeological Museum who worked on a part-time basis are Naifeh al-Ajjami, Jumaneh al-Assad and Mohammed Khadir. Also, Franz Josef Reidel of the German Protestant Institute for Archaeology in Amman participated on a part-time basis (architect-surveyor and draftsman). As in the previous season, the excavation was supervised by the writer.

During this season of excavation, work was undertaken at two sites at al-Magaşş area. The name al-Magaşş (Arabic) is given to an entire area near the junction towards ‘Aqaba Airport at Wādī al-Yutum. It comes from the nearby former naming of the train-siding in the local dialect. The two sites at the area are:

1. Tall al-Magaşş which is located about 4 km north of the ‘Aqaba coastline, alongside the road to the ‘Aqaba Airport. Two squares were excavated during the first

season at the site (A1 and B1). Meanwhile, the excavation covered an area of about 120 square meters this season (A1, A2, B1, B2 and C1) (Figs. 1 and 2).

2. Hujayrāt al-Ghuzlān : The Arabic name means small room for deer; it lies some 5 km north of the ‘Aqaba coastline, and about 1.5 km to the east of the above mentioned site, near the mouth of Wādī al-Yutum. The excavation took place this season at two soundings (A1 and A2) which covered 18 squares meters (Figs 3 and 4).

The main aims of the 1990 season were as follows :

1. To continue the excavation in the two squares (A1 and B1) from the previous season and to determine the earliest stratigraphic occupation layers at Tall al-Magaşş.
2. To extend the excavation horizontally in order to understand the relationship between the architectural and stratigraphic features in the different areas at Tall al-Magaşş.
3. To excavate two soundings at Hujayrāt al-Ghuzlān, to determine the chronology of the site and to locate any possible relationship between the site and Tall al-Magaşş.

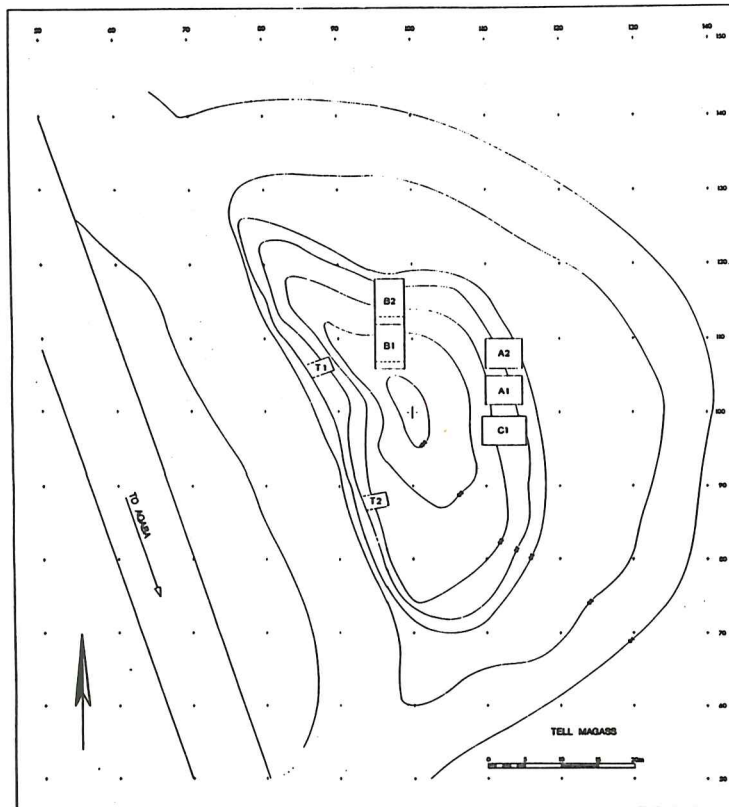
The following account consists of stratigraphy, architecture of different areas and conclusion.

Area A

After cleaning the eroded earth from the balks of A1, it was found that mud surface 27 and pit 25 from the 1985 season¹ had been destroyed by robbers.

It was necessary to excavate the loose

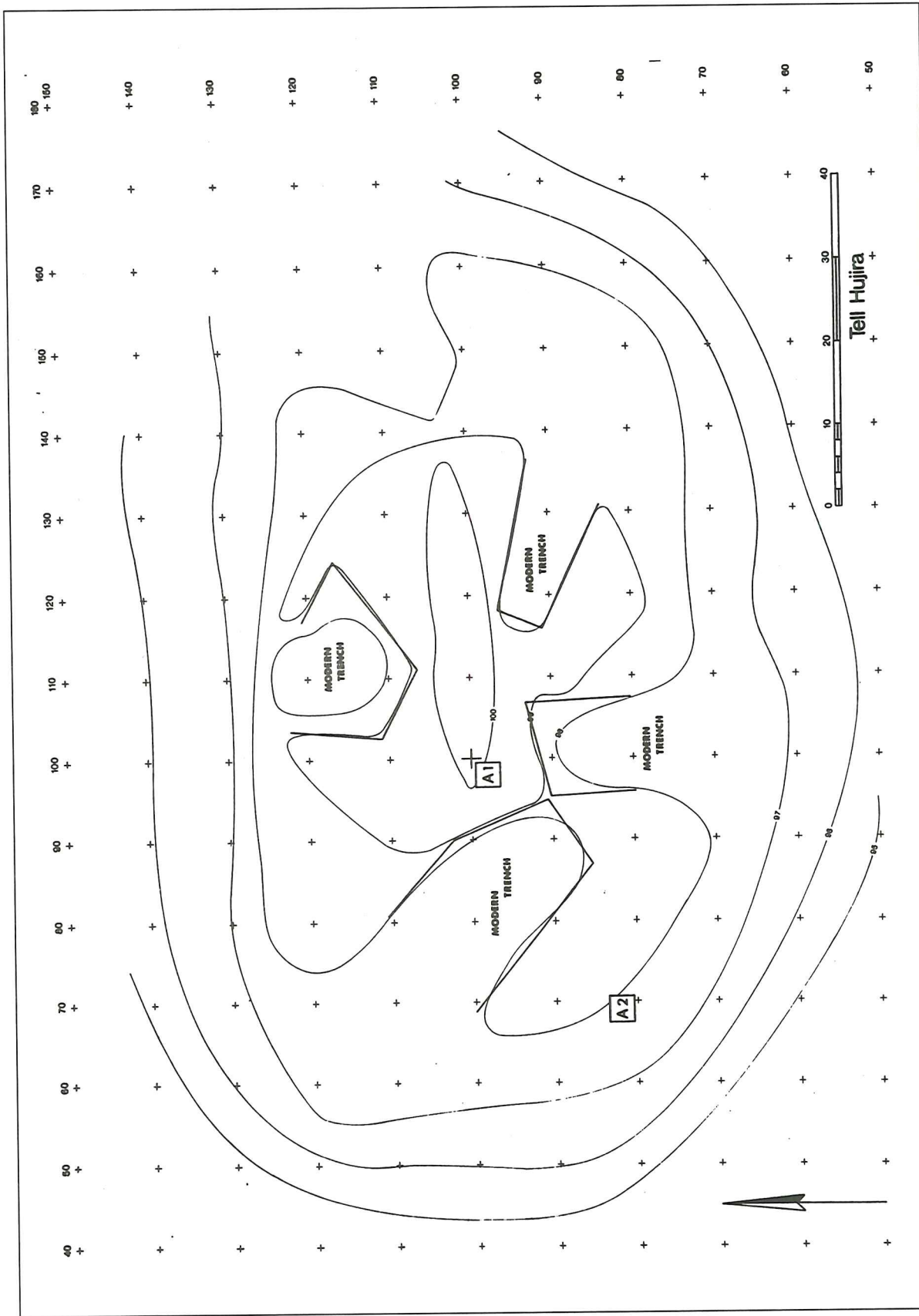
1. L. Khalil, 1988. "Excavation at Magass-Aqaba, 1985," *Dirasat* 15 No. 7: Pl. III.



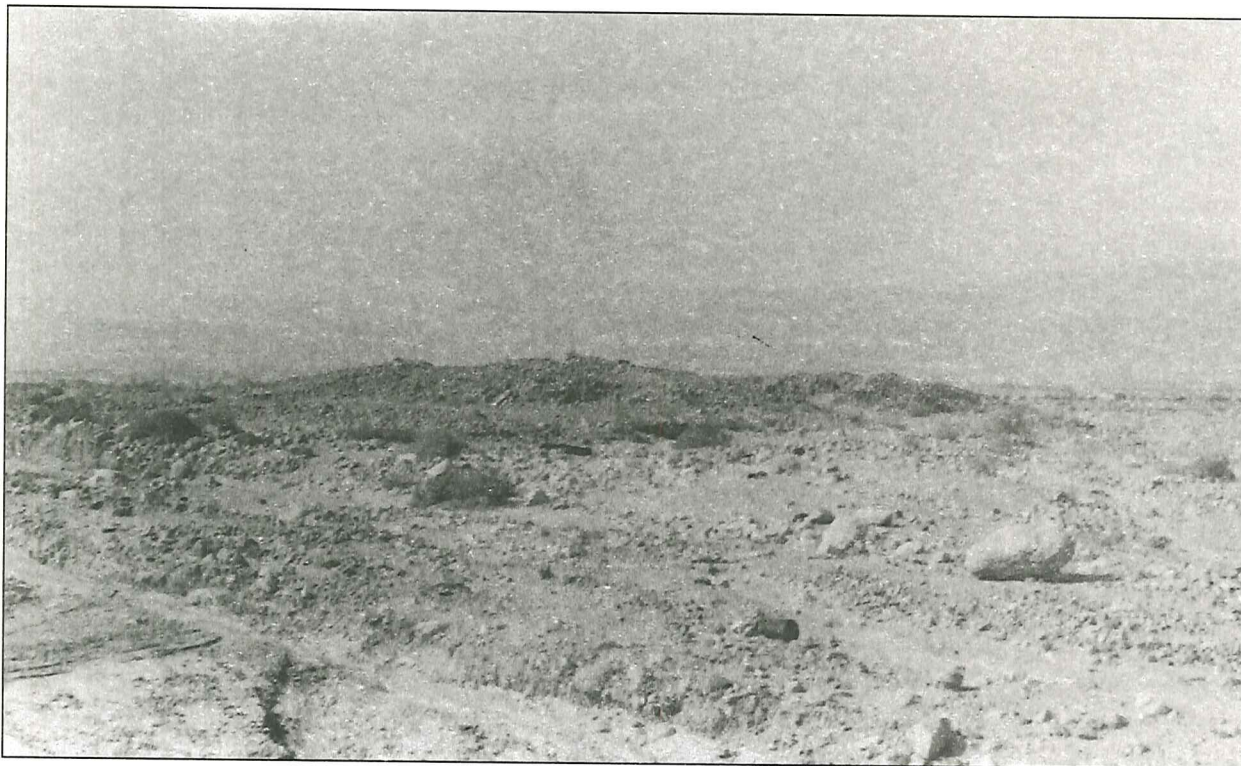
1. Contour map of Tall al-Magaṣṣ, showing the location of the excavated squares.



2. General view of Tall al-Magaṣṣ, looking south-west.



3. Contour map of Hujayrāt al-Ghuzlān, showing the location of the sounding trenches.



4. General view of Hujayrāt al-Ghuzlān looking west.

balk between A1 and A2 for safety reasons, where a pavement of stones at a depth of about 3.5 m was exposed; also, a mud pit was discovered at the same level and to the north-east of the 1985 pit. The pit was round in shape, lined with mud plaster, and its rim was destroyed. Both the stone pavement and the mud pit were on top of an ash layer which lies above the natural alluvial sand and pebbles of Wādi al-Yutum (virgin soil).

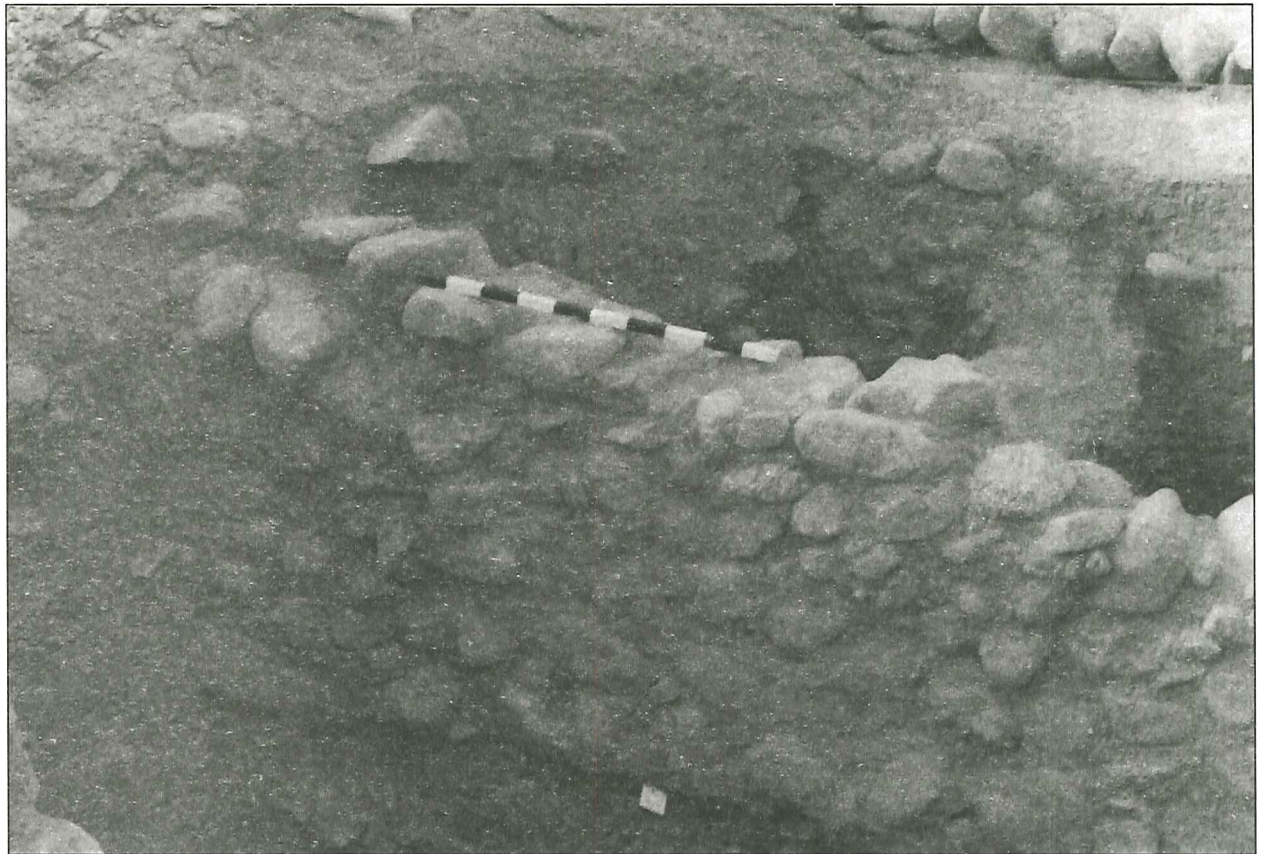
The mud surface 27, wall 26 and pit 25 of the 1985 season, and the stone pavement, the pit and the ash layer beneath them of this season seem to belong to the early phase of occupation at the site. Unfortunately, neither pottery sherds nor other finds were revealed within these loci.

However, the excavated area of this phase is very small. More of this phase had to be excavated to understand the function of the pits, the mud surface and the stone pavement and the relationship between them, and to determine the last stage of oc-

cupation.

Square A2, measuring 4 x 5m, lies north of A1 at the foot of the tall. The top soil consisted of layers of sand increasing towards the east side of the square. Digging beneath the sandy layers, wall 5 was revealed; it ran west-east with five courses of medium sized, undressed stone (Fig.5). No foundation trenches were found, and the lower-most course sat on layers 25-27 which extend towards the southern balk of the square.

Two mud walls 8 and 10 were discovered. They were built against the northern face of wall 5 and they continue to run beneath the northern balk. They are almost parallel and the distance between them is about 1.30 m. The average width is 0.45 m, but wall 5 is widening towards the northern balk where it is joined with stone wall 26 in the north-west corner of the square. More excavation is needed in the nearly northern area to examine the function of the mud walls.



5. Wall 5 with mud wall 8 built against its northern face in A2.

The excavated layers between wall 5 of A2 and walls 3, 8 and 10 of A1 could be considered the latest phase at the area (phase I). Stone wall 5 and mud walls 8 and 10 represent phase II of occupation. Therefore layers 25-27 which were beneath wall 5 represent phase III, and they were excavated above a mud surface, pit, and stone pavement at A1 during the 1985 season.

Excavating the layers between mud walls 8 and 10 revealed different stratigraphy from the layers at the southern face of wall 5. Within these layers, an almost complete v-shaped pottery bowl was found.

Below the foundation level of the mud wall, one row of stone wall 20 was revealed; it ran north-south, and it is similar in style to wall 26 which was near the mouth of pit 25 at A1. Therefore, wall 20 of A2 might relate to the pits and other features of A1 which represent the early stage of occupation at the site (phase IV).

Area C

Square C1 lies in the south-eastern sector of the tell; it measures 4 x 6 m. Excavation revealed many layers of loose sand; the depth of the sand deposit was about 1.70 m sloping towards the east.

The lines of the upper-most course of stone wall 4 were visible during cleaning of the top soil. The wall ran north-south and formed the western balk of the square. During the progress of the excavation, the more sand layers were dug, the more courses of eastern face of wall 4 were exposed.

At a depth of about 1.70m from the top, a dark grey, hard layer 5 was discovered. It contained small lumps of charcoal, fallen stones from wall 4 and various finds; excavating this layer revealed mudbrick wall 6 which was set against wall 4 at a level where the style of the construction of the stone wall changed.

The stones of the 12 upper courses are in

size than the stones of the four lower courses, where perhaps two phases of the wall were distinguished (Fig.6). Mud wall 6 was founded on two courses of stones, its length measures 1.25 m. It is very compact and remains of soot still exist on the mud due to strong fire action.

Abutting onto the eastern side of wall 4 is another mudbrick wall (7); it joined wall 4 at the south side and it curved, forming a semi-circular shape: its length measures 0.95 m and the average width is 7 cm. Medium sized, undressed stones were used in the construction of this wall.

The three architectural elements, stone wall 4, mud wall 6, and mudbrick wall 7, composed a fire installation (Figs.6 and 7). Various ash layers (loci 8,9 and 12), stratified beneath the above mentioned layer 5, were excavated inside the installation. Locus 8 was soft, light grey in colour and a

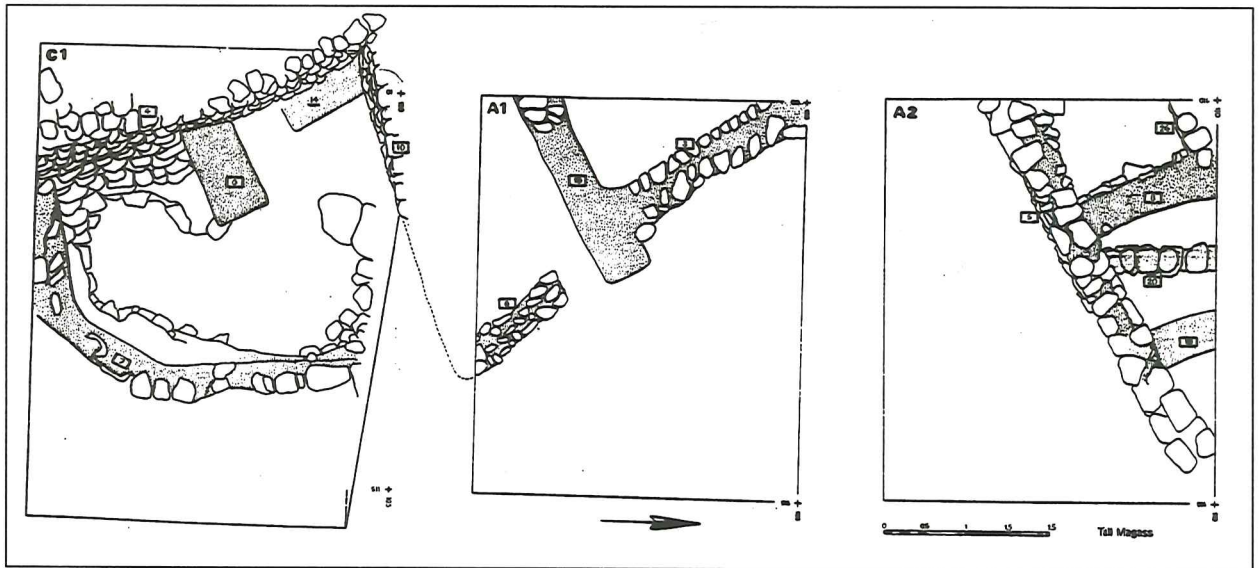
thin layer; it was above layer 9 which was grey in colour with brownish spots. Beneath, layer 12 was light-brownish. The above-mentioned layer contained a large number of pottery sherds and unburned, shapeless lumps of clay. Also, flint artifacts, bone tools, metallurgical copper remains and lumps of charcoal were recovered within the ashes.

When the ash layers were dug, a stone pavement was exposed. It is irregular and made of medium-sized stones.

The structure of the installation and the various finds which were discovered there, might indicate that it was used as an open hearth or an oven for firing pottery or for copper smelting in crucibles. A fire installation built of a mud wall which was perhaps used as an oven was discovered at Tall Tsaf in the western side of Jordan valley about 77 km south of Beth-Shan. The



6. The architectural elements of the fire installation in C1, looking west.



7. Plan of different architectural features in area A and C.

site is dated to the early Chalcolithic period.² But it is difficult to explain the purpose of mud wall 6 of the al-Magaşş installation in view of this theory.

Maybe wall 6 was part of an altar in a shrine which is not discovered yet. Ashes in front of the altar are strong evidence that fires were lit there at the Chalcolithic shrine at En-gedi.³ Unless more excavation takes place, the latter theory must remain unconfirmed.

When excavating the dark grey layer 5, and at the level of the top mud wall 6, mud surface 14 was discovered at the north-western corner of the square. Its thickness is 10 cm, and it lies above the ash layers of the installation. Therefore, the mud surface could relate to phase II which means that the installation belongs to an earlier phase of occupation, phase III, at the site.

The sand was so loose that it could not be held in place in the northern section. It collapsed and uncovered part of stone wall 10. It ran north-east to south-west and joined wall 4. It has nine courses of medium-sized stone and it ran in a direction to

be joined with wall 8 of square A1 which was discovered during the first season (Figs. 6 and 7).

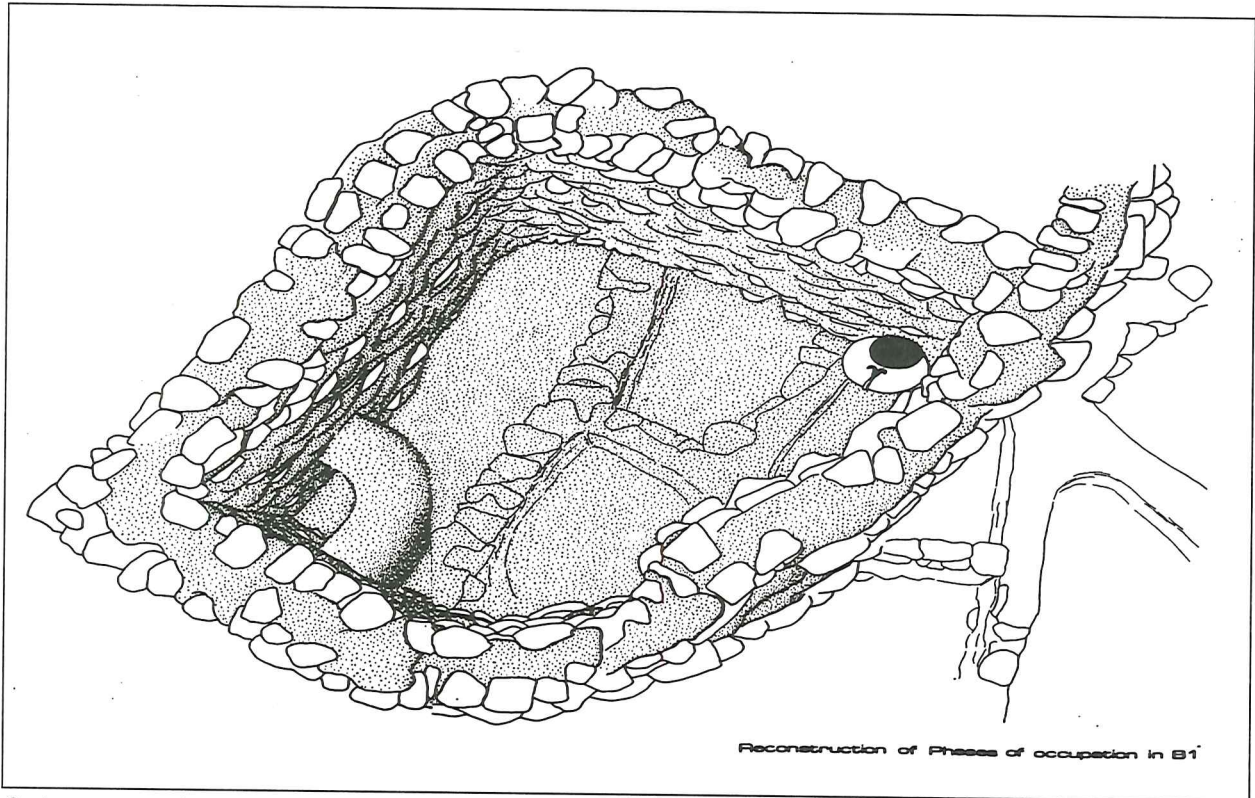
Area B

Square B1 lies near the summit, on the northern sector of the tell. During the 1985 season, many loose layers were excavated between the two stone walls 2 and 3 at the southern part of the square. In the corner at a depth of about two meters from the top, a medium-sized pottery jar was discovered, surrounded by small stones, placed upright in a pit on a mud surface (Fig.8). Also, work revealed pits in a northern part of the square.

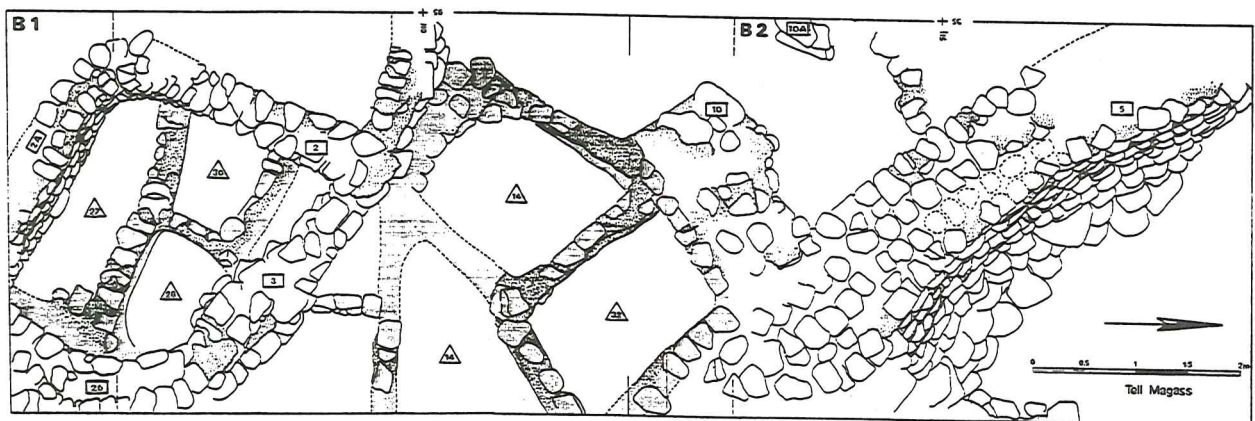
The soil of the southern section was loose, thus it was eroded by rain, and stone wall 2A was exposed. It ran south-east to north-west, almost parallel to wall 3 and joined wall 2. Also, the eastern section could not be held in place; it had fallen down, and when the erosion was cleaned and the balk was trimmed, stone wall 26 was discovered. It had rounded ends, and with other walls (2A, 2 and 3) formed a

2. R. Gophna, and S. Saden, 1988-89, "Excavation at Tel Tsaf: An Early Chalcolithic site in the Jordan Vally," *Tel Aviv*, 15-16, no. 1:9.

3. D. Ussishkin, 1980, "The Ghassulian Shrine at En-gedi," *Tel Aviv*, 7, No. 1-2:16.



8. A reconstruction showing phases II-III in the southern sector of B1.



9. Plan of walls and storage pits in area B.

closed room (Fig.9). The architectural style of the four walls is similar: they are built of medium-sized undressed stones with mud used as mortar.

There is no entrance to the room, but there was a gap at the point where wall 26 joined wall 3. It was closed with stones which were smaller in size than other stones of the wall. It was about 0.80 m wide and might have been a doorway to the room.

Digging at the east-southern corner of the room revealed oven 23 (*ṭabūn*). It was built of light-yellowish mud, was rounded, abutted walls 2A and 26 and was 5 cm thick. Its diameter from inside measured 0.90 m and the height was 0.35 m. The width of the *ṭabūn* wall varies between 0.60-0.85 m. Inside this fire installation, loose ash mixed with lumps of charcoal was excavated, also sherds of pottery, flint objects and animals

bones were found.

Clay ovens were discovered at Chalcolithic sites A301 and R48 which are located in the northeastern Sinai near the coast of the Mediterranean Sea.⁴

Oven 23 was sealed with layer 24, which was dark- brownish in colour, loose, and rich in charcoal. Besides, fragments of mud, animals bones and metallurgical copper remains were discovered. Both the oven and the layer were set on mud floor 25. It is the mud surface where the pottery jar of the 1985 season was found. The mud floor was almost regular; it's colour was creamy-yellowish, it was compact, the average thickness was between 10-15 cm, and a pottery crucible sherd was found on this floor.

It seems that the room was used for do-

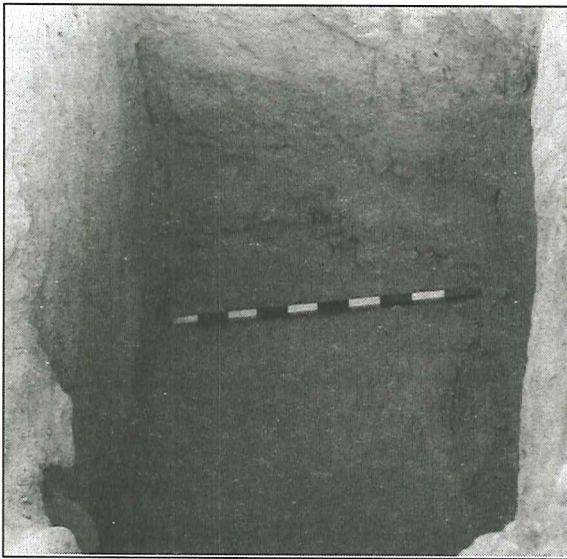
mestic purposes during phase II before its door was blocked and it was filled with the debris of phase I, which was excavated during the first season.

Excavation of the mud floor revealed a number of pits 27, 28, and 30. Also, when the balk between B1 and B2 was excavated, pit 32 was revealed. They were like those discovered during the pervious season and joined them beneath wall 3 (Fig.10). The total number of pits discovered at Area B is eight. They were irregular in shape and varied in size; the average of their measurements was about 1.75 x 1.25 m, with a height of about 1.50m. They were of similar construction: no doors or windows, built of walls that are one row wide, with undressed small-sized stones. Their walls



10. Area B from the south, showing domestic room and storage pits.

4. E. D. Oren and I. Gilead, 1981 "Chalcolithic Sites in Northeastern Sinai", *Tell Aviv*, 8, no. 1: 25-45.



11. Inside storage pit 32, where walls and floor of the pit are mud-plastered.

and floors were lined with pale yellow mud-plaster (Fig.11) which was mixed sometimes with white grit and straw.

The excavated layers inside the pits produced sparse sherds of pottery, fragments of bones, charcoal, flints and shells. The mud floors of two pits from the 1985 season were excavated; they were a rough pavement of small stones covered with a fill layer of pebbles and sand.

As mentioned above, the pits were small in size, with no doors or windows, therefore, they might have been used as storage pits rather than habitation pits as it had been suggested earlier.⁵

However, pits were very common during the Chalcolithic period: they were found at Tulaylāt al-Ghassūl⁶, and Abū Hāmid in the Jordan Valley.⁷ They were also discovered at Horvat Beter⁸ and Shiqim in the Beersheva area.

It has been mentioned that the walls of some pits ran beneath wall 3 of phase II, therefore, the complex of pits belong

to phase III of occupation at the site. A reconstruction of the excavation at the southern part of square BI could help to understand the phases of occupation (Fig. 8).

Square B2 lies at the foot of the tell measuring 4 x 5 m. Beneath the topsoil, a wide wall 5 of four rows was discovered. It ran north-west to south-east across the square. It was made of undressed stones, the upper courses built of smaller sized stones than those of the lower courses. Also mud was used as mortar between stones of the upper courses which could be observed as a sub-phase wall as in wall 4 at C1. As excavated, the wall stood to a height of 3.70m. It was not vertical, but leaned towards the southern direction at about 11 degrees.

Pit 32 was adjusted to wall 5, and part of this wall also constituted a portion of the pit. Therefore, the wall might either have been at the same phase of the pit (phase III), or at an earlier phase (IV). The wall was to support the weak structure of the pits and to fence them from Wādī al-Yutum floods during the winter. Also, there was wall 10 attached to wall 5 against pit 32, built with mud-brick and stones mixed with clay; it was very compact.

Opposite wall 10 excavation revealed some courses of stones of wall 10A, sealed up to the eastern side of the balk with similar ingredients as wall 10. By looking through it, we determined that it is a doorway between wall 10 and the courses of 10A. However, it is necessary to excavate more architectural features at this area for better understanding of relationship and function of different loci.

List of important discovered loci during two seasons, and their suggested phase:

5. L. Khalil, 1988, *op cit*: 81.

6. A. Mallon, *et al.* (1934), *Teleilat Ghassul I*, Rome.

7. G. Dollfus, and Z. Kafafi, 1986, "Preliminary Results of the First Season of Jordanian French

Project at Abu Hamid," *ADAJ* 30.

8. M. Dothon (1959), "Excavation of Hovart Beter." *Atiqot*, 11.

List of important discovered loci during two seasons and their phases.

<u>Area:</u> <u>Square</u>	<u>Locus</u> <u>No.</u>	<u>Short Description</u>	<u>Phase</u>	<u>Remarks</u>
A:1	*4	layer	I	They are debris layers
	*6	layer	I	
	*9	layer, yellowish-brown, with white grits	I	
	*8	Wall, undressed, medium-sized stones, ran north-west to south-east curved	II	=Wall 10 of C1
	*10	Wall, as wall 8, ran west-south to east-north, mud-plastered	II	
	*14 , 15&23	Layers of ashes with charcoal between walls 8 and 10	II	
	*3	Wall, undressed, medium-sized stones, ran north-west to south-east, two style of construction	II-III	
	*13	Layer, dark grey, loose, pockets of ashes	III	
	*19	Layer, yellowish-brown with ashes	III	
	*20	Layer, dark grey	III	
	*27	Mud floor, regular, sitting on it wall 26	IV	Earliest phase of occupation at Area A
	*26	Wall, one row wide, small stones, ran north-south	IV	
	*25	Pit, cut into mud floor 27, circular in shape, measured 75 cm in diameter and 90 cm in depth	IV	
A: 2	5	Wall, undressed, medium-sized stones, ran west-east	II	
	8 & 10	Mud walls, built against northern face of wall 5	II	
	25, 26, & 27	Layers beneath wall 5	III	
	20	Wall, one row wide, small undressed stones	IV	
C: 1	5	Layer, dark grey hard	II	
	10	Wall, medium, undressed stones, ran north-south	II	=Wall 8 of A1
	14	Mud surface, thickness 10 cm at northern-western corner, above ash layers	II	
	4	Wall, undressed stones, two styles of construction, ran north-south, 16 courses	II	The lower part of wall 4 & 6 & 7 composed the fire installation
	6	Wall, mud abutting onto wall 4's eastern side	III	
	7	Wall, mud-bricks, semi-circular in shape, length 95 cm, average width 7 cm	III	
	8, 9 & 12	Layers ash of various colour, were inside the fire installation	III	

* Loci excavated during the 1985 season

List of important discovered loci during two seasons and their phases.

Area: Square	Locus No.	Short Description	Phase	Remarks	
B :1	*4	layer, brown-grey, loose	I	Debris layers, were accumulated inside the domestic room, rich in pottery sherds etc.	
	*7	layer, brown, pockets of ashes, loose	I		
	*9	layer, dark brown, loose	I		
	*10	layer, brown-grey, loose	I		
	*21	layer, yellowish-brown, fragments of charcoal, loose	I		
	*22	layer, dark brown, soft	I		
	*2	wall, undressed, medium sized stones, ran north- east to south-west	II	Walls 2, 3, 2A& 26, formed a room for domestic purposes	
	*3	wall, similar in style to wall 2, ran north-west to south-east	II		
	2A	wall, similar in style to wall 2 and ran parallel to wall 3	II		
	26	wall, similar in style to wall 2 and ran parallel to wall 2	II		
		25	Mud floor, regular, thickness 10-15 cm	II	Room's floor
		23	Oven, clay, light-yellowish, rounded, inside diameter measured 90 cm sitting on floor 25	II	
		*14	Two pits, irregular in shape, varied in size, the average of their measurements was about 1.75 x 1.25m, built of undressed stones one row wide, lined with mud-plaster	III	Storage pits
		27,28 &30	Pits, similar to the above mentioned pits	III	
B1: B2	32	Pits, similar to the above mentioned pits	III		
B2	5	Wall, two styles of construction, four rows wide, leaned towards south	IV		
	10	Wall, built with mud-brick and stones, attached to wall 5 against pit 32	III		

* Loci excavated during the 1985 season

Ḥujayrāt al- Ghuzlān

The site was first reported by the author.⁹ It is quite conceivable that it was chosen in ancient times from a strategic point of view. It stands five meters above the nearby stream bed, near the mouth of Wādī al- Yutum, overlooking a wide area. It had very rich surface finds, a sign of the wealth of the site.

It measures approximately 135 x 100 m. It was disturbed when it was used as a military camp by the British army in the late 1940's as we were informed by the locals.

It was not easy to decide where to lay out squares and how to avoid the areas which had destroyed archaeological data. Two sounding squares A1 and A2, each measuring 3 x 3 m, were made. A1 lies on the summit, while A2 was placed at the western edge of the tall (Fig. 3).

The excavated loci in both squares produced many artifacts such as pottery sherds, flints, stones, bones, shells and metallurgical copper remains. Unfortunately, it was discovered that the archaeological layers are disturbed in both squares. Where modern remains such as glass fragments and pieces of wood were found, they were mixed with the ancient debris. However, the excavation have not yet reached the natural alluvial sand of Wādī al-Yutum.

Conclusions

The second season of excavation at Tall al-Magaṣṣ revealed various types of architecture, such as a room, a fire installation and storage pits. There were two main types of material used in the construction of the walls of the buildings. On the one hand, walls which were made of undressed stones with mud used as mortar were a common type. On the other hand, mudbrick walls which were sometimes straw-reinforced were the other type. Mud was used also to plaster the storage pits and floors and to

construct the oven and part of the fire installation. Mud walls, installations made of mud and pits lined with mud were discovered at various sites dated to the Chalcolithic period, such as Tulaylāt al-Ghassūl, Horvat Beter and Tel Tsaf.

The architectural units with their stratigraphic context illustrate four phases of occupation at area A, where as the excavation at area B is a good example for illustrating the phases of occupation.

At the southern sector of B1, the latest phase of occupation (I) was represented by the debris layers which had accumulated beneath the top soil, and between the walls of what is considered a room of domestic function.

The domestic room was used in phase II and on its mud floor were the medium-sized pottery jar and the *ṭabūn* (Fig.8).

The complex of the storage pits represents phase III where some of them were sealed with the mud floor of the domestic room. Also, walls of one pit were built beneath wall 3 of the room (Fig.9).

The excavation in Area B has not reached the natural alluvial sand of Wādī al-Yutum. Meanwhile, work at A1 was brought down to the natural deposit or virgin soil where above it was an ash layer, and on top of the ash layer there was a group of features which represent the earliest phase (IV). This phase is hardly excavated and further work will no doubt clarify our understanding of the earliest phase of occupation at the site.

The depth of the occupation debris from the top soil to the virgin soil at A1 measures about four meters. As mentioned, during the building of the Wādī 'Arabah road in 1967, unfortunately the western half of Tall al-Magaṣṣ was destroyed. The section of the undisturbed part is exposed and

9. L. Khalil, 1987, *op. cit.*: 483.

shows accumulation of archaeological strata. Two trenches (T1 and T2) were excavated to obtain a clear stratified section. It was discovered that the depth of the archaeological layers at T2 measures more than six meters.

Various artifacts were revealed during excavation of different loci at Tall al-Magaşş. The pottery from phase I, II and III is similar, while the earliest phase of occupation IV is very poor in finds.

The pottery is hand-made and of coarse ware; a number of bases have mat impression. It is unevenly fired; unburned sherds were found during digging of the fire installation at C1.

The pottery assemblage is mostly homogeneous. It can be dated to the second half of the fourth millennium BC. The types are varied, from open-form cups, V-shaped bowls and platters to closed-formed jars of small, and medium size and hole mouth jars. The flat base is the common type of base; the handles are varied, the pierced lug handle is common and in addition, knob handles were found. Incision, puncturing and finger-impression were used as decoration of the surface of either the open-form or the closed-form vessels.

A number of flint implements were retrieved during the excavation. They include sickle-blades, blades, tabular scrapers and awls. In addition, waste flakes were found; some of the sickle-blades and blades have luster on their working edges.

Stone tools and vessels were discovered, such as mace-heads, bowls, pestles, querns and mullers.

Shell ornaments such as beads were found, in addition shell detritus material was discovered as evidence that shell ornament working took place on the site. Also,

bone artifacts such as pins and awls were discovered.

A large number of animal bones were discovered. Zoological studies are required to distinguish between the different types; no human bones were found during the excavation.¹⁰

The excavation produced remains of copper metallurgy including nodules of copper ores, slag, crucible slag and metallic copper in the form of pellets or droplets, lumps and pieces. Also, two rims of pottery crucible were retrieved; one of them has a droplet of metallic copper still adhering to it; their sections are verified due to high firing during their use in smelting or melting copper.¹¹

Various artifacts were recovered at Ḥujayrāt al-Ghuzlān; it has been mentioned that the stratigraphy of both sounding trenches was disturbed. Nevertheless, the discovered objects are very similar to those found at Tall al-Magaşş, which indicates a contemporary date for both sites.

In all, both settlements are similar in size, situated on the alluvial fan of Wādī al-Yutum and share the common culture characteristic of the second half of the fourth millennium BC at south Palestine and Jordan.

Acknowledgments

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10. Prof. Dr.N.Maxwell of Department of Anthropology, University of Mainz, kindly examined the bone material during his visit to Jordan at the summer of 1990.

11. A paper entitled "Examination of Copper Metallurgical Remains from a Chalcolithic Site at al-Magaşş-Jordan" is going to be published in the forthcoming issue of *Damaszener Mitteilungen*.

estant Institute for Archaeology in 'Amman, for his encouragement and support. I must thank the Friends of Archaeology in 'Ammān for their financial support of the project. Thanks are due to the Director and employees of the 'Aqaba Marine Station, where the team was housed during the period of excavation.

My greatest debt of gratitude is due to the staff of the excavation. I sincerely thank

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