

PRELIMINARY REPORT

AKORIS

2007

West Area



South Area



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CONTENTS

1	GENERAL VIEW	KAWANISHI, H.
2	ARCHAEOLOGICAL INVESTIGATIONS	
	South Area	HANASAKA, T.
	Finds from the South Area.....	HANASAKA, T.
	West Area	TSUJIMURA, S.
	Finds from the West Area.....	TSUJIMURA, S.
3	QUARRY	
	Architectural Survey on the Quarry faces in Zāwiyat al-Sulṭān	HORI, Y.
	Greek and Demotic Graffiti in Zāwiyat al-Sulṭān	SUTO, Y. and TAKAHASHI, R.

1 GENERAL VIEW

Two significant discoveries concerning the Third Intermediate Period (TIP) were made in the 2007's investigation in Akoris. One was to have partly grasped the condition of dwellers by excavating a well-preserved house in Area 07C, measuring about 4×3 m. It does not belong to a large category in the TIP of the investigated area, therefore, the dwellers are considered to have been in the lower half of the middle class or lower. However, they possessed not only the bare necessities of life but also various kinds of luxurious goods such as sandals, shoes, imported pottery, scarabs, amulets and several jars used for brew. This fact suggests that the common people were socially on the rise.

The other discovery was the uncovering of a grave where a mummified boy (Tomb 2), approximately aged ten, had been buried in a rectangular coffin and a pair of shoes had been offered as mortuary goods under his head. It indicates that, despite general opinion, the appearance of shoes in Egypt goes back to the pre-Greco-Roman period. Those shoes were selected as mortuary goods for the boy aroused our curiosity. Was the dead a relative of a craftsman working in the leather workshop which we have been excavating since 2002, or do the shoes reveal their popularization among the masses? In any case, without industry and trade, the social rise of the common people could not have been prompted and the interment of such young dead with shoes would not have been made.

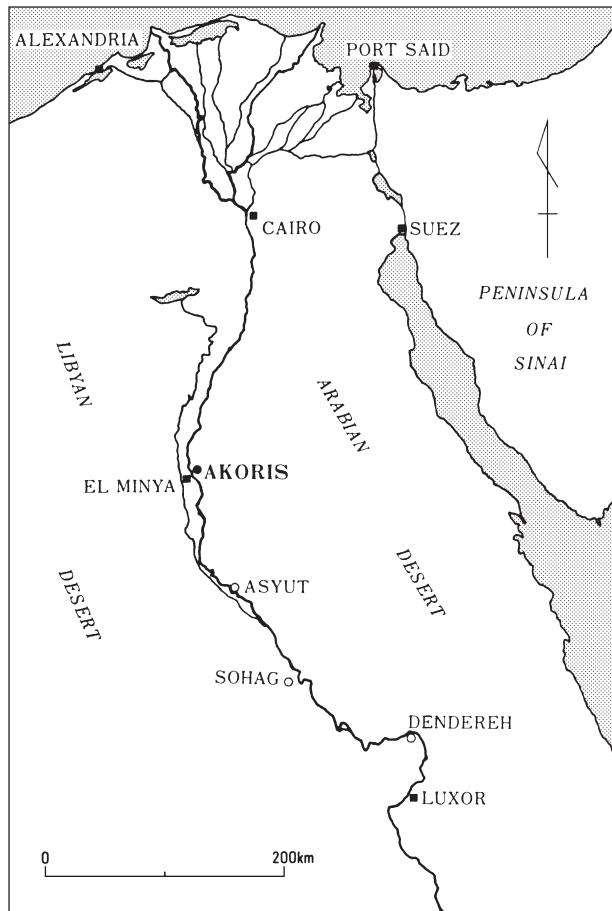


Fig. 1 Map of Egypt.

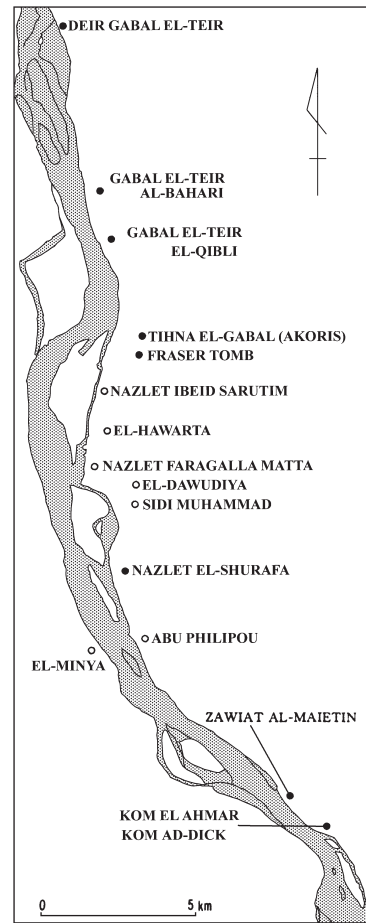


Fig. 2 Sites and villages near Akoris.

According to the 2007 investigation at the south quarry in Zāwiyat al-Sulṭān, it was elucidated that the execution of masonry most probably dates from the era of Ptolemy II. The method of quarrying in those days is shown by cut marks remaining on limestone bed rock, and many clues for clarifying the labor conditions and management were attained with the help of much graffiti written on cut faces of the stone. Thus the actual state of the quarry, technology and organization, shall be demonstrated in the near future. (Kawanishi)

2 ARCHAEOLOGICAL INVESTIGATIONS

South Area (Cover; Figs. 3–6) At the end of the 2003 season, an excavation trench was laid measuring 80.0m in length north-south on the slope and 8.0m in width in the South Area at the base of the crag. The trench was divided into ten 8.0m grids, labeled A–J from top down and preceded by the number of the year. In 2004–2006 seasons, we extended the already existing trench further to the west. It was extended to about 40.0m in width east-west at the end of the 2006 season. We found many mud brick structures; houses, granaries and workshops, belonging from the TIP to the Late Period (LP).

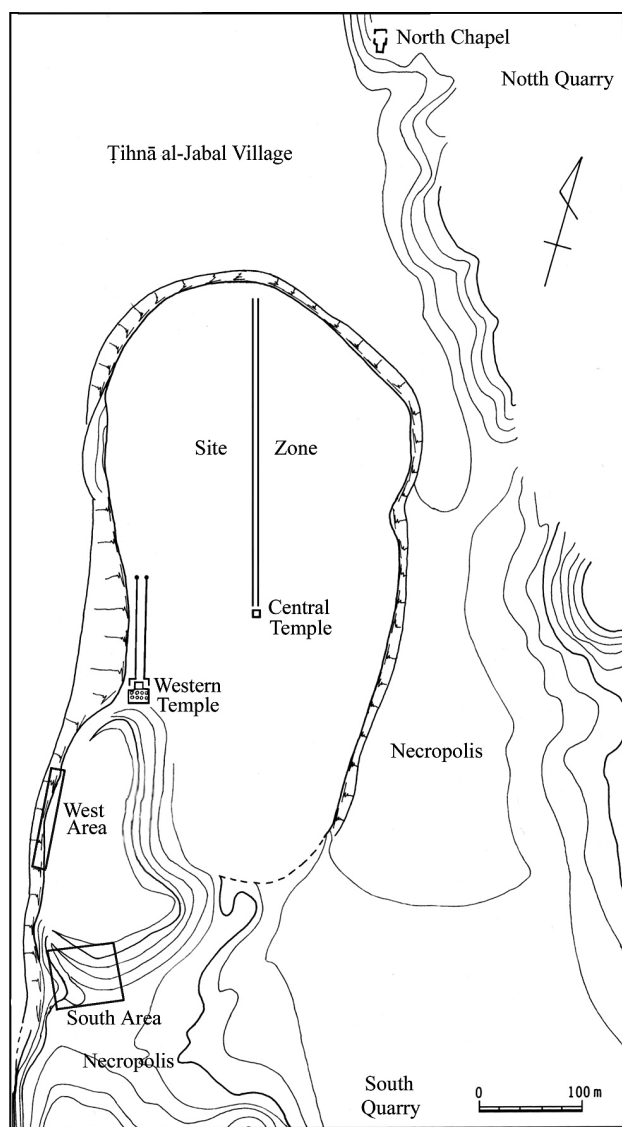


Fig. 3 Map of Akoris.

the TIP to the Late Period (LP).

In the 2007 season, we continued the excavation, 48.0m in length north-south and 6.0m in width east-west in Areas 07A–F, further to the east from the eastern edge of the existing trench. An earthen bank, measuring 1.0m in width, was left between existing Areas 03A–F and new Areas 07A–F.

At the top edge of the upper part of the Area 07A, there was a deep shaft measuring 2.8m × 1.4m at the mouth. It might be a shaft tomb, but we have not gained information about the date or interior conditions, because huge rocks have fallen from the crag and covered the mouth which thus kept us from entering and investigating the interior.

Since the 2002 season, about ten mud brick structures which formed parts of houses have been uncovered, however, a few structures were surrounded by mud brick walls on all four sides and we could not learn the whole plan of the houses. In this season, we confirmed a house with two rooms in Area 07C which were adjoining each other, north and south. The rooms were organized in the same way as those in a structure investigated in the 2002 and 2003 seasons.

The 07C northern trapezoidal room

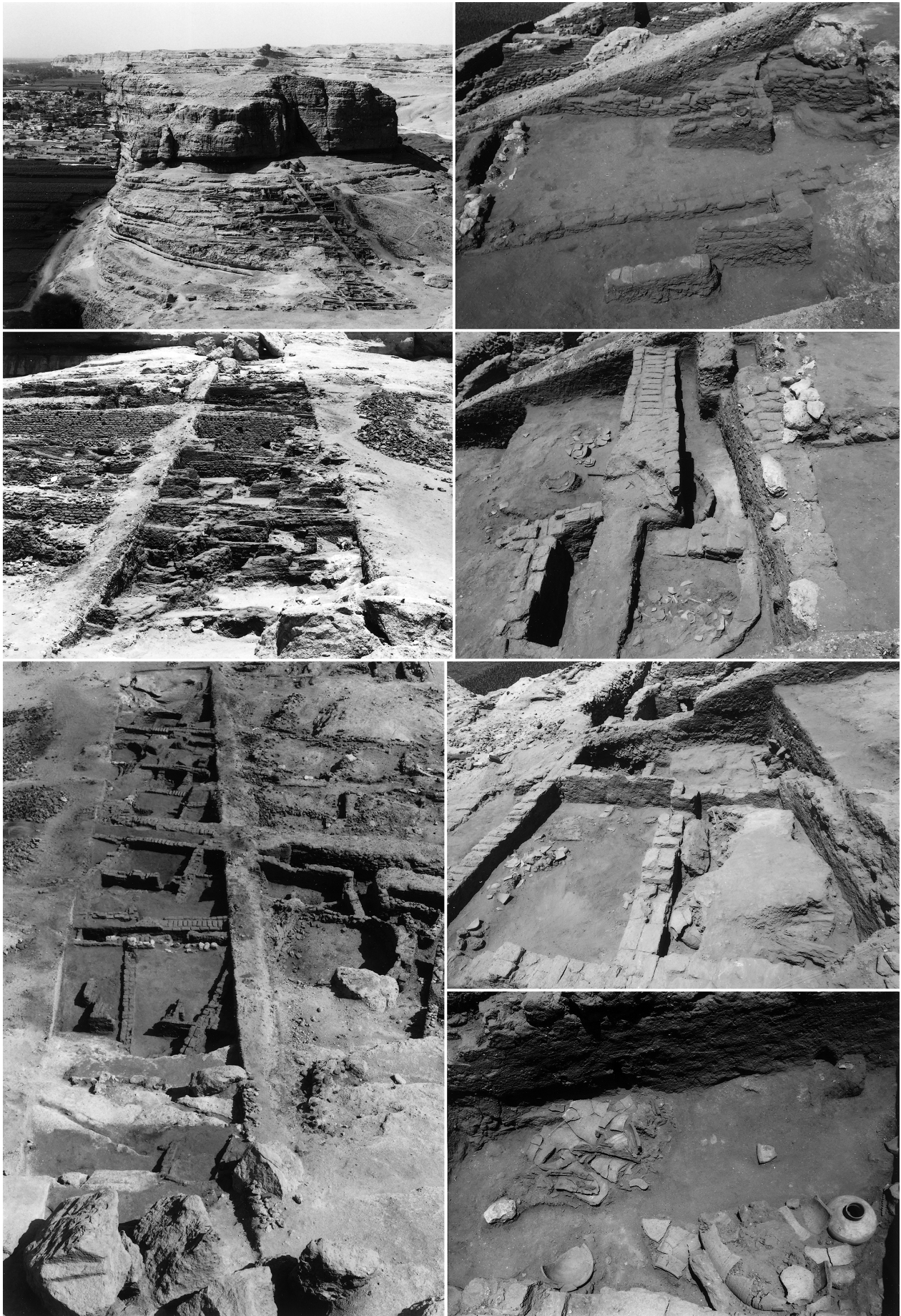


Fig. 4 South Area.

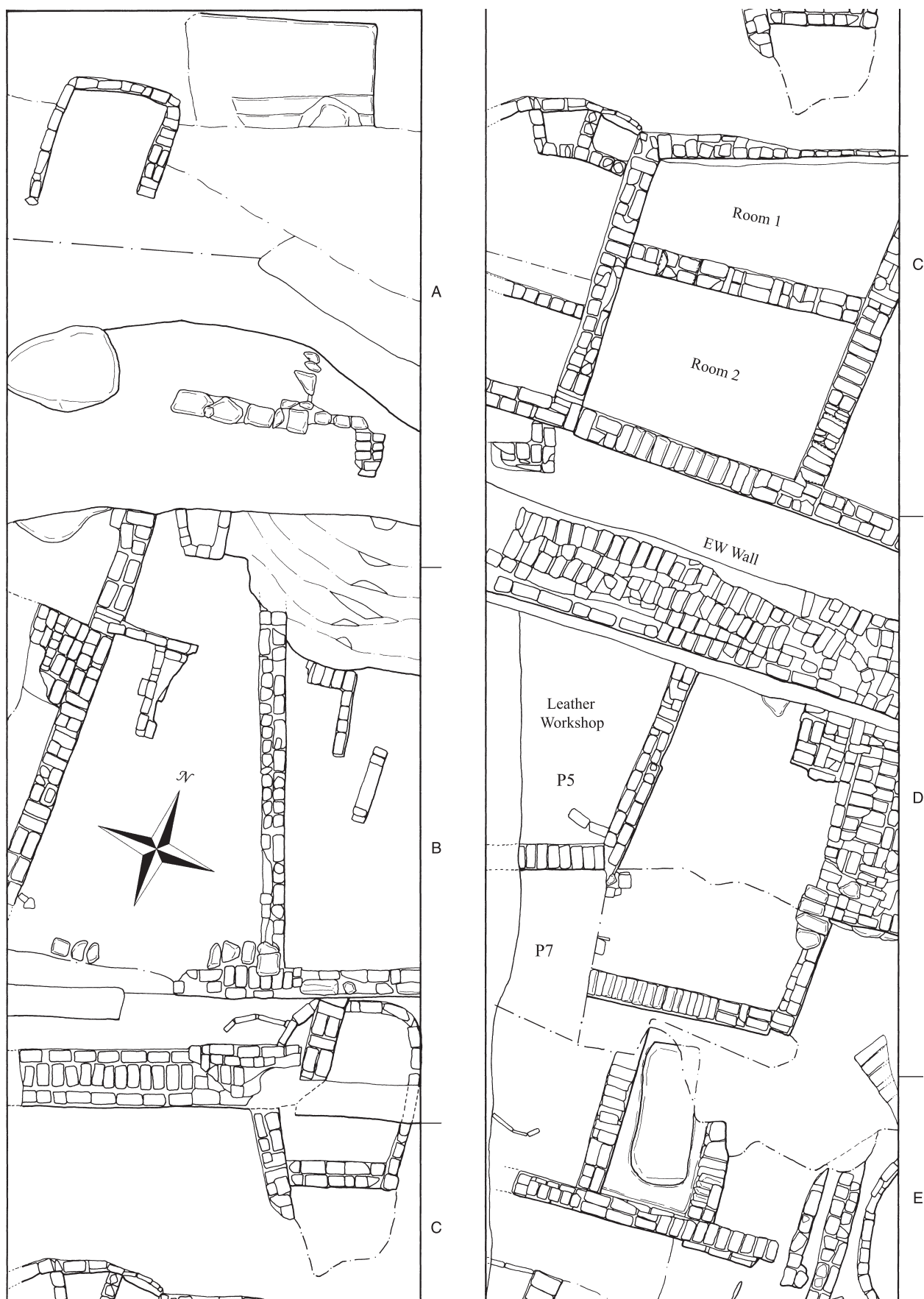


Fig. 5 Plan of the South Area excavated in 2007.

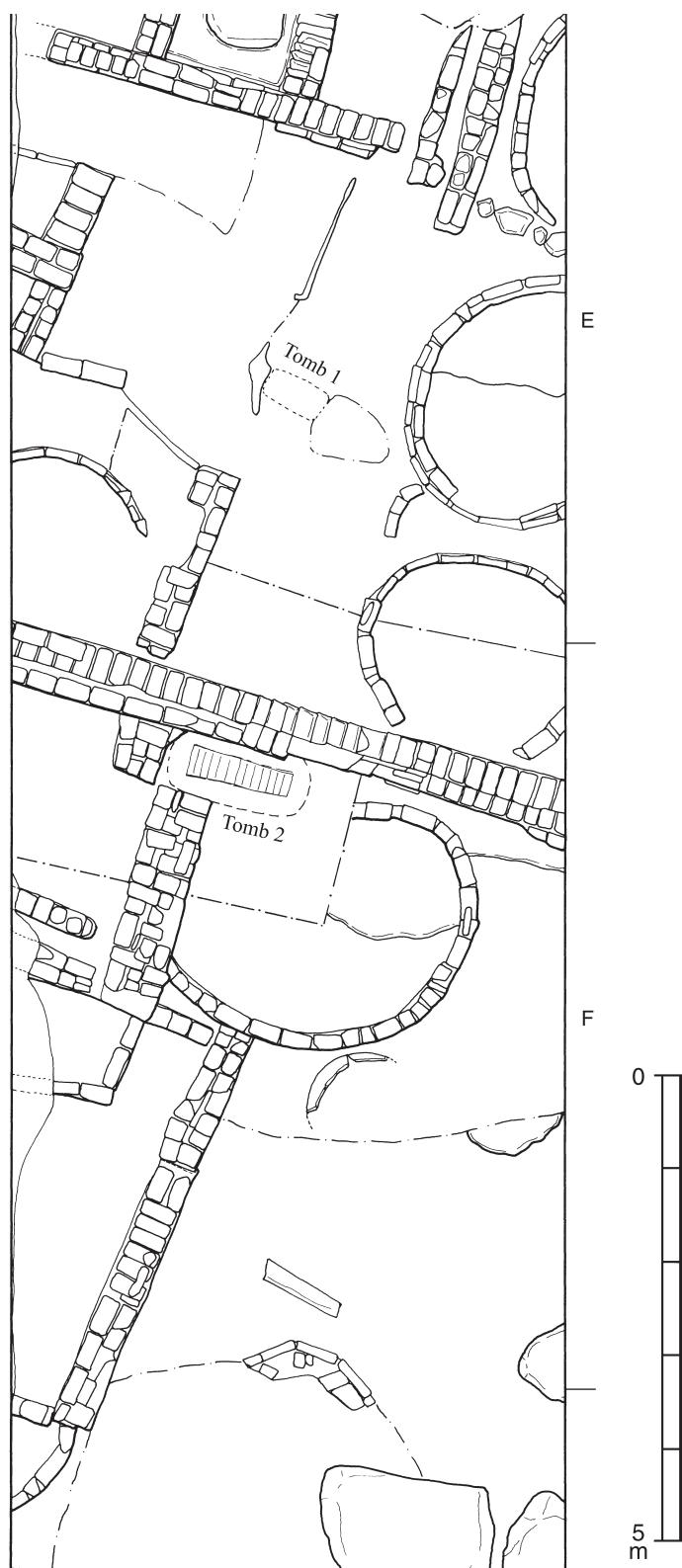


Fig. 6 South Area.
 Upper: Leather workshop (Area 07D);
 Upper middle: Area 07D;
 Lower middle: Two tombs (Area 07E-F);
 Lower: Area 07D-F.

(Room1) measured 3.4m east-west \times 1.2–2.2m north-south, and the 07C southern rectangular room (Room2) measured 3.3 \times 2.2m square. The maximum height of existing walls was 1.1m at the eastern wall of the 07C northern room, and the thickness of the walls was almost the same as the long side of a mud brick, a little under 0.40m. The size of the mud bricks was 37–38 \times 17–18 \times 6–8cm. There was not a clear entrance to the room from the outside.

A partition wall existed between Room 1 and Room 2, measuring 3.4m in length and 0.9m in maximum height. The opening connecting the two rooms was 0.6m wide and cut through the wall at the western end. The size of the mud bricks was 36–38 \times 16–20 \times 6–8cm, slightly smaller than those of the surrounding walls.

First, we examined Room 1 more closely. The whole space of Room 1 was covered by earth divided into two layers, upper and lower, each measuring 0.20–0.30m in thickness. A large number of logs, branches and twigs, measuring 1–10cm in diameter, were embedded in the underside of the lower layer in disorder. It is possible that this could be the ceiling or the floor of the upper part of the building.

There were eight small holes in the surface of the north wall, placed at a height 0.8–0.9m from the floor level. They measured about 8–15cm in diameter and about 10–40cm in depth. It is supposed that these were holes for setting wooden beams or rafters, because there were remains of wood inside. Furthermore, there were four similar shaped holes placed at a height 0.2–0.3m from the floor level.

After removing the fallen earth, a mud-paved floor appeared. It was built on the slope of the site. The floor, which was not artificially modified, inclined slightly from north to south. On the floor, a large water jar, storage jar, bowls, many pottery shards, amulets, a wooden product of unidentifiable use, and so on were found in.

The holes for wooden beams or rafters were too low to spend a common life in the room. Judging from this point of view, it seems reasonable to conclude that Room 1 would be a storage room constructed half underground.

Room 2 had a hardened floor with a large quantity of grain and the chaff of cereal, and droppings of small-sized animals scattered around. There were a straw mat measuring about 0.95 \times 0.70m, leather sandals, a pair of leather shoes, a cobra-shaped wooden object, and many pottery shards on the floor.

The floor of Room 2 was at the same horizontal level as that of Room 1, but, on the other hand, the base of the walls was about 1.5m deeper than that. The southern wall was a continuation of the structure which was excavated in the 2002 and 2003 seasons (the 02–03C room). The base of the southern wall of the 02–03C room was set on the bedrock directly and was 1.8m in depth from the horizontal level of the floor of Room 2. It is possible that these two rooms, the 02–03C room and Room2, were the first and second floors of the same house, however, there was no entrance or steps connecting them.

The leather workshop was situated in Area 02–04, 07D just south of the huge east-west wall (EW wall). The EW wall formed the boundary between the upper and the lower parts of the slope, and measured 2.3m in height, 1.5m in thickness and 23.0m in total existing length. In the 2002–2004 seasons, we confirmed the western edge of the leather workshop.

There were accumulated layers consisting of debris, animal hair, vegetable remains and hardened floor. Each layer was 1–3cm in thickness, and the total thickness of the layers was about

40–50cm. The vegetable remains were seeds and seed hulls, which were from the tree ‘sont’, as called by local residents. This tree is in the pea family and a genus of *Acacia*, named ‘Egyptian Mimosa’ or ‘Suntwood’ in English, and it is one of the many varieties of ‘*Acacia nilotica* (L.) DEL.’ by the botanical name. Suntwood is rich in tannin used for the process of vegetable tanning. In addition, in previous investigations we found a thick accumulation of animal hair and a lump of lime used as an animal hair remover in the workshop.

A large quantity of leather products, especially sandals, shoes, and parts were excavated in each season. It was revealed that the raw material for these products was goatskin. Since the 2002 season, more than forty whole or nearly whole sandals and shoes, and hundreds of fragmentary products were found.

The archaeological remains indicate that the leather workshop might have served two functions, a tannery and a sewing factory for leather products.

In this season, we confirmed the eastern edge of the leather workshop with a north-south wall, measuring 2.8m in length, placed 2.5m away from the edge of the above mentioned earthen bank. The area of the leather workshop measured 17.5m east-west and 6.5m north-south. The southern edge of the workshop might have extended to the south, however, it unfortunately could not be confirmed. There was an east-west wall measuring 1.2m in length, which made a right angle with the north-south wall at the eastern edge of the leather workshop. We divided the workshop into two parts, temporarily named P5 and P7. P5 was the northern part and P7 was the southern part of the area excavated in this season. Areas P1–P4 were already uncovered in the 2003 season.

P5 was a trapezoidal form measuring 2.3m north-south × 3.3m east-west. Beneath upper layer of soil, there was a layer containing a large quantity of leather products, three completed sandals and many fragmentary leather pieces.

P7 measured 2.2m north-south × 1.1m east-west. It was probable that the entrance was cut through the north-south wall at the eastern edge of the workshop, 0.5m in width. It seemed that the soil of P7 was made a blackish color on account of the seeds and seed hulls of the suntwood. There are a large amount of vegetable remains and some fragmentary leather products, and moreover, there was an iron tool, measuring 0.0cm in length, which looked like an awl with a pointed end.

Judging from the relationship between the layers, the leather workshop belongs to the latest phase among the buildings detected in the whole trench investigated since 2002, and dates from the end of the TIP or the beginning of the LP. In this season, we stopped excavation at the top of a layer which was equal to the latest phase of the leather workshop. It is necessary to investigate the sequence of the accumulated layers carefully to study the process and period of use for a tannery and a sewing factory of leather products. Excavation work in the future seasons will give us answers.

In this season, two burials were found, Tomb 1 in Areas 07E and Tomb 2 in 07F. Tomb 1 measured 0.70m in length and 0.35cm in width, with head pointing westwards. It contained the mummified body of a child, possibly a boy, 3 years old, covered with a cloth. No funerary gift was discovered.

Tomb 2 contained a small rectangular wooden coffin, measuring 1.40m in length and 0.29m in maximum width, with head pointing westwards. All except the bottom plank of the coffin was decayed. There was the mummified remains of a child, possibly a boy, 8–10 years old, covered with a cloth. An important point to emphasize is that the mummy remained intact and a pair of leather shoes of suitable size for his age was placed under the head. (Hanasaka)

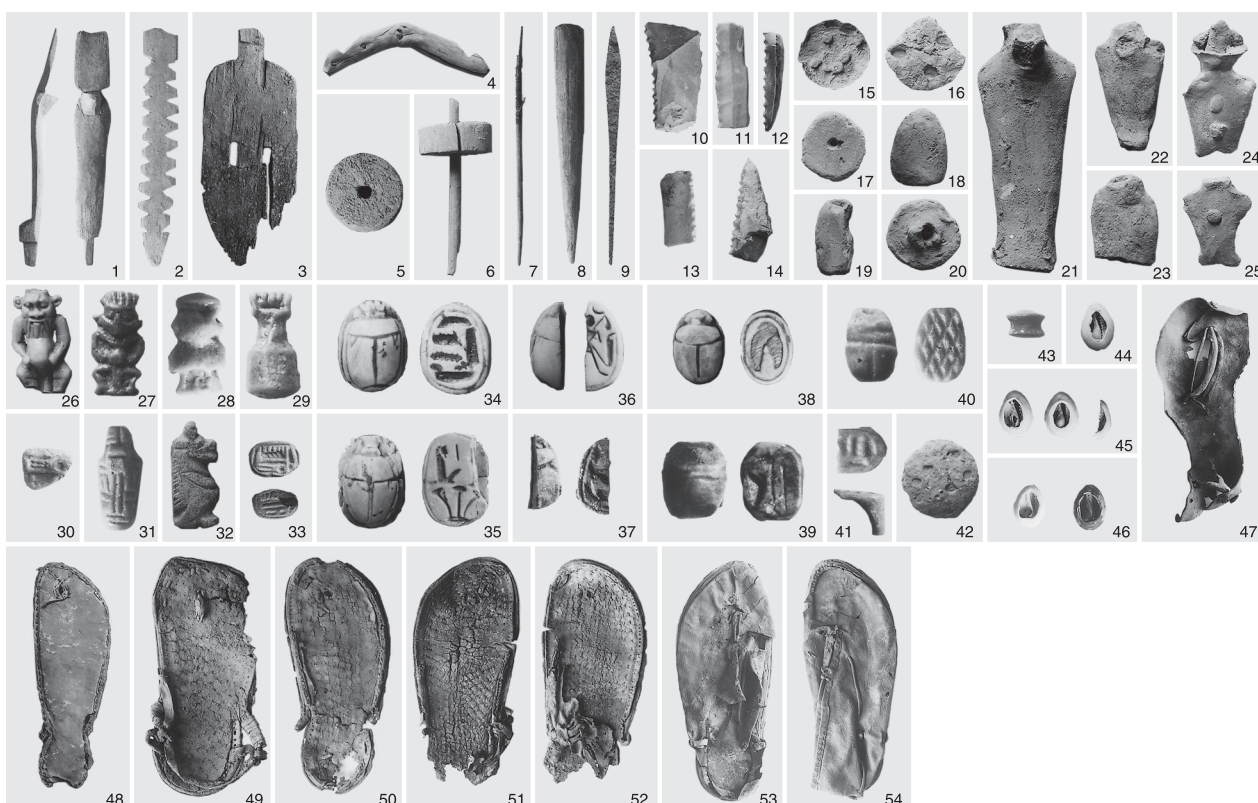


Fig. 7 Finds from the South Area.

Nos. 1–8: Wooden Objects; No. 9: Iron Object; Nos. 10–14: Stone Objects; Nos. 15, 16, 42: Clay Objects; Nos. 17–25 and 43: Baked Clay Objects; Nos. 26–41: Amulets; Nos. 44–46: Cowries; Nos. 47–49: Leather Sandals; Nos. 50–54: Leather Shoes.

Finds from the South Area (Fig. 7) **Wooden Objects (Nos. 1–8)** No. 1: Cobra-shaped wooden object with a feather ornament on the top and a projection at the bottom, attendant on some product, Area 07C (Room 2), l. 29.2 × w. 4.7 × t. 3.3cm. No. 2: Unidentified wooden object, with a sawtooth edge, Area 07C (Room 1), l. 22.0 × w. 3.2 × t. 1.2cm. No. 3: Wooden hoe, a part of the *mr*-type hoe, Area 07C, l. 35.3 × w. 14.0 × t. 2.2cm. No. 4: Unidentified wooden object, possibly a handle for a basket, Area 07C (Room 1), l. 15.6 × h. 4.6cm. No. 5: Wooden spindle whorl, Area 07C (Room 2), d. 5.4 × h. 2.1cm. No. 6: Wooden spindle whorl with a shaft, Area 07B, l. 12.1 × d. 4.9 × h. 1.9. No. 7: Unidentified wooden stick-shaped object, a coiled thread around the stick, Area 07C (Room 1), l. 31.4 × d. 0.8cm. No. 8: Wooden peg, Area 07C, l. 19.6 × d. 2.5cm.

Iron Object (No. 9) No. 9: Iron small tool, possibly an awl for piercing holes, Area 07D (P7), l. 10.8 × w. 0.8 × t. 0.4cm.

Stone Objects (Nos. 10–14) No. 10: Flint sickle blade, bitumen adhered, Area 07B, l. 6.92 × w. 3.49 × t. 1.13cm. No. 11: Flint sickle blade, Area 07E, l. 5.72 × w. 1.73 × t. 0.59cm. No. 12: Flint sickle blade, Area 07E, l. 6.24 × w. 1.30 × t. 0.63cm. No. 13: Flint sickle blade, Area 07C, l. 2.68 × w. 1.21 × t. 0.29cm. No. 14: Flint sickle blade, bitumen adhered, Area 07E, l. 5.17 × w. 1.96 × t. 0.74cm.

Clay Objects (Nos. 15, 16, 42) No. 15: Clay lid, with eight stamps, unfired, Area 07C, d. 4.7 × h. 2.1cm. No. 16: Clay lid, with three stamps, unfired, Area 07C (Room 2), d. 8.8 × h. 2.7cm. No. 42: Clay lid, with ten stamps, an impression of cloth left at the bottom, unfired, Area 07C (Room 2), d. 10.2 × h. 4.5cm.

Baked Clay Objects (Nos. 17–25, 43) No. 17: Pottery disc, possibly a weight, Area 07C (Room 1), d. $3.2 \times t. 0.7\text{cm}$. No. 18: Earthen weight, a pulley-shaped with a groove running vertically, fired, Area 07C (Room 2), l. $6.7 \times w. 4.8 \times t. 2.1\text{cm}$. No. 19: Earthen weight with a hole, fired, Area 07C (Room 1), l. $3.4 \times w. 1.6\text{cm}$. No. 20: Unidentified earthen object with a hole, fired, Area 07E, d. $3.8 \times t. 2.8\text{cm}$. No. 21: Cobra figurine, Area 07C, h. $13.0 \times w. 5.2\text{cm}$. No. 22: Cobra figurine, Area 07C, h. $10.2 \times w. 5.7\text{cm}$. No. 23: Cobra figurine, Area 07C (Room 2), h. $5.6 \times w. 4.3\text{cm}$. There were 48 cobra figurines found from the South Area in this season. No. 24: Human figurine, with two naval-like projections and with a projection on the back, Area 07C, h. $8.2 \times w. 4.4\text{cm}$. No. 25: Human figurine, with a naval-like projection, Area 07B, h. $5.8 \times w. 4.4\text{cm}$. There were 14 human figurines of these type found from the South Area in this season. No. 43: Burnished round object, possibly a gaming piece, Area 07C, d. $1.88 \times h. 1.57\text{cm}$.

Amulets (Nos. 26–41) No. 26: Fragment faience Bes figurine, Area 07F, h. $2.87 \times w. 1.59\text{cm}$. No. 27: Faience Baboon figurine, Area 07C (Room 1), h. $1.71 \times w. 0.93 \times t. 0.70\text{cm}$. No. 28: Faience Bes figurine, Area 07C (Room 1), h. $1.68 \times w. 0.81 \times t. 0.38\text{cm}$. No. 29: Faience unidentified amulet, shape of a fist on a hexagonal prism, Area 07E, h. $1.61 \times w. 0.78\text{cm}$. No. 30: Fragment faience *Udjat*-eye, Area 07C (Room 1), l. $0.89 \times h. 0.75 \times t. 0.36\text{cm}$. No. 31: Faience unidentified amulet with geometrical decoration, Area 07C (Room 1), h. $2.21 \times w. 0.92 \times t. 0.77\text{cm}$. No. 32: Glass Taweret, holding with knife, cobalt blue glass, Area surface, h. $2.35 \times w. 0.99\text{cm}$. No. 33: Faience scaraboid seal, with a hieroglyph read as “*Imn-R^C*”, Area 07F, l. $1.43 \times w. 1.00 \times h. 0.51\text{cm}$. No. 34: Faience scarab, with a hieroglyph read as “*Imn-R^C*” and *nb*-signs, Area 07E, l. $1.25 \times w. 0.94 \times h. 0.65\text{cm}$. No. 35: Faience scarab, with engraving a *s3*-sign and a *h3*-sign ‘protection beheind?’, Area 07D, l. $1.59 \times w. 1.10 \times h. 0.67\text{cm}$. No. 36: Fragment faience scarab, with engraving a human or god and *wraeus*-sign, Area 07D, l. $2.25 \times w. 0.91 \times h. 0.97\text{cm}$. No. 37: Fragment faience scarab, with unidentified sign, Area 07F, l. $1.29 \times w. 0.57 \times h. 0.66\text{cm}$. No. 38: Faience scarab, engraving crossing wings?, Area 07D, l. $0.99 \times w. 0.70 \times h. 0.41\text{cm}$. No. 39: Faience scarab, with engraving a *snb*-sign, Area 07F, l. $0.77 \times w. 0.66 \times h. 0.51\text{cm}$. No. 40: Glass scarab, with a latticework decoration, cobalt blue glass, Area 07F, l. $0.93 \times w. 0.65 \times h. 0.53\text{cm}$. No. 41: Fragment faience ring, with a hieroglyph read as “*Imn*” and a *nb*-sign, Area 07F, bezel l. $0.94 \times w. 0.86\text{cm}$.

Cowries (Nos. 44–46) No. 44: Cowrie bead, l. $1.78 \times w. 1.25 \times t. 0.69\text{cm}$. No. 45: Cowrie beads, Area 07C (Room 1), l. $1.80 \times w. 1.31 \times t. 0.66\text{cm}$, l. $1.79 \times w. 1.30 \times t. 0.66\text{cm}$, l. $1.49 \times w. 0.72 \times t. 0.49\text{cm}$. No. 46: Cowrie beads: Area 07C (Room 2), l. $1.75 \times w. 1.30 \times t. 0.67\text{cm}$, l. $1.86 \times w. 1.31 \times h. 0.69\text{cm}$. There were 48 cowries found from the South Area in this season.

Leather objects (Nos. 47–54) No. 47: Leather sandal, left foot, single sole, with red and green colored toe and ankle thongs, Area 07C, l. $23.4\text{cm} \times w. 10.4\text{cm}$. No. 48: Leather sandal, right foot, ‘eared’ cutting pattern layered soles, filled with animal hair inside, Area 07C (Room 2), l. $24.1 \times w. 8.5\text{cm}$. No. 49: Leather sandal, right foot, ‘eared’ cutting pattern layered soles, with toe and ankle thongs, Area 07E, l. $23.6 \times w. 9.8\text{cm}$. No. 50: Leather shoe, right foot, ‘eared’ cutting pattern layered soles, lost most part of upper part, Area 07C (Room 2), l. $29.0 \times w. 12.9\text{cm}$. Nos. 51 and 52: A pair of leather shoes, ‘eared’ cutting pattern layered soles, lost most part of upper part, Area 07C (Room 2), left foot l. $26.3\text{cm} \times w. 12.5\text{cm}$, right foot l. $25.4 \times w. 12.0\text{cm}$. Nos. 53 and 54: A pair of leather shoes, ‘ears’ cut from layered soles were lengthened and were utilized to stiffen the sides of the slit-oval upper, Area 07E (under the head of mummified remains of Tomb 2), left foot

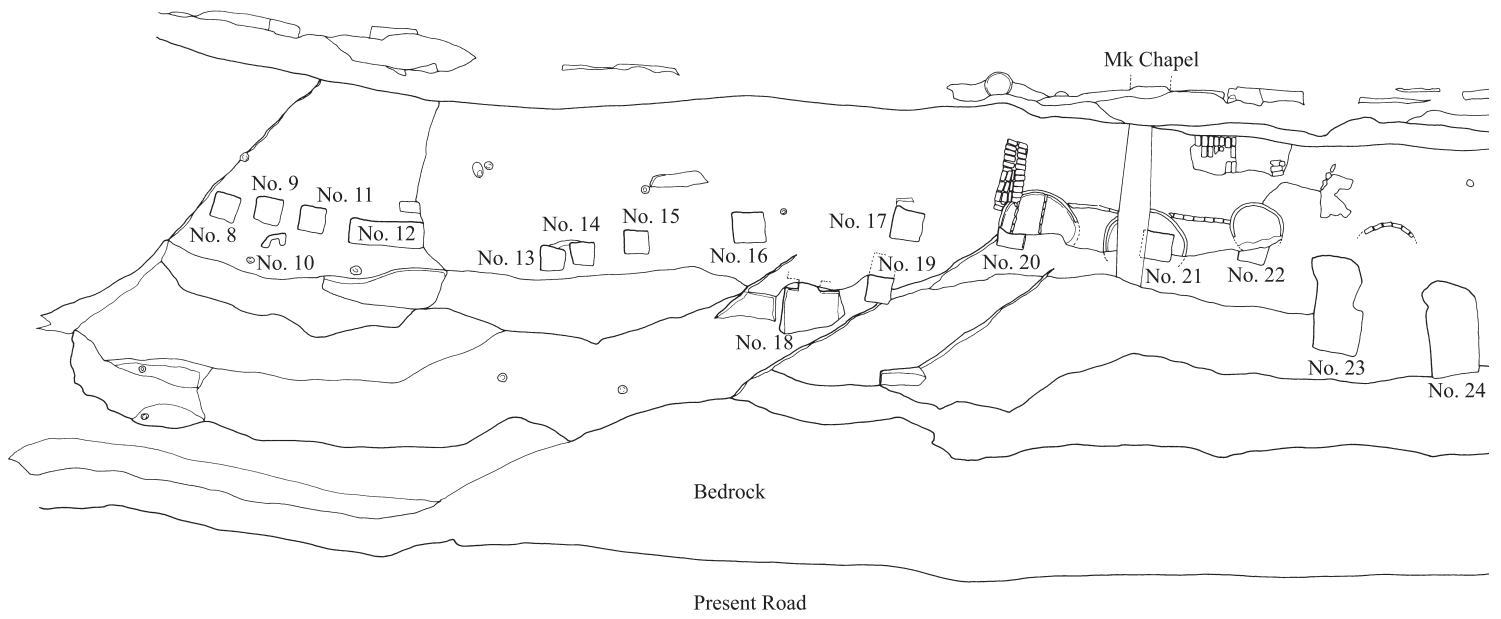


Fig. 8 Tombs confirmed in 2007.

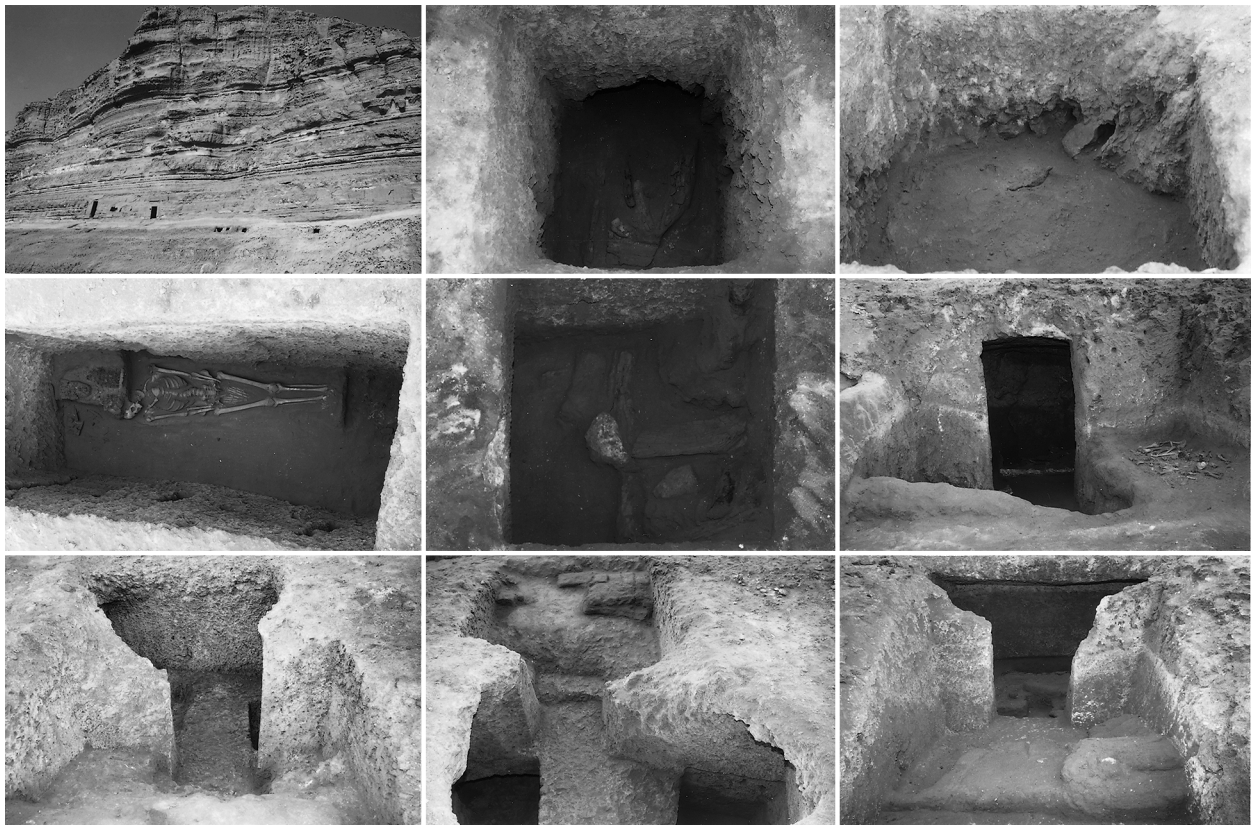
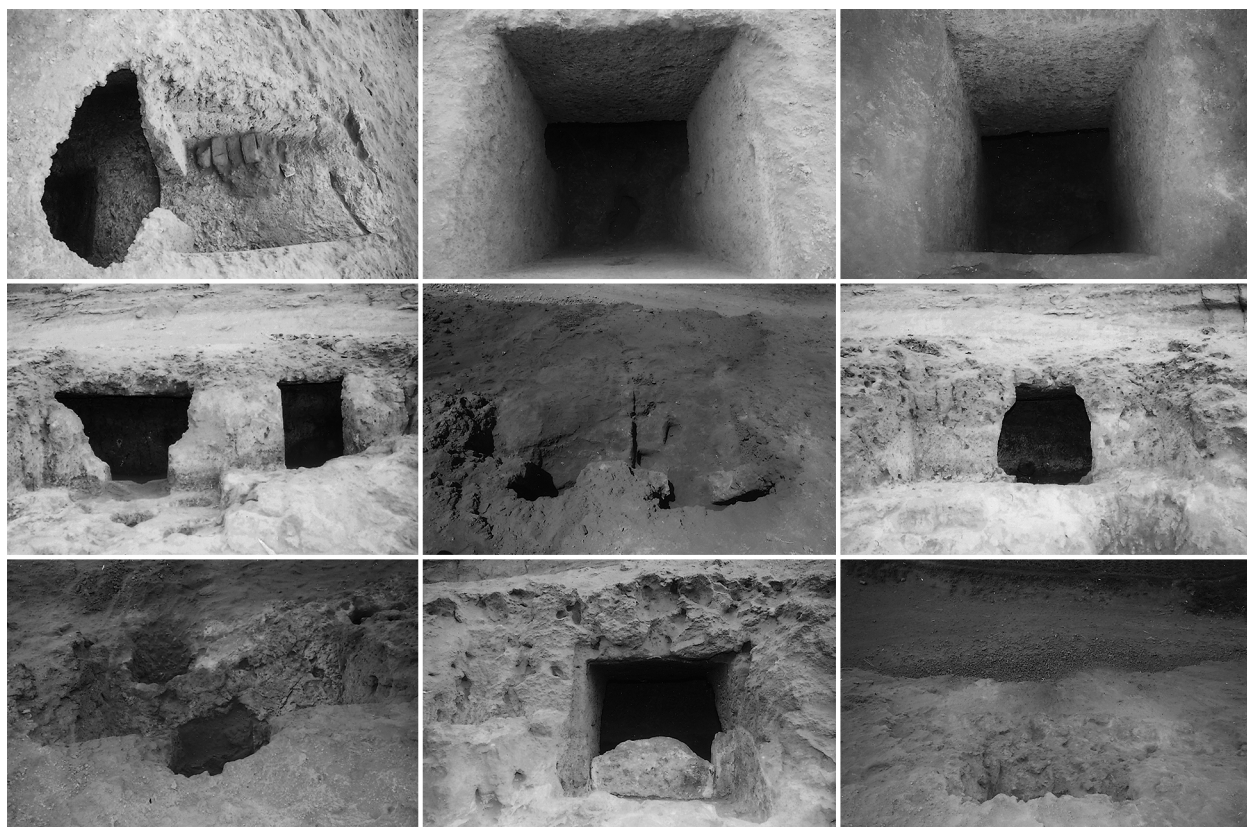
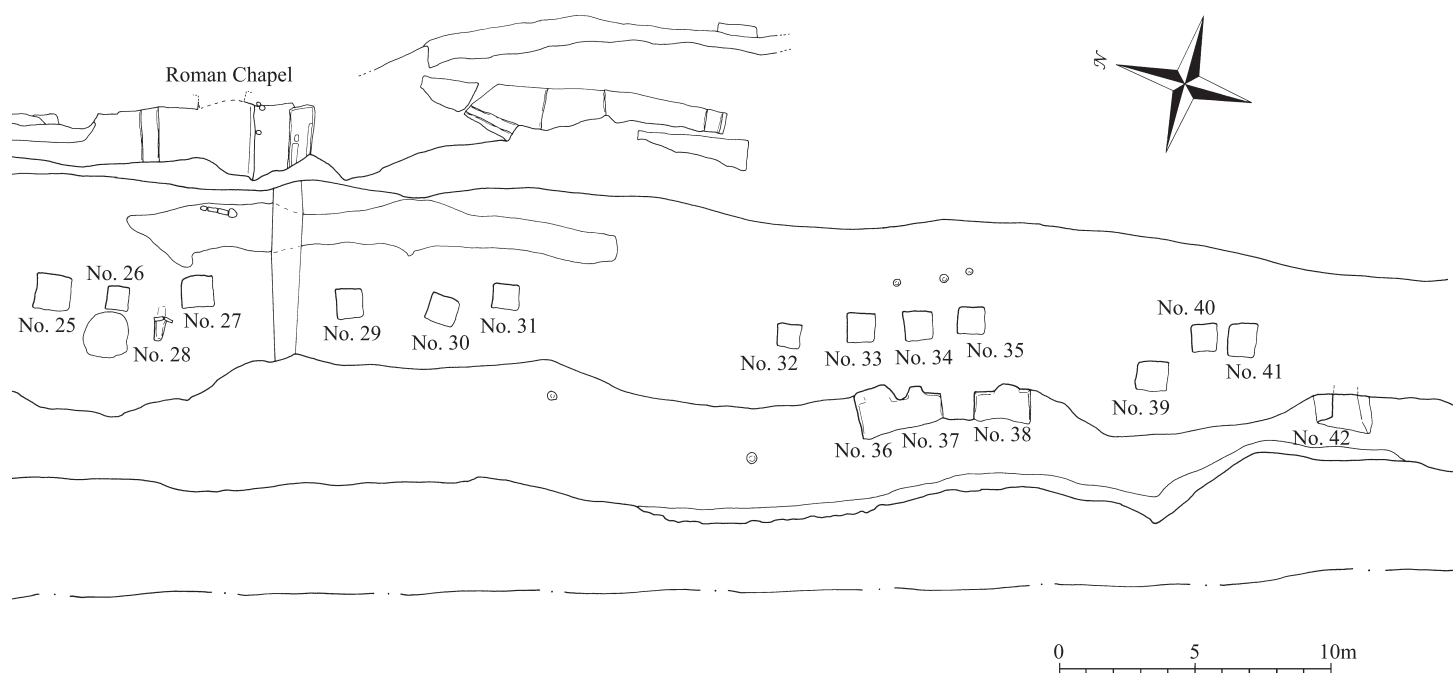


Fig. 9 Tombs excavated in 2007.

Upper: General View, Tomb 9, T11; Middle: T12, T17, T18; Lower: T23 (elevation and plan), T24 (elevation).



Upper: T24 (plan), T25, T26; Middle: T36 and 37 (elevation), T36 and 37 (plan), T38 (elevation);
Lower: T38 (plan), T42 (elevation and plan).

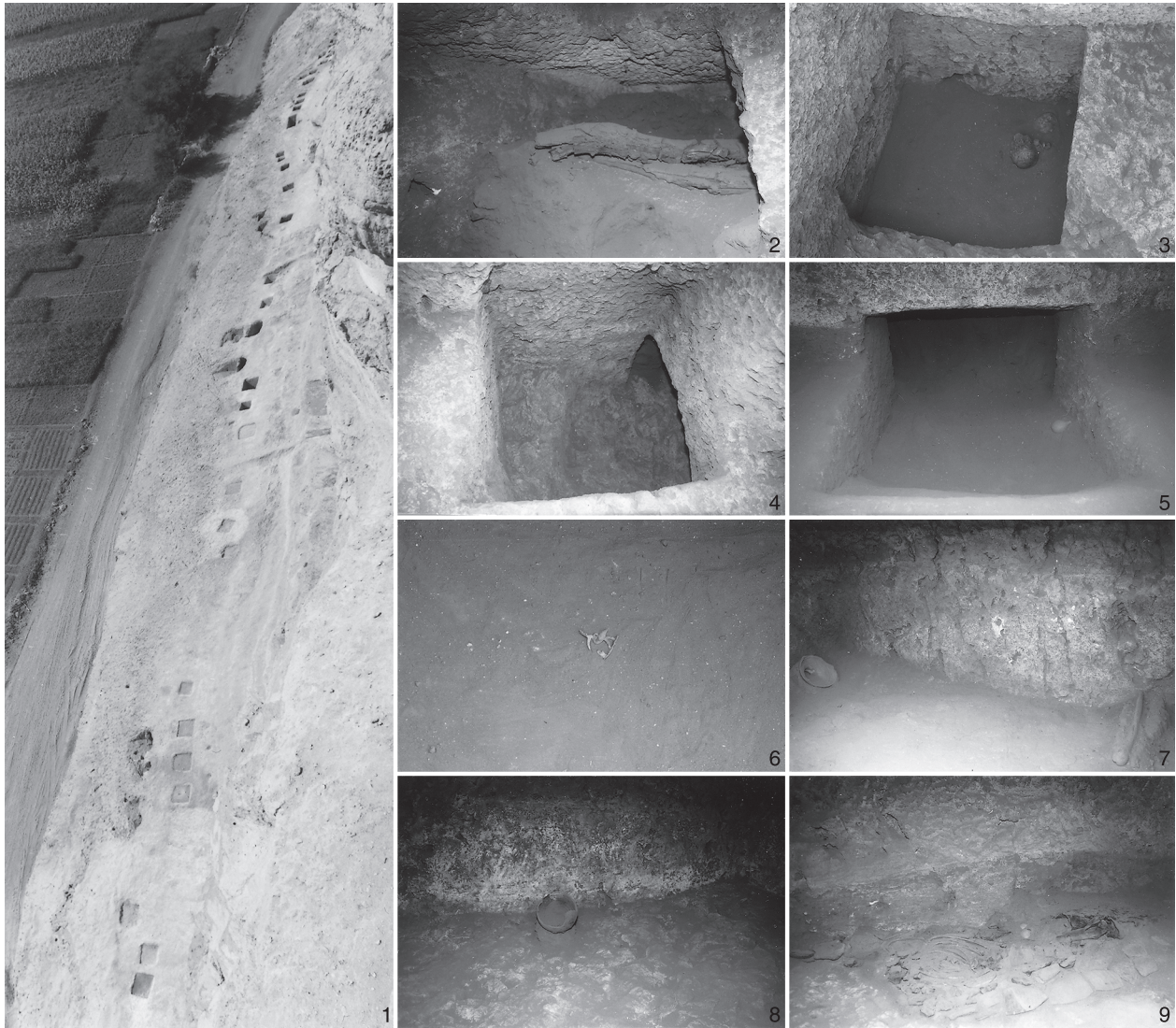


Fig. 10 Tombs in the West Area.

No. 1: General View from the south; No. 2: Tomb 17; Nos. 3, 4: T23; Nos. 5, 6: T24, No. 7: T36, No. 8: T38, No. 9: T42.

l. $20.1 \times$ w. 8.5cm , right foot l. $19.7 \times$ w. 8.2cm .

(Hanasaka)

West Area (Cover; Fig. 3, 8–11) The west necropolis located on a narrow shelf around and toward the south of a rock-cut mastaba belonging to the end of Old Kingdom Period (the OK Period). Tombs are supposed to have been cut in the same period as the mastaba, however almost all of them were reused for burial in the TIP. In this season, we extended our investigation area to approximately 50 meters south from the last season's in order to confirm the distribution of tombs, and excavated shaft tombs (Nos. 9, 11, 12, 17, 25, 26) and tomb chapels (Nos. 18, 23, 24, 36, 37, 38, 42). The tomb chapels, with entrances open to the west, cut the west side slope of the shelf on which shaft tombs are in a north-south line.

No. 9 is a shaft tomb. A female senior with her head to the west in a wooden coffin was buried in an inclined position partly in and partly out of a small pseudomorphic chamber. The coffin was almost completely decayed except for the bottom which forms an anthropoid shape measuring $158 \times 40\text{cm}$. No. 11 is a shaft tomb without a chamber. No. 12 is a large shaft tomb. A male senior contained in an almost completely decayed wooden coffin with a carved head wearing an *atef* hood

Table 1 Shaft Tombs

(Scale: cm)

	No. 9	No. 11	No. 12	No. 17	No. 25	No. 26
Size of Shaft	90 × 90 × d. 170	91 × 93 × d. 165	250 × 94 × d. 195	112 × 116 × d. 290	124 × 124 × d. 256	86 × 88 × d. 190
Direction of Chamber	east			west	west	east
Size of Chamber	130 × 57 × d. 82			220 × 100 × d. 116	224 × 96 × d. 90	110 × 50 × d. 74

Table 2 Tomb Chapels

(Scale: cm)

	No. 18	No. 23	No. 24	No. 36	No. 37	No. 38	No. 42
Size of Chamber							
	267 × 175 × d. 150	255 × 155 × d. 105	(the fore chamber) 265 × 158 × d. 123	224 × 120 × d. 90	140 × 104 × d. 90	220 × 140 × d. 96	230 × 110 × d. 100
			(the rear chamber) 156 × 68 × d. 80				

was detected here. Some slender jars offered to the dead date from the 8th–7th century B.C. No. 17 is a shaft tomb. Because its burial chamber is close to the chamber of the neighboring tomb No. 19, the wall separating them is very thin, a fact which has contributed to its partial destruction. Many timbers were contained in the upper layer of debris in the shaft, while various objects including crocodile-shaped clay figurines dating from the TIP were unearthed from the lower layer.

No. 18 is a tomb chapel. A shallow shaft (84 × 70 × d. 46cm) is on the northern side of a passage connecting the burial chamber, while a thick accumulation of animal bones, mainly of young goats, was detected on a platform on the southern side. These bones seem to have been offered to the dead. In a chamber, an anthropoid wooden coffin in which a mummified male senior laid with head to the south is fixed by clay between the west wall of the chamber and the coffin. The coffin measuring 226 × 76cm is seriously damaged but part of the head formed by colored plaster is preserved in better condition than the rest of the figure. Furthermore, three large and small sized ears made of plaster were found around the coffin. That shows that not only a coffin but also a plank cover was once there.

No. 23 is a tomb chapel in which has two shafts. The north shaft (90 × 90 × d. 262cm) has a large chamber (255 × 155 × d. 105cm) to the west. Approximately 25 dispersed human bones including those of 10 infants in addition to a small piece of a wooden coffin with gold leaf on it, a plaster mask and a few Coptic lamp shards were discovered in the upper layer of debris reaching the height of the chamber ceiling. Among them a senior male's perforated skull was found and is the third instance in the site. A small round hole (7 × 10mm) was opened carefully on the left side of the occipital region of the skull. These many bones were probably gathered from tombs of the TIP and abandoned collectively in the Coptic period. The south shaft (80 × 47 × d. 220cm) also includes a burial chamber (126 × 92 × d. 92cm) to the west. Female adult bones were found dispersed from the upper layer of debris in the shaft. No trace of interment remains in the chamber.

No. 24 is a tomb chapel consisting of two chambers connected with an inclined passage. No trace of a coffin remained, but grave goods are abundant. Especially, this tomb contained fine bronze objects. No. 25 and No. 26 located side by side are both shaft tombs and also have no trace of a coffin in their chambers. They are similar in having amulets of faience and many beads.

**Fig. 11** Perforated skull excavated at Tomb 23.

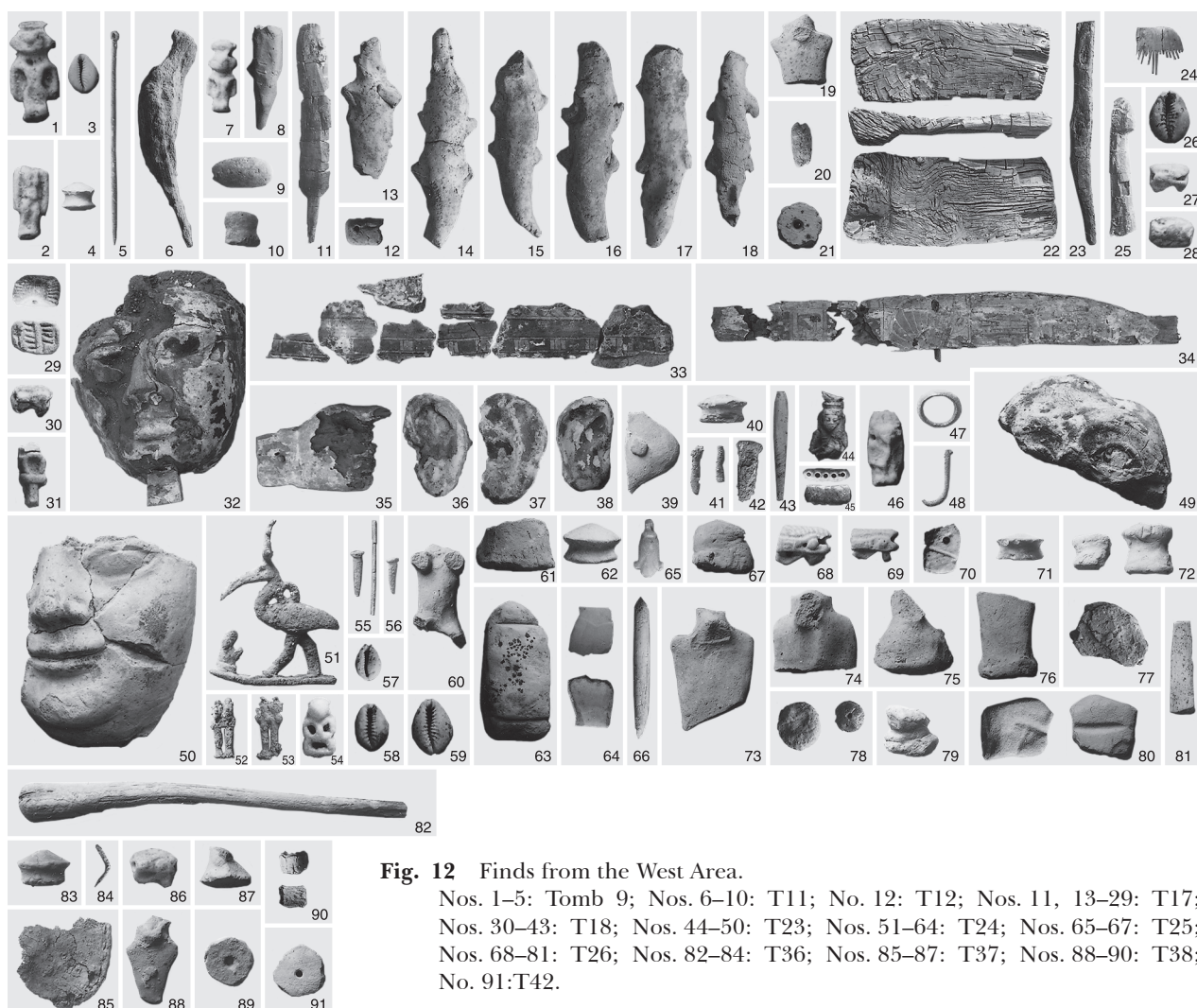


Fig. 12 Finds from the West Area.

Nos. 1–5: Tomb 9; Nos. 6–10: T11; No. 12: T12; Nos. 11, 13–29: T17; Nos. 30–43: T18; Nos. 44–50: T23; Nos. 51–64: T24; Nos. 65–67: T25; Nos. 68–81: T26; Nos. 82–84: T36; Nos. 85–87: T37; Nos. 88–90: T38; No. 91: T42.

Nos. 36–38 and 42 are tomb chapels. No. 36 is contiguous to No. 37, and No. 38 is only 1.8m away from them. No. 42 is located 10m to the south of No. 38. A narrow way continues to the north in front of these four chapels, and is broken off 10m north of No. 36 because of a landslide. Though the chapels of Nos. 36–38 have no trace of interment on the floor coated with mud, objects date from the TIP remain in the each chapel. A heel of a leather sandal found in No. 37 may have been produced at the leather workshop excavated in the South Area.

No. 42 was reused for burial in the Coptic Period. Two adjacent hewn stones, the outer sides of which were coated with gypsum, are laid at the entrance of the passage in front of the chamber. A chapel was possibly extended for the last interment, because the floor is rather large comparing with the ceiling and the east line of the floor gently curves toward the entrance to the passage unlike the ceiling which is an ordinary rectangle. A mummy lying with the head to the north surrounded by the Coptic pottery shards and wooden pieces remains along the east wall of the chapel. The mummy was burnt after interment. (Tsujimura)

Finds from the West area (Fig. 12, 13) Shafts tombs and tomb chapels excavated in this season have no remains belonging to the OK Period. Coptic remains such as lamp shards were found, however almost all remains date from the TIP. Considering unearthed pottery, the reuse of tombs is thought to have become active at the end of the TIP. Amulets and beads were discovered

from almost all tombs regardless of type. Similarly, human and cobra figurines and chess-like pieces of a game have been found in tombs so far excavated regardless the size and the type of the tomb. Only crocodile-shaped figurines have been restricted to shaft tombs.

A bird-shaped figurine (No. 6) No. 6: Tomb 11, wood, intact, l. 15.6 × w. 4.6 × h. 5.3cm, hand-modeled. It appears to be a dove.

Crocodile-shaped figurines (Nos. 8, 13–18) No. 8: Tomb 9, clay, l. 5.7 × w. 1.5cm. No. 13: l. 8.6 × w. 3.7cm. No. 14: Tomb 17, clay, l. 12.7 × w. 3.6. No. 15: Tomb 17, clay, l. 8.9 × w. 2.6cm. No. 16: Tomb 17, clay, l. 10.1 × w. 3.2cm. No. 17: Tomb 17, clay, l. 10.0 × w. 2.8. No. 18: l. 11.6 × w. 3.4cm.

Chess-like pieces of a game (Nos. 4, 40, 62, 71, 83) No. 4: Tomb 9, max. diam. 1.8 × h. 1.4cm. No. 40: Tomb 17, max. diam. 4.0 × h. 2.3cm. No. 62: Tomb 24, max. diam. 2.5 × h. 1.7cm. No. 71: Tomb 26, max. diam. 3.8 × h. 2.0cm. No. 83: Tomb 36, max. diam. 4.1 × h. 2.7cm.

Metal Objects (Nos. 51–53) No. 51: Tomb 24, figurine of Thoth, bronze, intact, l. 6.4 × w. 1.9 × h. 8.3cm. A scribe worships in front of the god Thoth. There is a loop on Thoth's back used to hanging the figure. No. 52: Tomb 24, figurine of Osiris, bronze, intact, l. 3.8 × w. 1.6cm. Two linked Osiris figurines and an attachment loop on its back. No. 53: Tomb 24, figurine of Osiris, bronze, l. 3.7 × w. 1.6cm.

Horseman (No. 60) Tomb 24, terracotta, hand-modeled, present size w. 5.2 × h. 6.4cm.

Other finds are as follows: Tomb 9: No. 1: Faience, h. 1.51 × w. 0.71cm. No. 2: Faience, h. 1.11 × w. 0.52cm. No. 3: Cowrie, h. 1.70 × w. 1.28 × t. 0.50cm. No. 5: Bronze/copper, l. 11.9 × d. 0.3cm.

Tomb 11: No. 7: Faience, h. 1.75 × w. 0.70cm. No. 9: Baked clay, l. 4.13 × d. 2.17cm. No. 10: Clay, l. 3.32 × d. 3.39cm.

Tomb 12: No. 12: Baked clay, 3.01 × 2.53 × 1.67cm.

Tomb 17: No. 11: Wood, l. 30.2 × w. 4.7 × t. 1.6cm. No. 19: Baked clay, l. 7.18 × w. 6.13cm. No. 20: Clay, l. 3.49 × d. 1.53cm. No. 21: Baked clay, d. 3.36 × t. 1.01cm. No. 22: l. 59.7 × w. 25.5 × t. 10.8cm. No. 23: Wood, l. 45.3 × w. 4.5cm. No. 24: Wood, l. 3.74 × h. 3.84cm. No. 25: Wood, l. 14.5 × w. 3.2cm. No. 26: Cowrie, l. 1.89 × w. 1.43 × t. 0.74cm. No. 27: Faience, l. 0.78 × w. 0.56 × t. 0.41cm. No. 28: l. 0.81 × w. 0.56 × t. 0.46cm. No. 29: Faience, l. 2.43 × w. 1.76 × h. 1.01cm.

Tomb 18: No. 30: Faience, l. 0.77 × w. 0.61 × t. 0.39cm. No. 31: Faience, l. 1.13 × w. 0.46 × t. 0.30cm. No. 38: Gypsum, l. 6.77 × w. 3.88cm. No. 39: Baked clay, l. 3.66 × w. 5.52cm. No. 41: Bronze/copper, l. 3.73cm; l. 1.88 × d. 0.40cm. No. 42: Bronze/copper, l. 4.45 × w. 1.92cm. No. 43: Bone, l. 5.71 × w. 0.75cm.

Tomb 23: No. 44: Faience, l. 2.62 × w. 1.41cm. No. 45: Faience, l. 1.86 × w. 0.80 × t. 0.51cm. No. 46: l. 1.39 × w. 0.66cm. No. 47: Bronze/copper, l. 1.43 × 1.19cm. No. 48: Bronze/copper, l. 2.57 × w. 1.12cm. No. 50: Gypsum, l. 10.3 × w. 7.8cm.

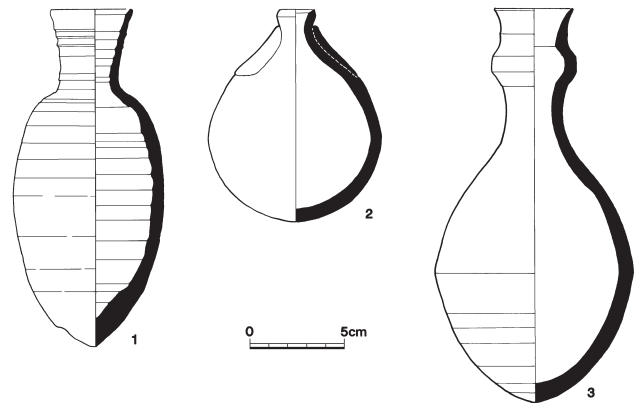


Fig. 13 Pottery excavated from the West Area.
No. 1: Tomb 12; No. 2: T24; No. 3: T26.

Tomb 24: No. 54: Faience, l. 1.33 × w. 0.70cm. No. 55: Bronze/copper, l. 2.19cm; l. 4.6cm. No. 56: Bronze/copper, l. 1.64 × w. 0.62cm. No. 57: Cowrie, l. 1.56 × w. 1.07 × t. 0.49cm. No. 58: Cowrie, l. 1.93 × t. 1.39 × t. 0.64cm. No. 59: Cowrie, l. 1.64 × w. 1.18 × t. 0.56cm. No. 61: Baked clay, l. 5.60 × w. 4.74 × h. 3.14cm. No. 62: Stone, l. 9.61 × w. 4.86 × t. 3.62cm. No. 64: Stone, l. 5.80 × w. 4.82 × t. 0.80cm.

Tomb 25: No. 65: Stone, l. 1.20 × w. 0.62cm. No. 66: Bone, l. 5.58 × d. 0.63cm. No. 67: Clay, l. 3.63 × d. 4.10cm.

Tomb 26: No. 68: Faience, l. 1.01 × h. 0.77cm. No. 69: Faience, l. 0.93 × h. 0.63 × t. 0.38cm. No. 70: Bone, h. 1.15 × w. 0.81 × t. 0.28cm. No. 72: Clay, l. 3.06 × d. 3.25cm; l. 2.17 × w. 2.43cm. No. 73: Baked clay, l. 10.5 × w. 7.2cm. No. 74: Baked clay, l. 5.48 × w. 5.58cm. No. 75: Baked clay, l. 6.24 × w. 6.42 × h. 6.35cm. No. 76: Baked clay, w. 4.60 × h. 6.83cm. No. 77: Clay, 6.93 × 4.78 × t. 2.36cm. No. 78: Clay, d. 4.01 × h. 2.75cm; Baked clay: d. 2.70 × h. 0.95cm. No. 79: Clay, d. 4.12 × h. 3.76cm. No. 80: Stone, l. 6.61 × w. 5.78 × h. 4.31cm. No. 81: Bone, l. 3.33 × w. 0.87 × t. 0.51cm.

Tomb 36: No. 82: Wood, l. 49.3cm. No. 84: Bronze/copper, h. 1.22 × w. 0.55cm.

Tomb 37: No. 85: Leather, 5.57 × 5.24cm. No. 86: Faience, l. 0.86 × w. 0.70cm. No. 87: Baked clay, l. 5.51 × w. 4.24 × h. 3.93cm.

Tomb 38: No. 88: l. 6.88 × w. 3.93cm. No. 89: Baked clay, d. 2.92 × t. 0.74cm. No. 90: Lead, l. 2.01 × w. 2.06 × t. 0.66; l. 1.65 × w. 1.29 × t. 0.48cm.

Tomb 42: No. 91: d. 3.43 × t. 0.58cm.

Pottery (Fig. 13 Nos. 1–3) No. 1: Tomb 12, slender jar, intact, rim diam.4.3 × h. 17.8cm. No. 2: Tomb 24, two-handled flask, intact, rim diam.2.0 × h. 11.3cm. No. 3: Tomb 26, ovoid jar with biconvex neck, intact, rim diam.4.1 × h. 20.8cm. (Tsujimura)

3 QUARRY

Architectural Survey on the Quarry Faces in Zāwīyat al-Sulṭān (Figs. 14, 15) Zāwīyat al-Sulṭān exists some 12 km south of Akoris and consists of an undulating plateau of limestone dissected by a tributary of Wadi Sheikh Yasin (Fig. 14). In the summer of 2007, we undertook limited excavations within the quarry with the specific purpose of clearing up some doubtful points of fact, including the inside of the cave (see Fig. 15), of which the top has been identified in 2006.

Normally a soft-stone block was defined at the quarry face by cutting separation trenches along the back and sides with a pick, and split from the bedrock, using wedges, or by applying levers to a continuous groove. Here, however, quarrymen actually begun to cut a horizontal trench far below the high wall (Fig. 14 upper), we should not dismiss the possibility that stone-production was going on simultaneously on the top of that high wall.

The main purpose of the excavation is to reconstruct the process of making horizontal caves and to clarify their function, which occur at almost the same level through the whole quarry area. And in this season the graffiti and the lines in red, which has been drawn with irregular spacing on the quarry faces and the ceiling of the cave, were carefully recorded and labeled (Fig. 15 lower right), and finally we intend to elucidate their meanings. Removing the deposits covering the quarry floors was carried out, since any structural details which might further clarify the relationship between the quarry faces and the surface of the bedrock are hidden by the stone debris and later

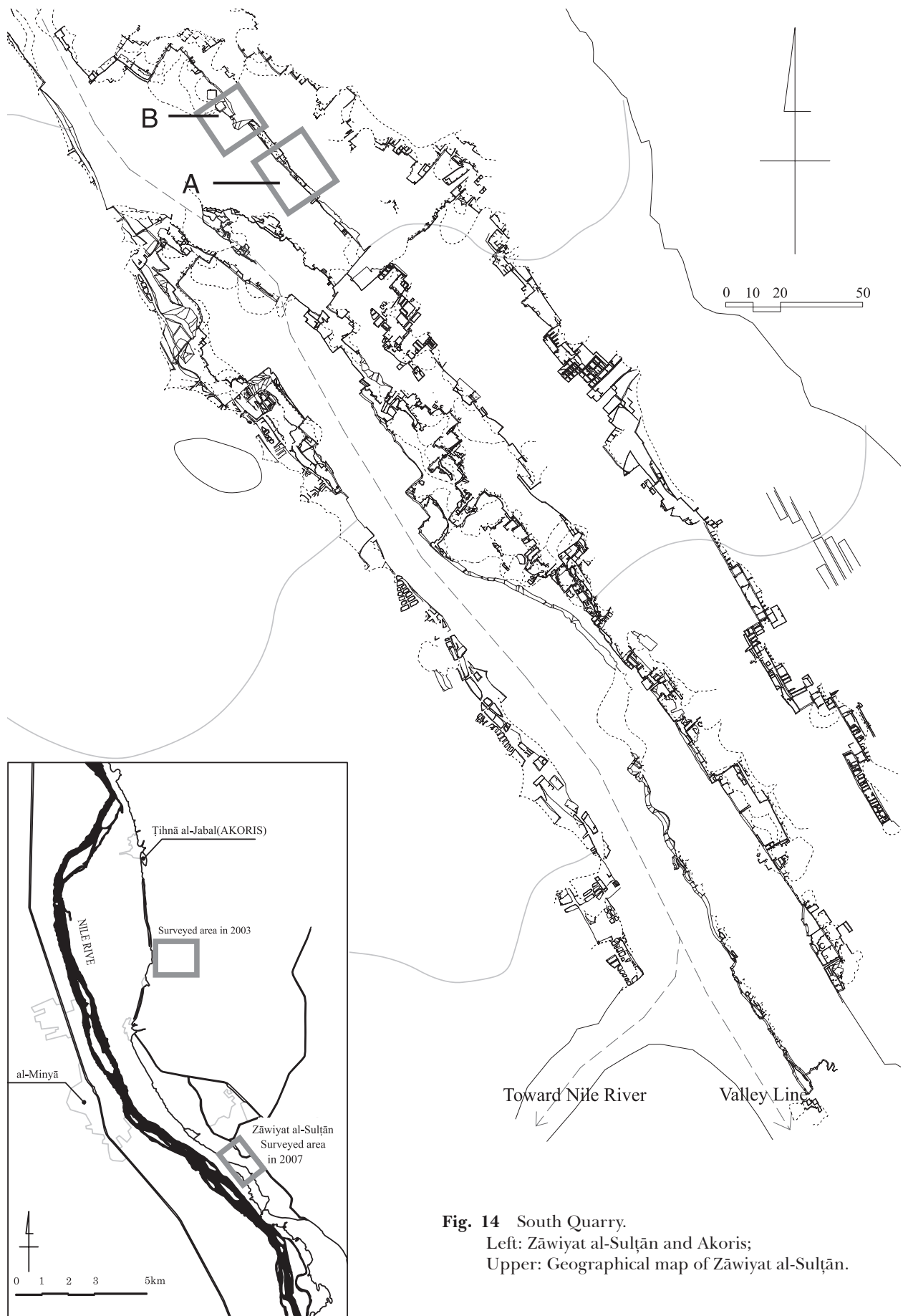


Fig. 14 South Quarry.
 Left: Zāwiyat al-Sulṭān and Akoris;
 Upper: Geographical map of Zāwiyat al-Sulṭān.

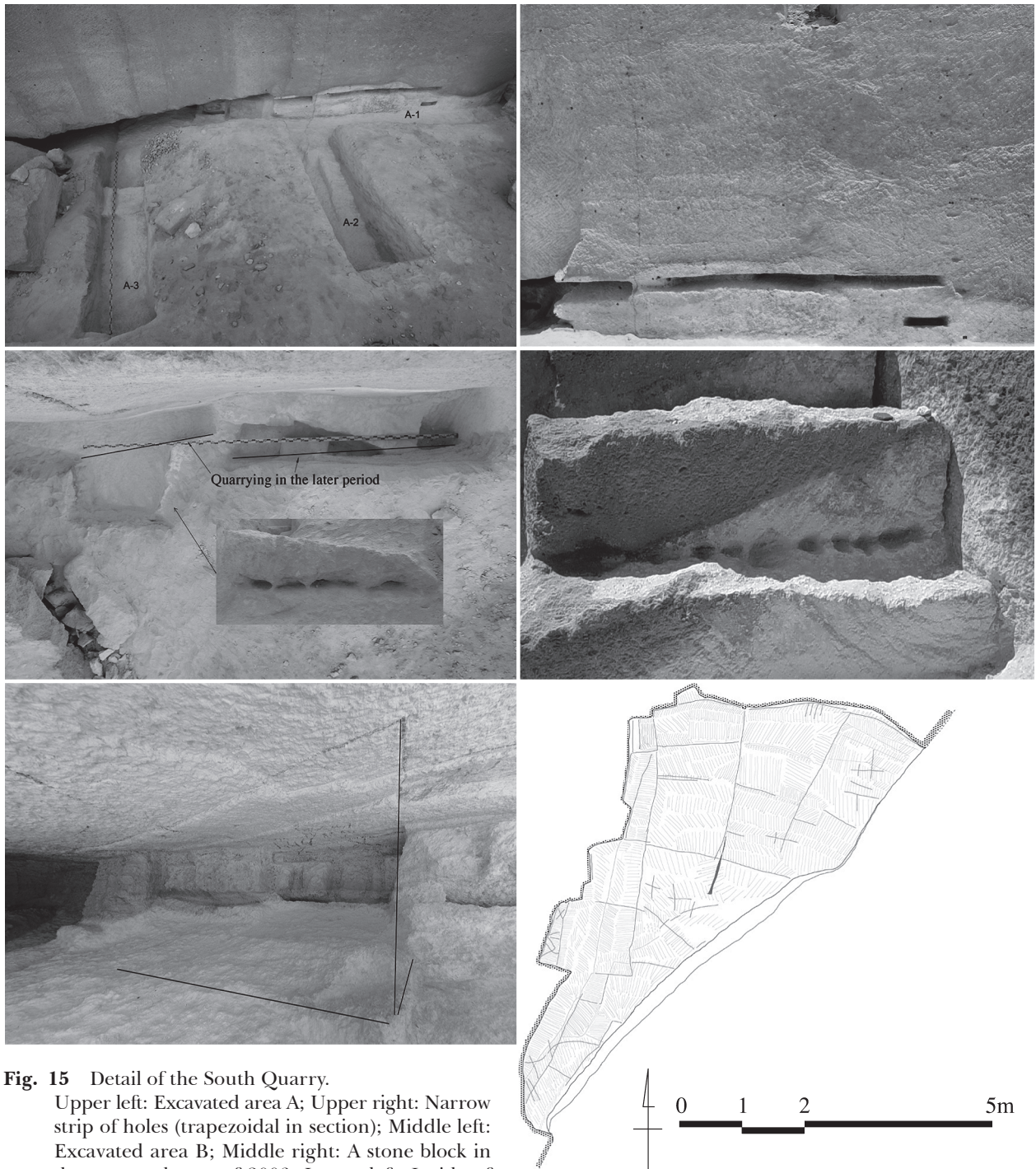


Fig. 15 Detail of the South Quarry.

Upper left: Excavated area A; Upper right: Narrow strip of holes (trapezoidal in section); Middle left: Excavated area B; Middle right: A stone block in the surveyed area of 2003; Lower left: Inside of the cave in area A; Lower right: Red lines and chisel marks on the ceiling of the cave.

deposits (Fig. 14 upper).

Removing of deposits in two areas (A and B in Fig. 14 upper) revealed clear evidence of narrow strip of holes (trapezoidal in section) that had been cut with a point at the lower end of the wall (Fig. 15 upper left and right). But insufficient for dating evidence in removed deposits such as datable vessels; it was clear, however, that the cave is confirmed by the fact that on its ceiling we can observe graffiti readable as Year 38 and 39 and datable to the period of Ptolemy II or VIII in area A.

Dumped over a large part of the removed area in the cave (Fig. 15), directly on top of the

quarry face, of which uneven surface at regular intervals helped ensure that stone blocks have been extracted from this bed rock, was a deposit 5–10cm thick of sand and this layer is covered by a deposit 10–30cm thick of sand including a number of small and scattered piece of a plant, which has been called “hulf” by the natives. It is possible to see this late unknown activity after the termination of quarrying in the Ptolemaic period in the complex sequence of activities in this area.

It is still difficult to know how deliberate the whole process of the extraction was in detail, but the stage of making the horizontal cave is indeed clear (Fig. 15 upper right): two holes in the course of digging on the exposed vertical face has been guided by chiseled line on the top between the file of hollows to scramble up the wall and natural fissure (working area). First the surface had been trimmed to flatten with a pointed chisel and graffiti and a horizontal line have been drawn, and then the those holes, which are overlapping, have been cut later.

Inside of the cave, cleaving marks still remain around the innermost recess of the cave (Fig. 15 lower left) and masons could be more comfortable in working on uneven but roughly smoothed quarry floor. That an small stone block (measuring approx. 30cm by 60cm, 50cm in height), the cleaving marks of which correspond exactly with a red line on the ceiling above (lines in Fig. 15 lower left), was deliberately extracted and that its exact location position could be traceable would have been a very natural solution to the problem with production control and quality assurance.

In area B (Fig. 15 middle left), unfortunately, no direct comparison of the lines in red on the quarry face with the surface of the bedrock seems to be possible since the whole area is covered only by a deposit 30cm thick of sand lightly discolored, and there no stone debris. And also a small stone block, which is abandoned in the half way of extracting, contains untrimmed wedge holes in shape of oval that could belong to the later period. The fact that the stone blocks have been extracted from quarry floor independently of a vertical separation trench running along the quarry face and a deeper trench crossing in right angle with it does encourage us to accept different periods of production of stone blocks. A stone block would have benefited from having a similar untrimmed wedge holes in a quarry datable to the late Roman period (Surveyed area in Fig. 14 left, and Fig. 15 middle right) in order that comparisons regarding the date and technique could be made more easily. Generally speaking, as in soft-stone working, the separation trenches had to be carried deeper than the intended cleavage level. However this area does not follow this principle. (Hori)

Greek and Demotic graffiti in Zāwiyat al-Sultān (Fig. 16) Our research of this season concentrated on the survey of Greek and demotic graffiti found on the wall and the ceilings of horizontal galleries inside the valley (Fig. 16 upper left). The total of 274 Greek and demotic graffiti, some of which had already been noted in the previous seasons, were examined and photographed. Surveyed areas indicated by the alphabet and the numbers of graffiti we surveyed are as follows:

Eastern side from north to south: E (36), F (41), G (16), H (27), I (49); Western side: R (43), S (18); Northern side: Q (27), U (17).

Newly surveyed graffiti reveal more various patterns of writing than those previously known. Many demotic graffiti carrying not only months but also regnal year and day are confirmed, latter two of which have been attested only in Greek. Comparison of such demotic graffiti with Greek counterparts reveals that the Ptolemaic financial calendar, which started seven months earlier (from Mecheir) than the Egyptian calendar, was used for the Greek texts, while the Egyptian calendar was used for the demotic texts. An example of such pair (Fig. 16 upper right) is F7 (demotic, Fig. 16

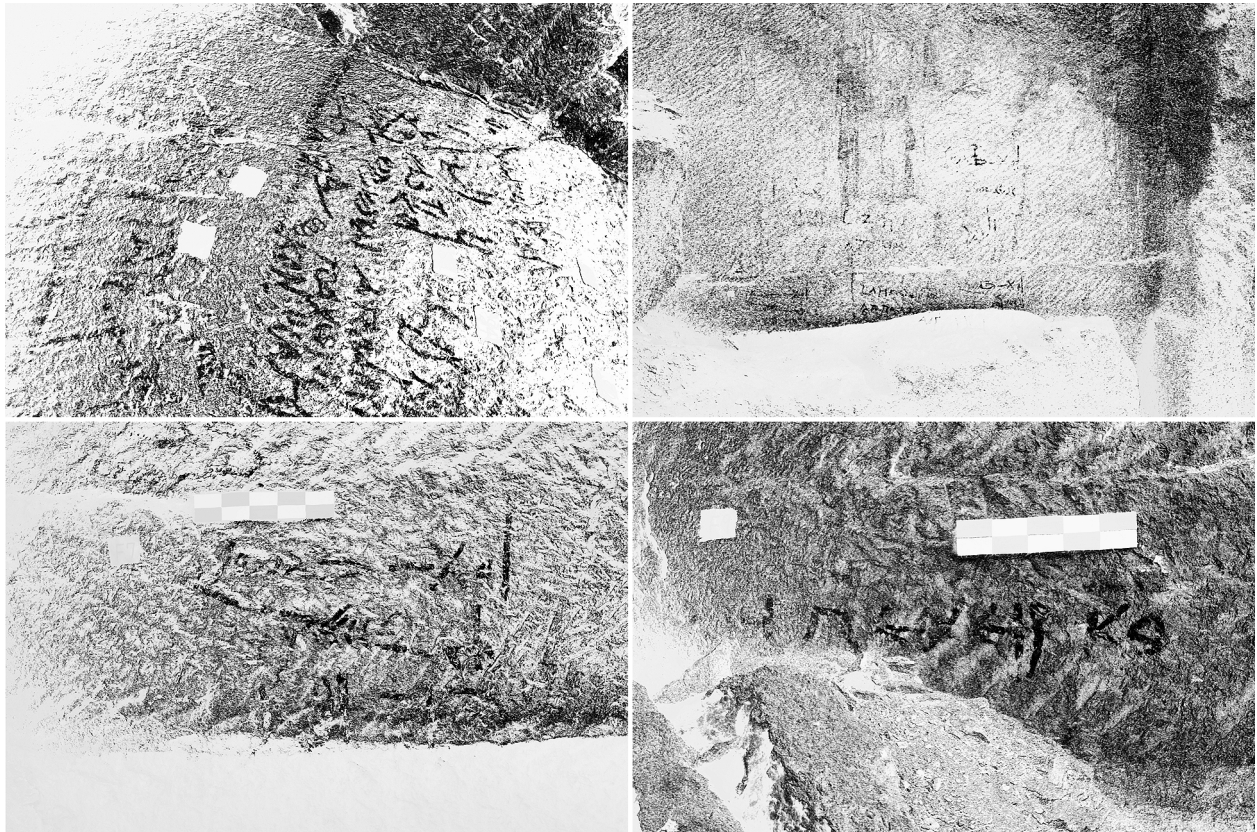


Fig. 16 Greek and Demotic Graffiti

Upper left: Greek and Demotic; Upper right: Greek and Demotic (F7 and F9);

Lower left: Demotic (F7); Lower right: Greek (F9).

lower left) and F9 (Greek, Fig. 16 lower right). The date (the first line) of F7 reads ‘Year 37, the second month of *pṛt* (Winter), 29th day’, that of F9 ‘Year 38, Mecheir, 29th day’. Considering the two graffiti being juxtaposed, the same month and day being recorded in the two, and general practice in recording the data in bilingual administrative documents in the early Ptolemaic period, they doubtlessly indicated the same date and it is clear that the different calendars were deliberately employed for the different languages, rather than that the Greek version indicated exactly one year later. This observation may shed new light on the function of graffiti in administrating the mining activities.

Seemingly indication of the duration of quarrying, which has been attested only on demotic graffiti, are now appeared on Greek graffiti in Section R. Rather than recording successive months like in demotic ones, prepositions such as ‘*apo* (from)’ or ‘*eis* (to)’ are used for the Greek graffiti. R 30 and probably R 33 read ‘Pauni, from Hathyr’, R 19 ‘Mecheir to Choiak’.

On the chronology of graffiti, the 39th regnal year is newly attested on some graffiti at the middle terrace of the eastern and northern sides of the valley (F3, G2, U7, U9). Although both Ptolemy II and VIII are still the candidates to determine under whose reign the quarry was operated, Ptolemy II is definitely favoured due to the absence of the 40th (and later) year and the appearance of the third regnal year of another (most probably next) king on neighboring graffiti.

(Suto and Takahashi)

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