

PRELIMINARY REPORT

AKORIS

2008

South Area



West Area



South Area



South Quarry

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1 GENERAL VIEW

Both the west and south sides of a crag protruding in the ancient city area have been the object of our investigation from 2002. It is testified by our excavation that the west side is an Old Kingdom (OK) graveyard, that most of tombs were reused in the Third Intermediate Period (TIP), and that the south side consisted of the settlement part of the TIP. Another object of our investigation is the nearby quarries, situated within 15km from Akoris, and we execute architectural and epigraphical surveys there. Consequently it is clarified that each quarry dates from the Ptolemaic, Roman or Coptic Period respectively (Figs. 1–2, 13).

While the approximate products of the 2008 investigations are reported below, it is specially notable that large houses were revealed on the floor of the valley, where a ‘mastaba’ bench (built-in bench in a room), mural paintings and a stone statue were confirmed. These houses are obviously larger and richer compared to common houses and workshops situated on the south slant of the crag. Thus the existence of a social stratum have been extractable in this area. And considering that mural paintings on common houses are rare in ancient Egypt except for the royal workshop in Tell el-Amarna, and that Akoris was no more than a local city, the rise of the middle class seems to have formed a social trend in the TIP. (KAWANISHI)

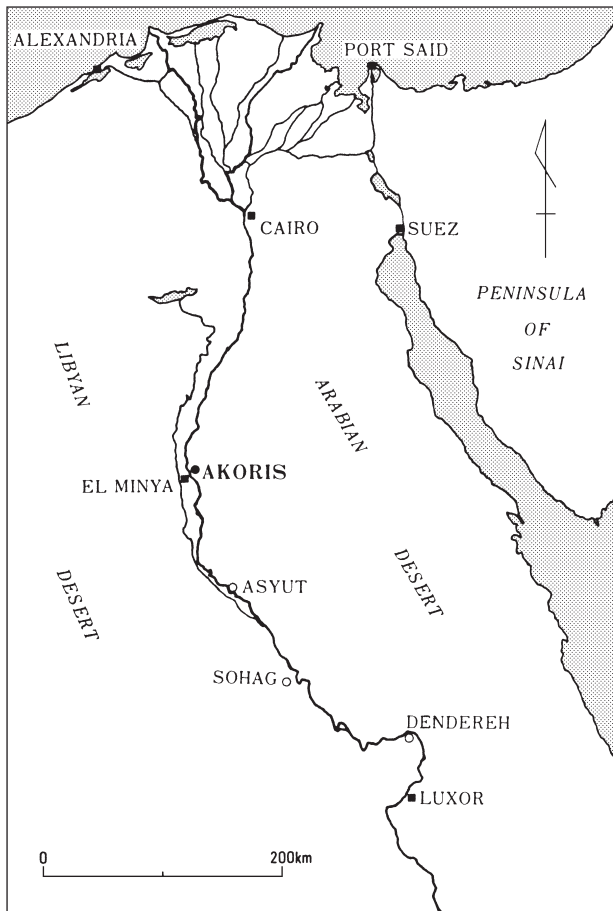


Fig. 1 Map of Egypt.

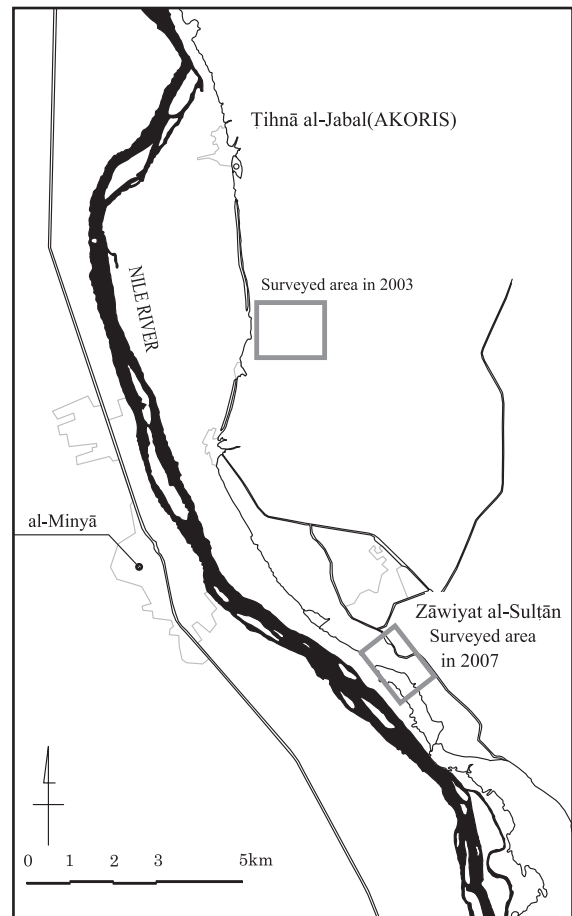


Fig. 2 Quarries near Akoris.

2 ARCHAEOLOGICAL INVESTIGATIONS

South Area (Cover, Figs. 3–7) At the end of the 2002 season, an excavation trench was laid measuring 80.0m in length north-south and 3.0m in width on the slope in the South Area at the base of the crag. The trench was divided into ten 8.0m grids, labeled A–J from the top down and were preceded by the number of the year. In every following season, we extended the existing trench further to the east and the west to approximately 54.0m in width by the end of the 2007 season. We found many mud brick structures, houses, granaries and workshops, belonging from the TIP to the Late Period (LP).

In the 2008 season, we continued the investigation further to the southwest of Area 06J in an area 28.0m in width east-west and 20.0m in length north-south. We found sixteen rooms in the investigated area of this season, and these rooms composed the whole and the parts of houses, named House I–III. In addition, there were some circular structures, probably granaries, to the west of these houses.

House I consisted of five main rooms, Room 1, 3–5 and 7, with two small sections, named Room 2 and 6. The house measured 10.3m east-west and 8.0m north-south, and the total floor space was 82 square meters. This was the first time to be able to confirm the whole plan of a house with plural rooms and walls on all sides since the 2002 season.

The largest room in House I was Room 1 measuring 4.9m east-west \times 3.8–4.4m north-south and it had a trapezoidal plan. An entrance was cut through the west wall opening to the exterior and a limestone door socket still remained on the inside of the room. In the northern part of Room 1, there were two more rooms divided by a thin north-south wall, Room 3 in the west and Room 4 in the east.

Room 3 measured 3.1m east-west \times 3.4m north-south and formed an L-shape. Room 2 occupied the southwest part of Room 3, and measuring 1.3m \times 1.3m, it would have been used as a storage space attached to Room 1. It was possible that there had been steps to the upper floor or roof at the north wall of Room 2 as it was twice as thick as its other walls.

Room 4, measuring 3.3m east-west \times 3.5m north-south, had four entrances cut through the walls. One was connected to Room 1 on the west end of the south wall, and three others were to Room 3 on the south end of the west wall, to Room 5 on the north end of the east wall, and to Room 7 on the east end of the south wall, respectively. It might be said that there were doors on the wall which opened inward from Room 4 to Room 3, 5 and 7, judging from the hollowed shape of the edges

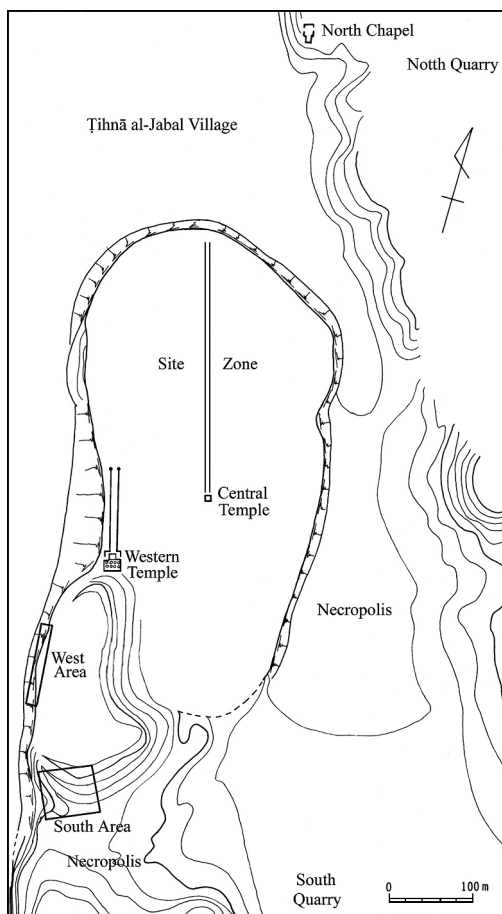


Fig. 3 Map of Akoris.

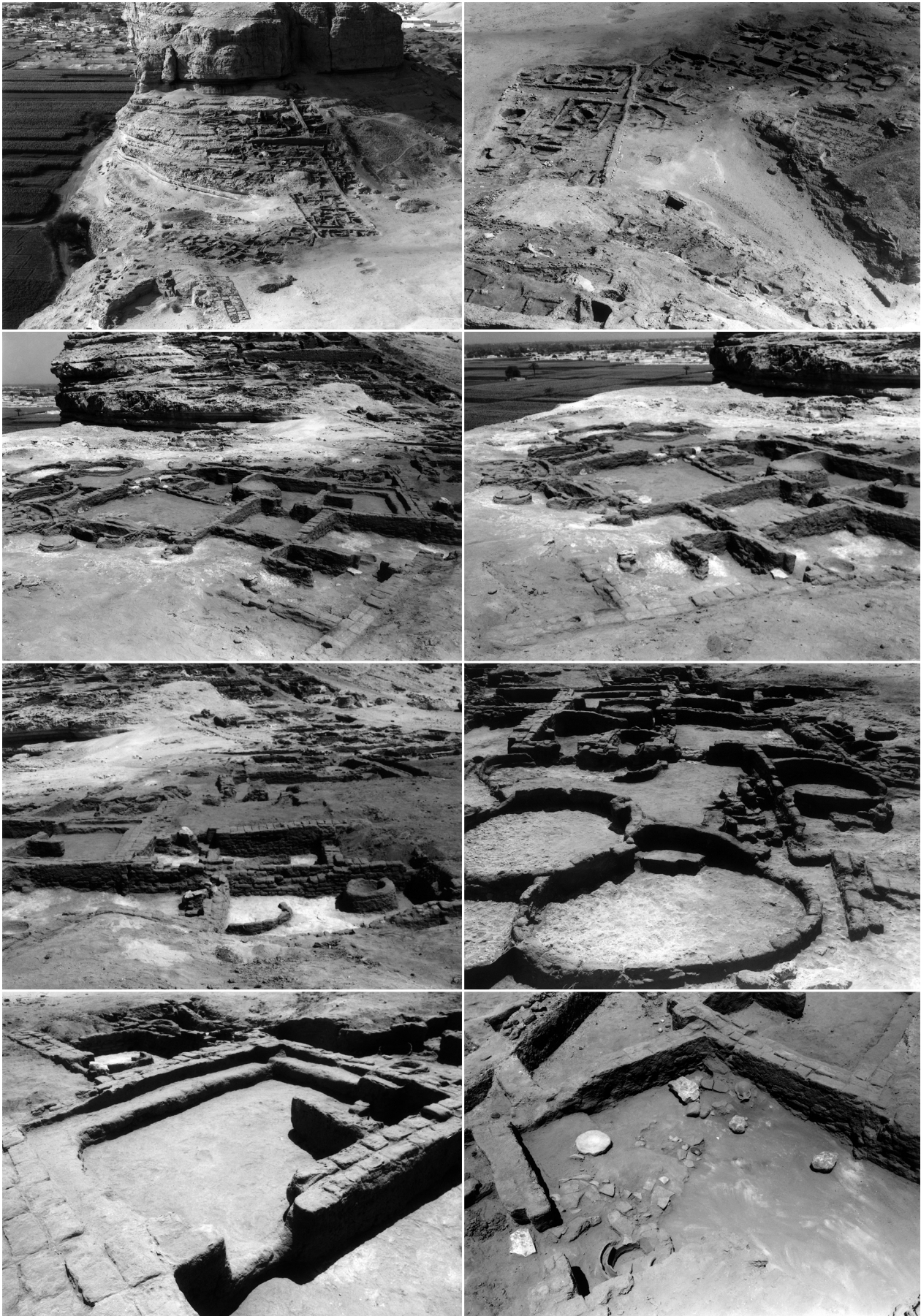


Fig. 4 South Area.

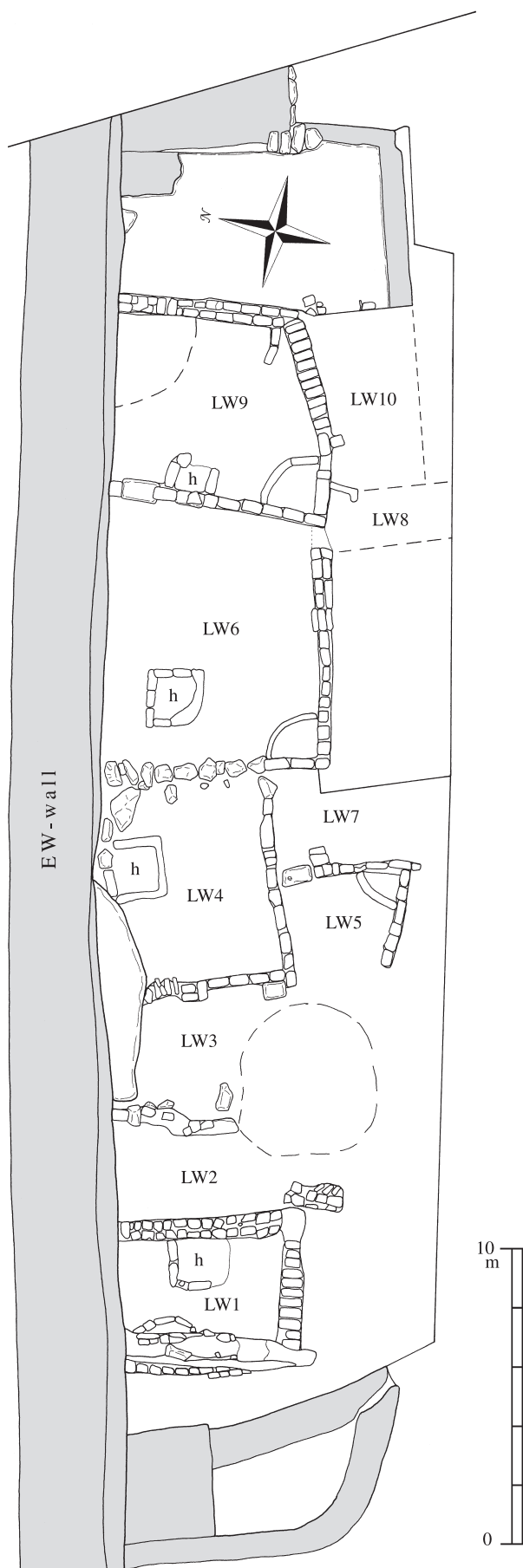


Fig. 6 Plan of the leather workshop.



Fig. 7 South Area.

Upper: Mural paintings;

Upper middle: Two tombs in the R3 of House II;

Lower middle: Leather workshop;

Lower: Leather fragments.

of the walls. While the bottom part of a probable granary measuring 1.5m in diameter remained in the center of Room 4, it was presumed to have been built after the room had lost its original purpose.

The most interesting structure in House I was Room 5, measuring 2.0–2.4m east-west \times 4.2m north-south. There was a ‘mastaba’ bench, measuring 0.3m in height, installed all around all the walls, but the west one. It was possible that Room 5 had a special function, such as a private chapel, by reasons that the floor level was a bit higher than those of Room 4 and 6, and there was a yellow color remaining on the walls, in addition to the existence of the ‘mastaba’ bench. At the southwest corner of this room, there was a partitioned space for storage, Room 6, measuring 0.9m east-west \times 1.4m north-south. We found the head of a fine quality small statue made of basalt, long bronze hooks, amulets, amphora caps and so on.

Room 7 measured 2.8m east-west \times 2.8m north-south. It might be said that this room would have been a storehouse since there were a large jar remaining in situ, a well preserved leather sandal, and many stone tools such as saddle querns, rubbing stones, pounding stones, whetstones and stone weights.

If we dare to think about the function of each room, Room 1 and 3 were a living space or workroom, Room 4 was a central hallway connecting each room, Room 5 was a private chapel, and Room 2, 6 and 7 were for storage. Unfortunately, we could not find an oven or hearth for cooking either on the inside or the outside of the house.

House II was situated on the east side of House I, however, the excavation of the eastern part remained unfinished. We found at least four rooms, Room 1–4 in this season, placed so that Room 1 was on the west, Room 2 on the north and Room 4 on the south of Room 3 respectively. Room 3 was confined to a partial dig because there were two mummified bodies, mentioned below, found in the surface layer and we could not have enough time to excavate lower layer.

Room 1 measured 3.9–4.4m east-west \times 4.1m north-south, and had an entrance connected to Room 3. From the upper layer of debris, many decorated wall or ceiling fragments were unearthed. It was very hard to recognize the subject of the paintings as those fragments were too small, about 10 \times 10cm. However, some of them showed floral, square and band patterns. The base color of the fragments was white, probably mud plaster, and multicolored patterns were painted in yellow, blue, green, red and black.

There was an entrance with limestone steps connecting to Room 4 measuring 4.5m east-west \times 2.4m north-south, at the southwest corner of Room 3. Room 2 was the largest space within the unearthed area in this season and measured 9.2m east-west \times 5.8m north-south. There was a rectangular oven along the eastern wall and a round oven at the northeast corner. There was a trace of another entrance which had been cut through the northern wall connected to the room excavated in 2006 season.

Three rooms, Room 1–3, which were parts of House III, were revealed though the excavation stay unfinished. Room 2 measured 3.0–5.7 m east-west \times 2.5–3.1m north-south and showed an irregular L-shape plan. On the floor level, we found two saddle querns, an imported flask-type pottery, and other things. A large jar was set beside the entrance to Room 1 which measured 2.8m east-west \times 3.0m north-south, after the room lost its initial purpose. The bedrock was exposed in the southern part of the room.

We confirmed an ancient street 1.3m in width running north-south in the 2006 season. It is

possible that the eastern part of House II and III will be found to open to this ancient street.

The leather workshop was situated in Area 02–04, 07, 08D just south of the huge east-west wall (EW wall) measuring 2.3m in height, 1.5m in thickness and 23.0m in total existing length. We confirmed the western edge of the leather workshop in 2003 and the eastern edge in 2007. The whole area of the leather workshop measured approximately 17.5m east-west and 6.0m north-south. The southern edge of the workshop might have extended to the south, unfortunately however, it could not be confirmed. There were accumulated layers consisting of debris, animal hair, vegetable remains, hardened floor, and so on. The total existing thickness of the layers was about 20–30cm.

The vegetable remains were seeds and hulls of the genus *Acacia*, named ‘Egyptian Mimosa’ or ‘Suntwood’. Suntwood is rich in tannin and was used for the process of vegetable tanning. In addition, a large quantity of leather products, whole and parts, especially sandals and shoes were excavated in each season. It was revealed that the raw material for these products was goatskin. There were thongs and triangular pieces cut out from larger leather sheets. And though red and green colored leather products were found, almost all the sandals and leather pieces were a dark brownish color, which showed us that leather had been tanned by vegetable materials. 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, first an earthen bank about 1.0m in width was removed, which was left as a pathway for us on the slope. After that we investigated the lower accumulation of the leather workshop below the earthen bank. Since we could expose the whole area of the workshop, we divided it into several parts and renamed them LW (Leather Workshop) 1–LW10. Previously, we had given the temporary names, P1–P7, to the investigated area in the workshop, and each former name would correspond to LW4, LW6, LW5, LW7, LW9, LW8 and LW10 respectively. In this season, we excavated at LW9, LW10 and a part of LW6.

Most of LW6 had already been excavated in 2003, and the newly investigated area was situated under the earthen bank, about 1.0m in width. The total area of LW6 measured 4.5m east-west × 3.7m north-south. There was a hearth measuring 1.0m square in size a little to the west of the area, surrounded by mud bricks. Similar hearths were found in LW1, LW4 and LW9 and were one of the most interesting considerations for reconstructing the working process and the facilities of the workshop. However, the room was still lacking the material evidence to reveal a concrete usage. In 2003, there was a lump of lime used as animal hair remover in a pot set in the southwest corner, in addition to another lump of lime in LW6.

The order of layers in LW6 investigated in this season showed from top to bottom as follows: animal hair, much mixed debris, a little hardened soil, much mixed debris, little mixed debris, and fine hardened soil. Each layer was very thin, measuring only about 1–3cm. The much mixed debris contained animal hair, fragments of leather products, seeds and hulls of Suntwood, pottery sherds and ears of cereals, the little mixed debris had also the same components except fragments of leather products.

In LW9, there was an area scattered with large mud bricks, about 40 × 20 × 12cm in size, which would be dated to the Ptolemaic Period according to our mud brick chronology. LW9 was situated at the east of the LW6 and just on the south of the EW wall, and measured about 2.8m east-west × 3.5m north-south. Just under the upper layer with the mud bricks, we found some

limestone blocks, stone objects and many leather products. There were leather thongs, triangular cut pieces and parts of leather sandals and other products, which included handgrips and parts of a colored leather bag. In addition, there were reels of string and green pigments in a broken bowl which would probably come from copper verdigris. A fine hardened floor was revealed below the accumulation of the leather products, and there was a hearth beside the western partition wall. In the corner of the west and south walls, there was an curved partition of mud bricks, and similar structures were found in LW5 and LW6.

LW10 measured 3.7m east-west \times 1.6m north-south, however the southern edge of the area could not be confirmed. The order of layers was repetitions of very thin accumulations which consisted of mixed debris and a little hardened soil. Since there was a mass of fragments but unfinished products, it was possible that the area was a refuse dump rather than a sewing factory.

In this season, we removed the earthen bank and stopped excavation at the same level as the surface in other areas, and a horizontal level over the entire leather workshop generally matched. So far, we have seen the common features of the plan in the workshop. It could be pointed out that there were a simple hearth and a curved partition at the corner of the area, but the above observations are still tentative, since there is still much material evidence lacking in order to reconstruct the whole picture of the leather workshop.

In this season, four burials were found, Tomb 1 in one of the circular structure to the west of the houses, Tomb 2 at the northern outside of House I (named Un-Room 1), Tomb 3 and 4 in Room 3 of House III. Tomb 1 measured 90cm in length and 20cm in width, with head pointing eastwards. We found part of a rectangular wooden coffin. It contained the skeletal remains of a 1-year-old infant, covered with cloth. Tomb 2 had a badly damaged anthropoid coffin, measuring 200cm in length and 39cm in width, with head pointing north-west. It contained the skeletal remains of possibly an adult male. Tomb 3 contained a small rectangular wooden coffin, measuring 53cm in length and 35cm in width, with head pointing west. There was the mummified remains of a child, 5–6 years old, covered with a cloth. Tomb 4 was found at just north from Tomb 3. We found a colored anthropoid coffin, measuring 180cm in length and 49cm in maximum width, with head pointing west. The lid was totally damaged. The deceased was a female in her twenties, originally wrapped in cloth, only fragments of which now remain. No funerary gift was discovered.

(HANASAKA)

Finds from the South Area (Fig. 8) Wooden Objects (Nos. 1, 4, 5, 24–26, 33) No. 1: Wooden comb, with twenty-seven teeth, R1 of House I, l. 7.89 \times w. 4.45cm. No. 4: Wooden unidentified object, weaving tool (?), Un-R1, l. 25.70 \times w. 3.03 \times t. 1.74cm. No. 5: Wooden stick of spindle whorl, with a notch for tying strings, Un-R1, l. 16.05 \times diam. 0.85cm. No. 24: Wooden unidentified object, oval shaped with a socket hole, R2 of House III, l. 6.20 \times w. 5.50 \times h. 2.46cm. No. 25: Wooden spindle whorl, R2 of House III, d. 4.48 \times h. 1.98cm. No. 26: Wooden unidentified object, stick-like shape, R2 of House III, l. 28.0cm. No. 33: Unidentified wooden objects, left; weaving tool (?), R1 of House III, l. 20.3 \times w. 3.79cm, right; handle?, R1 of House III, l. 19.6 \times w. 2.99cm.

Stone Objects (Nos. 14, 17–19, 29, 30, 38–40, 44) No. 14: Head of male statue, basalt, R6 of House I, h. 7.38 \times w. 6.79cm. No. 17: Stone vessel, ointment jar, alabaster, R7 of House I, h. 4.36 \times diam. 5.64cm, depth of hole 2.89cm. No. 18: Flint sickle blade, R7 of House I, l. 6.27 \times w. 4.21cm. No. 19: Stone weight, limestone, with groove line, R7 of House I, l. 4.97 \times w. 4.19cm. No. 29:



Fig. 8 Finds from the South Area.

Nos. 1, 2: R1 of H I; Nos. 3–8: Un-R1; No. 9: R7 of H I; Nos. 10–12, 55, 56: R1 of H II; No. 13: R4 of H I; Nos. 14–16: R6 of H I; Nos. 17–23: R7 of H I; Nos. 24–32, 58, 59: R2 of H III; Nos. 33–41: R1 of H III; No. 42: R3 of H III; Nos. 43, 44: R4 of H III; Nos. 45–47: R3 of H II; Nos. 48–50: other parts; Nos. 51–54: leather workshop.

Saddle quern, limestone, circular saddle quern, R2 of House III, diam. 45.9 / 47.9cm × t. 6.9cm.
No. 30: Stone gaming piece, marble, R2 of House III, h. 1.45 × diam. 2.03 / 1.56cm.

No. 38: Stone drill, sandstone (?), with concentric circles lines, R1 of House III, h. 7.87 × w. 8.39 × d. 5.52. No. 39: Stone dish or saddle quern, rectangular shaped, limestone, R1 of House III, l. 7.9 × w. 41.3 × h. 7.7cm. No. 40: Stone objects, rubbing or pounding stones, R1 of House III. No. 44: Unidentified stone object, applied yellowish-white slip, R4 of House II, l. 3.50 × w. 2.37 × h. 1.34cm.

Bronze Objects (Nos. 9, 16, 32, 41, 45) No. 9: Bronze tweezers, R1 of House II, l. 5.81 × w. 0.71cm. No. 16: Bronze hook, R6 of House I, l. 13.66 × diam. 0.43cm. No. 32: Unidentified bronze object, cylinder-shaped with many holes, R2 of House III, l. 5.37 × diam. 1.74cm. No. 41: Bronze dagger, R1 of House III, l. 23.90 × w. 2.53 × t. 0.23cm. No. 45: Bronze fish hook, R3 of House II, l. 3.06 × w. 1.78cm.

Baked Clay Objects (Nos. 6, 11, 12, 27, 28, 42) No. 6: Clay cobra figurine, fired, Un-R1,

h. 9.68 × w. 4.87cm, there were 13 similar cobra figurines found from the South Area in this season. No. 11: Clay unidentified object, fired, oval shape with two holes, R1 of House II, l. 3.91 × w. 2.48 × t. 0.94cm. No. 12: Clay weight, fired, with a hole, R1 of House II, l. 4.59 × diam. 2.19cm. No. 27: Clay human figurine, fertility figurine (?), fired, R2 of House II, l. 8.35 × w. 4.89cm, there were 4 human figurines found from the South Area in this season. No. 28: Clay human figurine, fertility figurine (?), fired, with a naval-like projection and two light red slip lines, R2 of House II, l. 6.16 × w. 3.86cm. No. 42: Clay spindle whorl, converted from pottery sherds, fired, R3 of House III, d. 3.24 × t. 0.44cm.

Unbaked Clay Objects (Nos. 8, 34–37, 46) No. 8: Clay round object, gaming piece (?), unfired, black polished, R6 of House I, diam. 5.22 × h. 1.92cm. No. 34: Miniature clay vessel or lid (?), unfired, R1 of House III, l. 3.87 × h. 2.01cm. No. 35: Miniature clay vessel or lid (?), unfired, R1 of House III, d. 3.55 × h. 1.07cm. No. 36: Unidentified clay object, rectangular shaped, unfired, R1 of House III, l. 4.81 × w. 3.05 × d. 2.19cm. No. 37: Unidentified clay object, sphere shaped, with almost thirty oval stamps, unfired, R1 of House III, diam. 5.65cm, the size of stamp is less than 1cm in length. No. 46: Clay lid (?), with an oval stamp, unfired, R3 of House II, l. 6.29 × w. 4.91 × t. 3.49cm.

Amulets (Nos. 2, 3, 7, 10, 13, 15, 20, 21, 31, 43, 47–51) No. 2: Faience unidentified amulet, part of goddess, R1 of House I, h. 2.25 × w. 1.17cm. No. 3: Faience amulet, double scarabs, two red and one light blue, Un-R1, l. 0.97 × w. 0.98 × h. 0.35, l. 0.90 × w. 1.08 × h. 0.36 and l. 1.03 × w. 0.90 × h. 0.47cm. No. 7: Faience scarab, greenish blue, with hieroglyph read as ‘*Imn R^c*’, Un-R1, l. 1.47 × w. 1.07 × t. 0.75cm. No. 10: Faience ring, fragment, with hieroglyph sign, R1 of House II, w. 0.89 × h. 2.06cm. No. 13: Faience lion headed goddess figurine, Bastet or Sekhmet (?), R4 of House I, h. 2.85 × w. 1.03 × d. 1.90cm. No. 15: Faience amulet, *Udjat*-eye, R6 of House I, l. 2.42 × h. 1.85 × t. 0.90cm. No. 20: Stone scarab, agate, with groove line, R7 of House I, l. 1.29 × w. 0.88 × h. 0.56cm. No. 21: Faience amulet, Sekhmet, R7 of House I, h. 4.79 × w. 1.39 × d. 1.01cm. No. 31: Faience ring, fragment, with hieroglyph read as ‘*/// pt t3(?) ntr hk3 W3st*’, R2 of House III, l. 1.87 × w. 1.30 × h. 1.73cm. No. 43: Fragment faience ring, with double *Maat* feathers?, R4 of House II, l. 1.59 × w. 0.69 × h. 0.89cm. No. 47: Faience scaraboid amulet, with falcon-headed god, R3 of House II, l. 1.78 × w. 2.25 × h. 1.16cm. No. 48: Faience scarab, upper part lost, with human sign, Un-R1, l. 1.36 × w. 1.00 × h. 0.31cm. No. 49: Stone scarab, bluish green glazed, with falcon headed god wearing LE crown?, Un-R1, l. 1.53 × w. 1.03 × h. 0.70cm. No. 50: Faience amulet, Pataikos, Un-R1, l. 2.74 × w. 1.21 × t. 0.82cm. No. 51: Faience amulet, Mayhes, Area 08D (LW 8), l. 3.28 × w. 1.56cm.

Ivory (?) Object (No. 22) No. 22: Tooth or tusk unidentified object, disc shaped with two holes, R7 of House I, diam. 5.49 × t. 0.31cm.

Leather Objects (Nos. 23, 52–54) No. 23: Leather sandal, right foot, ‘eared’ cutting pattern layered soles, R7 of House I, l. 26.1 × w. 10.8cm. No. 52: Leather shoe, left foot, ‘eared’ cutting pattern layered sole with upper part, Area 08D (LW 8), l. 25.8 × w. 12.0cm. No. 53: Leather object, handle (?), with red colored leather sheet and green string, Area 08D (LW 8), l. 6.84 × w. 2.18cm. No. 54: Leather object, handle (?), same object as No. 53.

Pottery (Nos. 55–59) No. 55: Pottery, large-rimmed jar with two handles, applied white slip to exterior, R1 of House II, h. 42.5 × rim diam. 32.2cm. No. 56: Pottery, jar, R1 of House II, h. 42 × rim diam. 19cm. No. 57: Pottery, large-rimmed jar with two handles, R2 of House III,

h. 24.7 × rim diam. 24.8cm. No. 58: Pottery, imported pilgrim flask, R2 of House III, h. 36.6 × rim diam. 15.6cm. No. 59: Pottery, pilgrim flask, decorated with black circles, R2 of House III, h. 30.0 × body diam. 30.6cm. (HANASAKA)

West Area (Cover, Figs. 9–11, Tab. 1) A necropolis on the west shelf of the crag consists of shaft tombs and tomb chapels, with a rock-cut mastaba dated from the OK Period as the nucleus. We have excavated here in the necropolis extending 160 meters in length north-south since 2002, and in this season finished our investigations by excavations of shaft tombs (Nos. 27–35, 39–41) located in the southernmost part.

Among the twelve shafts which we excavated, Nos. 27 and 28 on the north side were abandoned during construction, however all other shafts have funerary chambers. These shafts form a line at intervals of 1.5m or less except between Nos. 31 and 32, and Nos. 35 and 39 which are separated by 9.5m and 5.5m respectively in spite of there being no large cracks to avoid in these two long intervals. All of them measure ca.1m square at the mouth, the depths differ as indicated in Table 1. Eight shafts bear a funerary chamber westward at their bottoms except for Nos. 33 and 39 which bear a funerary chamber eastward and southward respectively. In the case of No. 33 it is considered that the existence of the tomb chapel of No. 36 prevented the dig of a west funerary chamber.

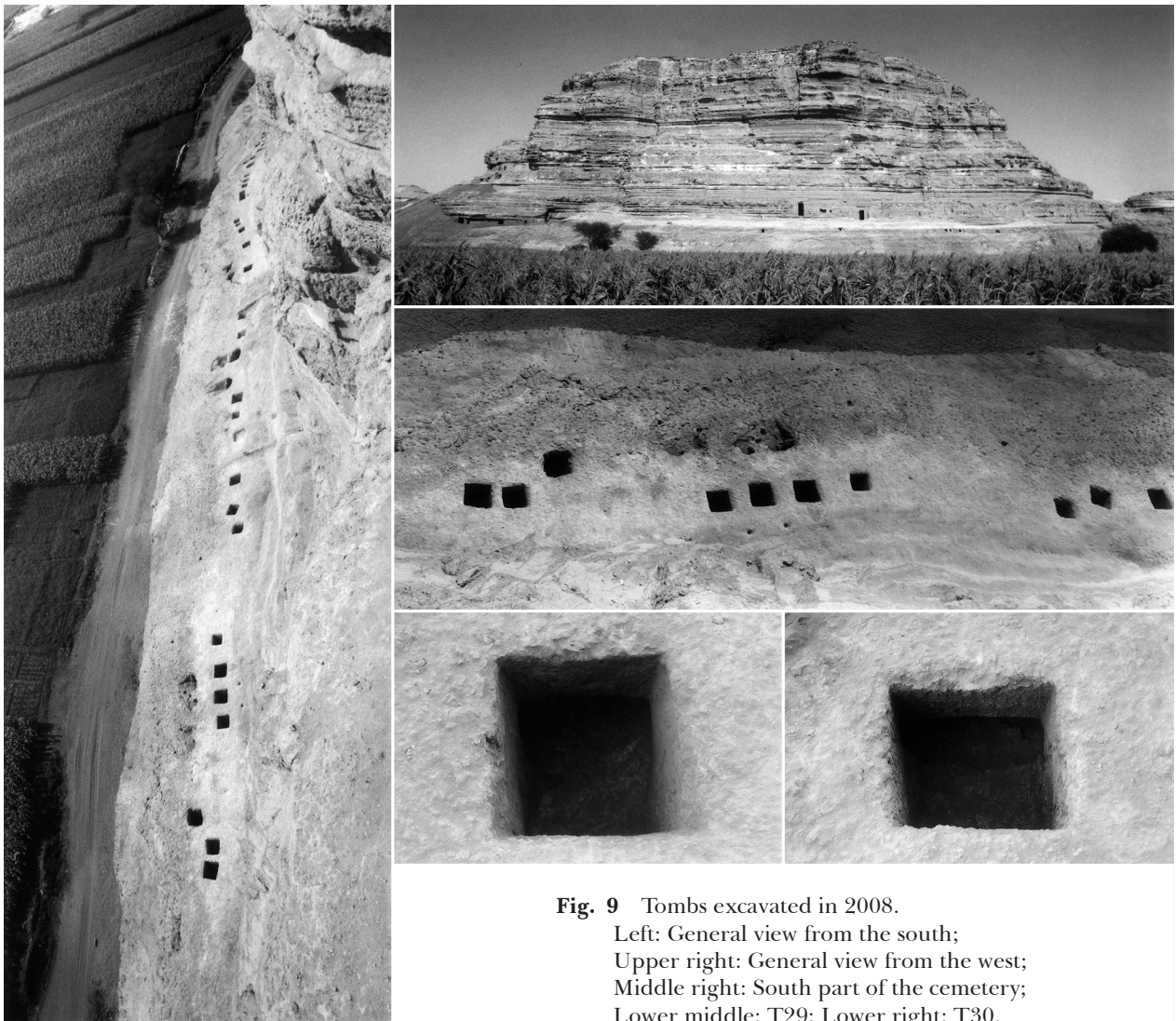


Fig. 9 Tombs excavated in 2008.
 Left: General view from the south;
 Upper right: General view from the west;
 Middle right: South part of the cemetery;
 Lower middle: T29; Lower right: T30.

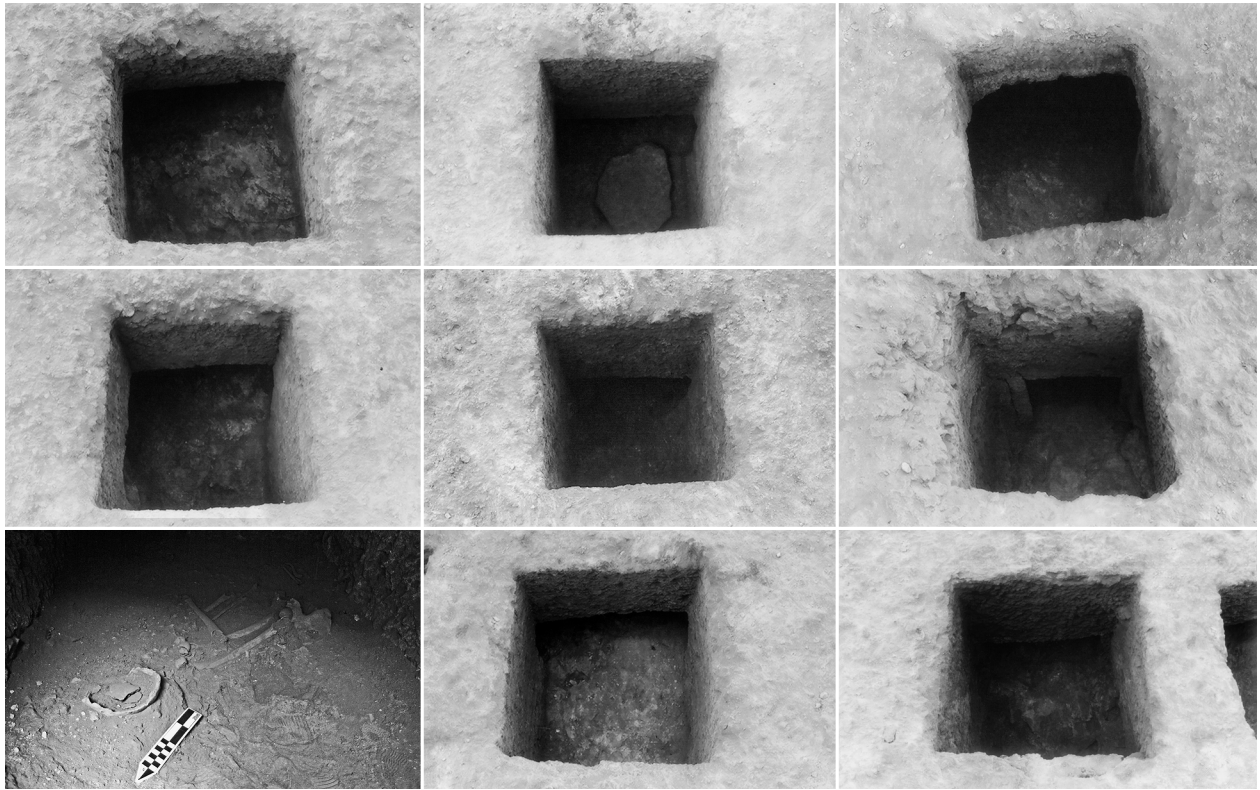


Fig. 10 Tombs excavated in 2008.

Upper: T31, T32 and T33; Middle: T34, T35 and T39; Lower: T39, T40 and T41.

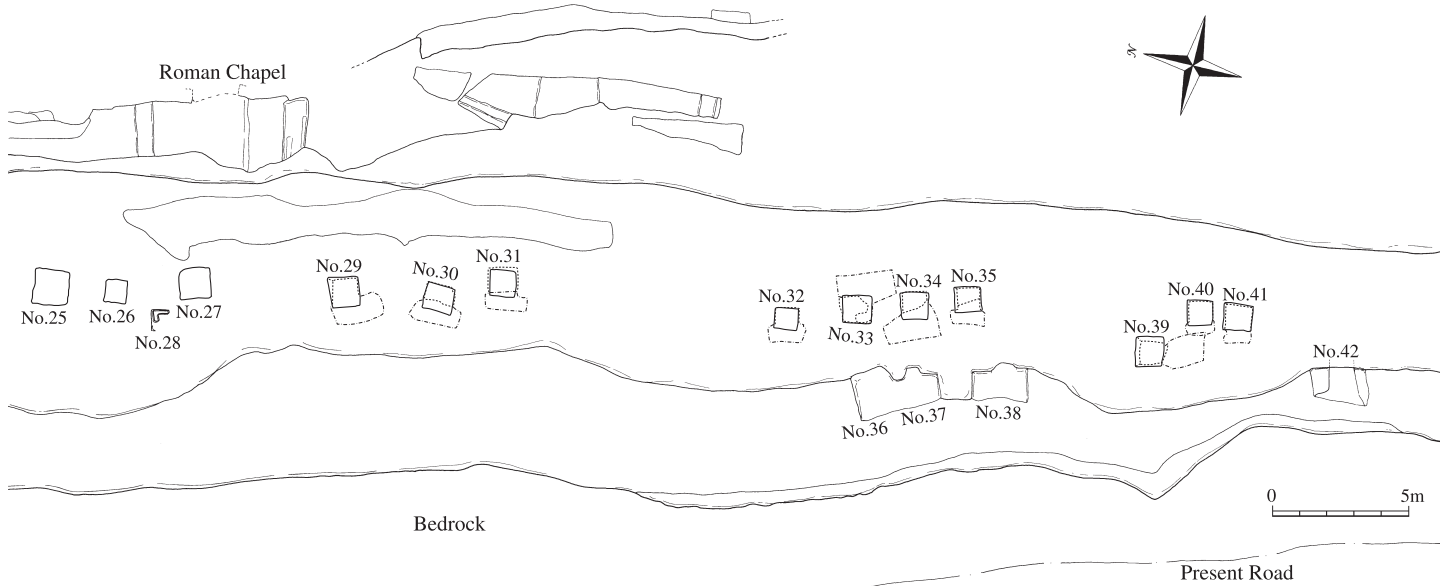


Fig. 11 Tombs excavated in 2008.

Funerary chambers are possibly divided into two types by their lengths, that is, a large type having a large enough area for an adult to lie in (Nos. 29–34) and a small type having a limited area for an adult in bent position or an infant (Nos. 35, 39–41). Only No. 39 belonging to the latter type has a chamber which is broader than chambers of the large type, and an adult female bone exposed in the chamber is supposed to have been bent with her head to the north. Other chambers of the

Table 1 Dimensions and directions of the excavated tombs

(Scale: m)

No.	Shaft			Funerary Chamber			
	Length	Width	Depth	Length	Width	Height	Direction
29	1.13	1.12	1.72	1.85	0.66	0.80	west
30	1.10	0.98	1.60	1.85	0.57	0.75	west
31	0.98	0.95	1.52	1.57	0.57	0.76	west
32	0.87	0.82	1.88	1.85	0.50	0.68	west
33	1.06	1.05	1.57	2.10	0.75	1.25	east
34	1.02	1.00	1.88	1.96	0.73	1.02	west
35	0.97	0.93	1.58	1.23	0.42	0.72	west
39	1.10	1.10	2.10	1.38	1.14	0.95	south
40	0.95	0.95	1.28	1.05	0.55	0.48	west
41	1.05	0.98	1.77	1.00	0.50	0.85	west

small type might have been for an infant. Though the chamber of No. 39 connected southward with the shaft is adjacent to the chamber of No. 40 connected westward, they avoid destruction by making them at different depths. That is, No. 39 is deeper than No. 40.

All remains unearthed from tombs date from the TIP except for a few pottery shards of the OK Period. Pottery shards were found from every tomb except in Nos. 27 and 28, however the quantity differs among tombs as Nos. 33 and 41 bear a large quantity as opposed to Nos. 39 and 40 which have a negligible amount. No. 41 especially bears not only a large quantity but also nearly intact vessels like large jars and a pot-stand (above right on the cover). These potteries as well as a Phoenician amphora from No. 32 and a Cypriote flask from No. 35 are estimated to date from the early half of the TIP, 10–8 century B.C.. The quantity of beads also differs greatly among tombs with a large quantity of beads unearthed from Nos. 33 and 41, while none from Nos. 39 and 40.

Amongst various remains a faience product with hieroglyphic letters (*wr ibhy Mry-'Imn*) found from No. 30 is of special mention. According to the deciphering by our member Mr. Uchida, *wr ibhy* possibly means the chief of royal dentists and *Mry-'Imn* is a part of pharaoh's name of the TIP. This product gives suggestions as to the social class of the people buried in this necropolis.

(TSUJIMURA)

Finds from the West Area (Cover, Fig. 12) Baked Clay Objects (Nos. 1, 4, 5, 10, 11, 14, 19)

No. 1: A human figurine with a naval-like projection, h. 4.0 × w. 3.7 × t. 1.0cm, hand modeled, the head and the lower part of body are missing. No. 4: Miniature lamp (?), l. 4.5 × w. 3.2 × t. 2.5cm, hand modeled, intact. No. 5: Piece of chess-like game, bottom diam. 3.8 × h. 2.5cm, intact. No. 10: Cobra figurine, h. 6.5 × w. of bottom 3.8 × t. 6.5cm, hand modeled, upper part is missing. No. 14: Lid (?) with two holes, diam. 3.8 × t. 0.7cm, intact. No. 19: Cobra figurine, h. 6.0 × w. 5.0 × t. 2.5cm, hand modeled, a head and lower part are missing.

Unbaked Clay Objects (Nos. 11, 16–18) No. 11: Unidentified object, l. 6.7 × w. 4.5 × t. 3.0cm, intact, two small eye-shaped grains of clay are attached. No. 16: Miniature jar, h. 7.0 × w. 3.3cm, intact, hand modeled. No. 17: Miniature bowl, rim diam. 7.3 × h. 5.5cm, intact, hand modeled. No. 18: Miniature boat, l. 9.3 × w. 3.5 × h. 2.3cm. Some hollows are made on gunwale, hand modeled.

Stone Objects (Nos. 2, 3, 6, 15) No. 2: Knife, l. 7.2 × w. 4.8cm, flint, half of knife is broken. No. 3: Weight (?), l. 11.0 × w. 6.9 × h. 5.2cm, intact, two grooves are running along the surface and

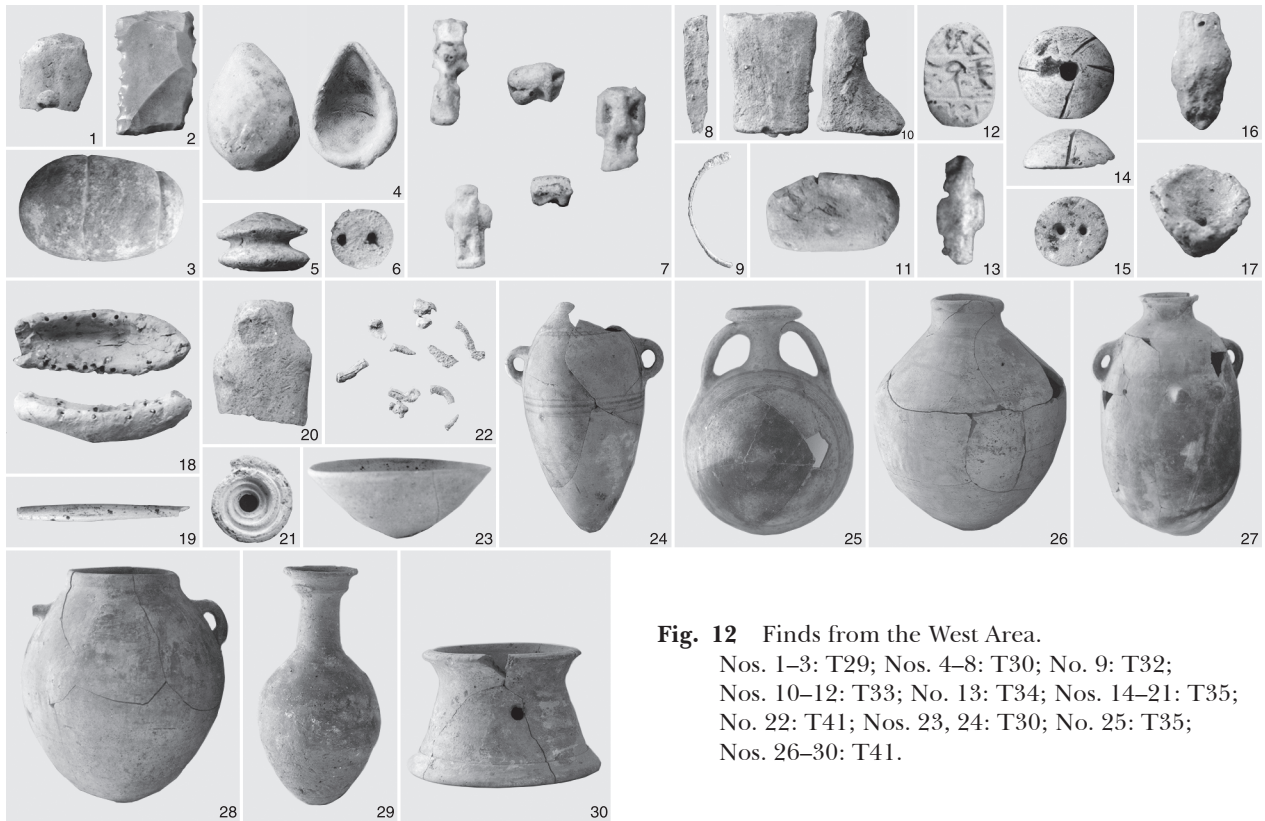


Fig. 12 Finds from the West Area.

Nos. 1–3: T29; Nos. 4–8: T30; No. 9: T32;
 Nos. 10–12: T33; No. 13: T34; Nos. 14–21: T35;
 No. 22: T41; Nos. 23, 24: T30; No. 25: T35;
 Nos. 26–30: T41.

a square shallow hollow on the flat bottom of the scarab-shaped, limestone. No. 6: Lid (?) with two holes, diam. $3.1 \times t. 1.0$ cm, intact, limestone. No. 15: Spindle whorl, diam. of bottom $4.8 \times h. 2.2$ cm, (hole diam. 1.2cm), intact, four incised lines radiate from a hole in the center, limestone.

Faience Objects (Nos. 7, 12, 13, above right on the cover) No. 7: Amulets of Bes, Horus, Pataikoi and two *Udjat*-eye, l. $0.92 \times w. 0.64 \times t. 0.33$ cm, l. $0.65 \times w. 0.47 \times t. 0.34$ cm, light blue. No. 12: Scarab, l. $1.12 \times w. 0.78 \times 0.47$ cm, white. No. 13: Amulet, light blue. Above right on the cover: Amulet, l. $2.58 \times w. 1.53 \times t. 0.57$ cm, navy blue letters and cartouche on a light blue field, small twin holes at the end are made to put the thread through in the rear, the lower part is broken off.

Bronze Objects (Nos. 8, 9, 22) No. 8: Blade, l. 4.0cm. No. 9: Ring, diam. 4.5cm. No. 22: Pieces of a ring and a hook.

Ivory Object No. 20: Kohl pencil, diam. $0.7 \times l. 7.3$ cm.

Shell Object No. 21: Lid (?) diam. 4.2cm, (hole diam. 0.8cm), spiral shell.

Pottery (Nos. 23–30) No. 23: Bowl with plain rim and rounded base, rim diam. $12.0 \times h. 6.5$ cm, intact. Red slipped around the rim. No. 24: Pot with two handles and pointed base, body diam. max. $14.1 \times h. 27.0$ cm, washed. Neck is broken. Decorated with brown bands. No. 25: Flask, rim diam. 7.0, body diam. $19.0 \times h. 25.1$ cm, concentric circles in red color are decorated on the orange slipped body. Backside of body is missing, Cypriote. No. 26: Shouldered jar, rim diam. 10.0, body diam. max. $30.0 \times h. 35.8$ cm, intact, washed. No. 27: Tall jar, rim diam. 13.6, body diam. max. $36.8 \times h. 60.4$ cm, almost intact, with two vertical and a horizontal handle. No. 28: Wide-mouthed jar with handles, rim diam. 31.6, body diam. max. $23.4 \times h. 50.0$ cm, intact. No. 29: Bottle, rim diam. 5.2, body diam. max. $9.9 \times h. 18.3$ cm, intact, red slipped. No. 30: Pot-stand, rim diam. 19.0, base diam. $24.0 \times h. 15.1$ cm, intact, three holes (diam. 2.0cm) are made in the body at regular intervals for unknown purpose.

(TSUJIMURA)

3 SOUTH QUARRY

Architectural Survey in the Galleries (Cover, Figs. 13, 14) In the summer of 2007, we conducted an additional investigation of the galleries, of which the entrances could be observed and identified some graffiti on those ceilings, which could not be read for the reason that a deposit have prevented from entering in the southern area lying on the hilltop beyond a hill from Akoris (South Quarry, see Fig. 13). While the quarries spreading on that hilltop has been reported to be datable to the late Roman period in Akoris 2001, a problems still remains in the date of the graffiti in those galleries, in which some similar feature has been involved to those in Zāwiyat al-Sulṭān.

In this summer of 2008, we undertook limited excavations within South Quarry with the specific purpose of clearing up some doubtful points of fact, including the inside of the galleries (AS-I and II in Fig. 14: 4). As it has been reported, in this area a white limestone 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 quarrymen actually begun to cut a vertical separation trenches following the cracks, which have been produced by wedges in the Roman period. However the galleries which are similar to those in Zāwiyat al-Sulṭān datable to the years of Ptolemy II, have been identified and, as a consequence, we should not dismiss the possibility that a quarry which belongs to the Ptolemaic period could be included in this area.

The main purpose of the excavation is to collect the graffiti and clarify their date and the quarry area has been additionally briefly measured. 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 galleries as observed in Zāwiyat al-Sulṭān, were carefully recorded (Fig. 14: 3–5), and finally we intend to elucidate their meanings and to compare with those in Zāwiyat al-Sulṭān. 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 deposits. That the later Roman activity of the quarry, the essential characteristic of which is the wide application of wedges resumed on the upper part, is confirmed by the fact that the deposit contains a couple of fragments of pottery datable no earlier than the early Roman period.

The Greek and Demotic graffiti were examined and photographed. On the chronology of the graffiti, the 5th regal year is attested on some graffiti on the two ceilings.

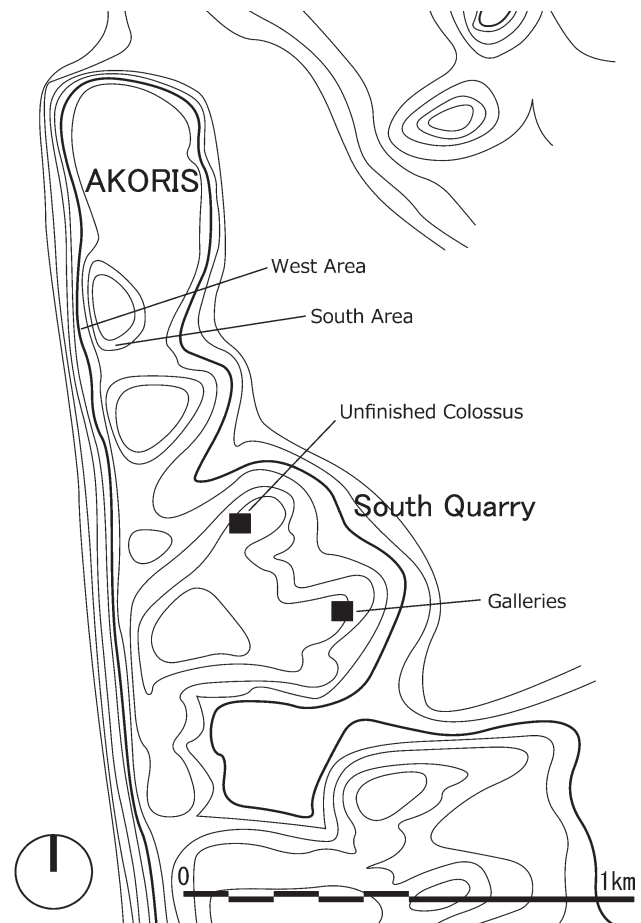


Fig. 13 Topographical Map of Akoris and South Quarry.

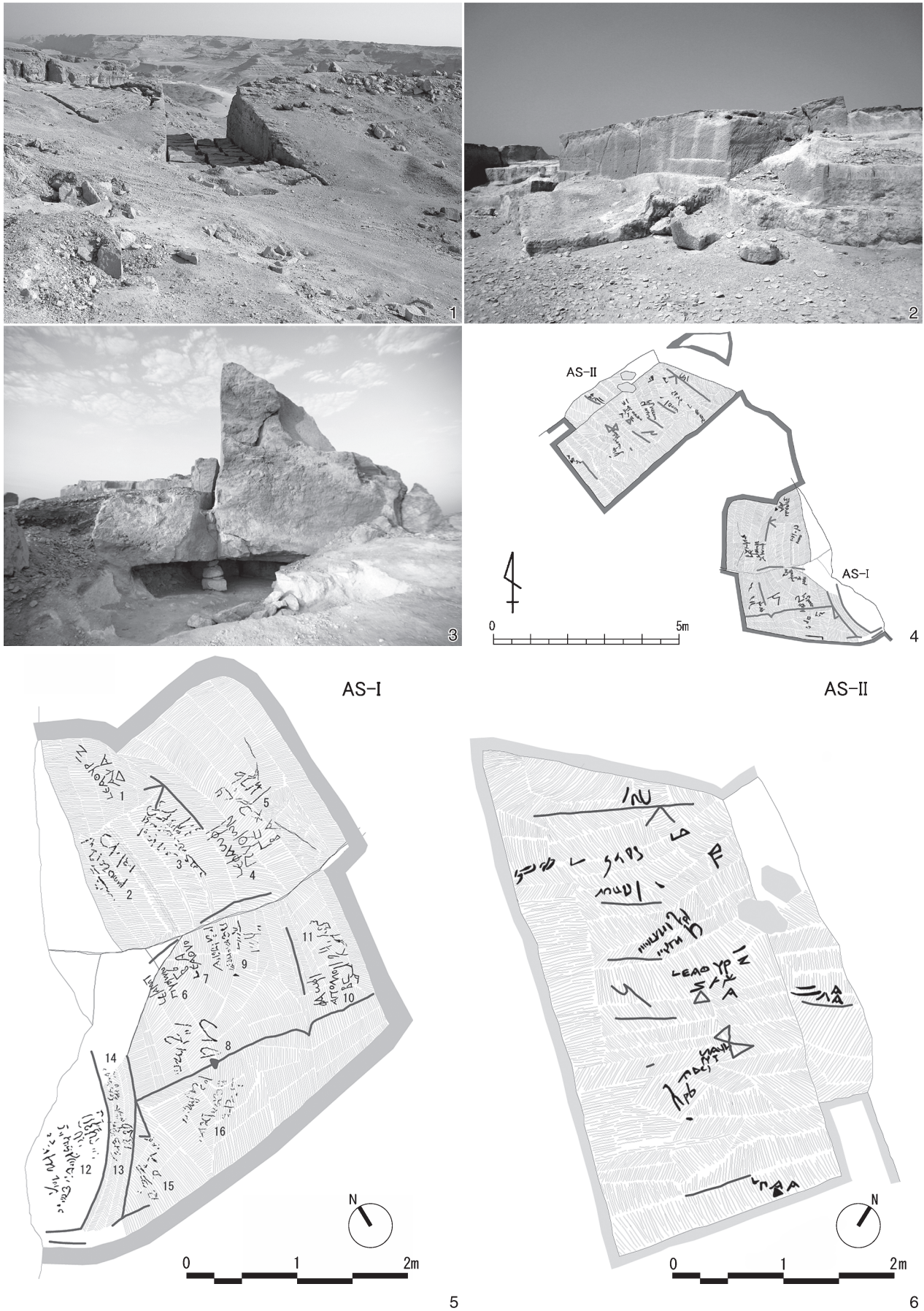


Fig. 14 Details of South Quarry. 1: Unfinished colossus and quarried face in the north end; 2: Quarried face in the southern part; 3: Entrance of AS-I; 4: Plan of AS-I and II; 5: Graffiti on the ceiling of AS-I; 6: Graffiti on the ceiling of AS-II.



Fig. 15 Greek and Demotic Graffiti.

Ptolemy III, although under his reign the large quarry was simultaneously operated with Zāwiyat al-Sultān, where the caves have lower ceiling measuring 65–70cm in height than those having the average height in South Quarry area (75–80cm), is the candidate to determine the date. However the conclusion that Zāwiyat al-Sultān has been operated at the same time cannot be drawn from the preliminary result of the investigation in this report. We need further analysis of the graffiti and have to wait the result of excavation of a huge stone block located on the north end of this area, which could be expected to be the colossus under operation. (HORI)

Epigraphic Survey in the Galleries (Cover, Figs. 13–15) Further investigations of Greek and Demotic graffiti were conducted in 2008 at South Quarry near Akoris and at the quarry valley in Zāwiyat al-Sultān. The primary purpose of our research is to record all the Greek and Demotic graffiti on the vertical faces and horizontal ceilings of the galleries in order to make clear the nature of industrial organization at work at these quarries in the Ptolemaic period.

South Quarry is an extensive quarry field above the rocky plateau located just to the south of the settlement site of Akoris. Although this quarry seems to have been exploited mainly in Roman times, there are several remnants of Ptolemaic quarry faces left untouched until today. AS- I, II and III are cut below the conspicuous projection in the midst of the quarry field (Fig. 14: 3). While the outer face of the rock is heavily eroded and damaged by later activities, Greek and Demotic graffiti

on the inner ceilings have been preserved in extremely good condition (cover: lower right).

Sixteen graffiti including at least five pairs of bilingual twin-graffiti (those graffiti which seem to denote exactly the same content in both Greek and Demotic side by side) were painted in the ceiling of AS-I. Both the Greek and Demotic graffiti are represented in the standard tripartite system as are the case with those of Zāwiyat al-Sulṭān (*Akoris Preliminary Report 2005*, pp. 21–22). A typical Greek graffito is composed of three lines: the first line indicates the date (financial year, month, day), the second line refers to a personal name, and the last line shows a set of three numbers. As T. Endo has made it clear in his research on the unfinished colossus in Zāwiyat al-Sulṭān, the last three numbers always represent width, depth, and height of the removed rock respectively (*Akoris Preliminary Report 2006*, p. 23). The demotic part conveys the same information, though sometimes several consecutive months are referred to after the month corresponding to the Greek counterpart. This peculiar fashion of Demotic graffiti has already been noted in Zāwiyat al-Sulṭān (*Akoris Preliminary Report 2005*, p. 22). The following Demotic graffito (AS-I: 12, Fig. 15: 1) is a typical example denoting such consecutive months.

AS-I: 12

Year 4, the third month of Akhet 11th day,
the fourth month of Shemu, the first month of Akhet, the second month of Akhet,
(an illegible personal name)
 $2 \frac{1}{2} \times 2 \frac{1}{2} \times ?$

The graffiti in AS-I explicitly show that they were recorded in the fourth and fifth years of a certain king. Although there is no sequential evidence as has been obtained in Zāwiyat al-Sulṭān, it seems highly probable that the king in question is Ptolemy III on the following two grounds. First, the personal names are put in nominative case, a custom introduced in Zāwiyat al-Sulṭān after the 36th year of Ptolemy II. Second, the Greek graffiti consistently have their Demotic counterparts, a feature which had been out of use by the later years of Ptolemy III.

In spite of the cumulative evidence collected in the past investigations in Zāwiyat al-Sulṭān, the function of the twin-graffiti is difficult to understand precisely. Theoretically the graffiti on the ceiling close to the opening should be earlier than those of the interior of the gallery (actually the graffito AS-I: 12, which is located near the outer edge of the ceiling, denotes the oldest date in this gallery, 1st January 243 BC), though it is not always the case. For example, the twin-graffiti AS-I: 1 (Greek Fig. 15: 2) and AS-I: 2 (Demotic Fig. 15: 3), located near the opening, indicate that they were written on the seventh day of the month *Hatyr* in the fifth regnal year (28th December 243 BC), while AS-I: 4 (Greek Fig. 15: 4) and AS-I: 5 (Demotic Fig. 15: 5) show that they were recorded in the previous month (*Phaophi*) of the same year (the day is not indicated on the latter graffiti).

AS-I: 1

Year 5, Hatyr 7
 $4 \times 1 \frac{1}{2} \times 1$

AS-I: 4

Year 5, Phaophi
Pythion
 $2 \times 3 \frac{1}{6} \times 1$

Moreover, two pairs of twin-graffiti AS-I: 7 (Greek) and AS-I: 8 (Demotic), and AS-I: 6 (Greek) and AS-I: 16 (Demotic) are almost overlapping diagonally on the same surface, but the former pair were recorded about a half year later than the latter. Surely there are many aspects to be elucidated about the nature and function of these twin-graffiti. (SUTO, UCHIDA and TAKAHASHI)

Investigation of Unfinished Colossus (Figs. 14, 16, 17) The author has been conducting architectural investigations on an unfinished colossus of the Ptolemaic period remaining at the quarry of Zāwiyat al-Sultān since the summer of 2004 (see *Preliminary Report 2006*, pp. 20–23). The remains include a statue drawn with faint chiseled lines on a rock at the mountaintop, with a length of about 22m and a maximum width of about 8m, surrounded by narrow vertical separating-trenches excavated to a depth of about 8.5m (Fig. 16: 6). A low horizontal tunnel with a ceiling height of about 60cm had been excavated at the bottom of these vertical trenches in order to separate the colossus block from the bedrock. It is notable that a great number of Demotic and Greek graffiti consisting of three consecutive numbers were newly ascertained in investigations on the ceiling of the underground tunnel along with innumerable red lines. Precise measurement surveys indicate that the three numbers are likely to denote the amount of excavation in the region sectioned by red lines on the ceiling. In addition, it is interesting to note that a unit of *ca.* 53.7cm, is similar to the succession of the royal cubit (1cubit = 52.5cm) in dynastic Egypt, which was used for the measurements at this site.

A comparative study on this unfinished colossus was started in the summer of 2007 at the top of the limestone mountain located about 1.5km south of the Akoris city ruins (known as the ‘South Quarry’). A monolithic boulder abandoned during quarrying, with vertical separating-trenches excavated on the surrounding four sides, remains in this quarry (Figs. 14: 1; 16: 3). Investigations during the 2007 and 2008 seasons were aimed at clarifying the character of this monolithic boulder, and three trial pits (their locations are shown in Fig. 16: 1) were excavated to confirm the bottoms of vertical trenches.

As a result of removing the accumulated debris in the trench, Pit A (l. 0.8m × w. 0.5m) in the center of the eastern trench reached the bottom of the bedrock at a depth of about 2.4m after removing the rubbish sands. It is about 9.1m in depth from ground level. Pit B (l. 0.8m × w. 0.5m) in the south of the eastern trench reached a depth of about 3.0m, and traces where the workmen had started to excavate a tunnel with a ceiling height of approximately 80cm were discovered. However, the tunnel stopped after it had been excavated to a depth of only 40cm toward the interior. Pit C (l. 0.8m × w. 0.4m) in the south of the western trench reached the bottom of the bedrock at about 8.3m in depth from ground level, and a low horizontal tunnel with a ceiling height of approximately 60–70cm, separating this monolithic boulder from the bedrock, was discovered. The underground floor plan was drafted, as shown in Fig. 16: 2 (see also Fig. 16: 4). The remnants of the stone blocks aligned at an almost constant interval are assumed to have been prepared for the bases at the time of the boulder’s separation from the bedrock (Fig. 16: 4), just like the subterranean tunnels of the unfinished colossus at the quarry of Zāwiyat al-Sultān (Fig. 16: 7). Unfortunately, we could not find any traces of the red lines and graffiti on the ceilings of the subterranean tunnels. The reason for this requires careful consideration; however, we can speculate that this site was abandoned during the early stage of excavating tunnels before an inspection by the supervisor of the quarrying work.

The multitude of vertical trenches that are seen on the northeastern exterior of this boulder

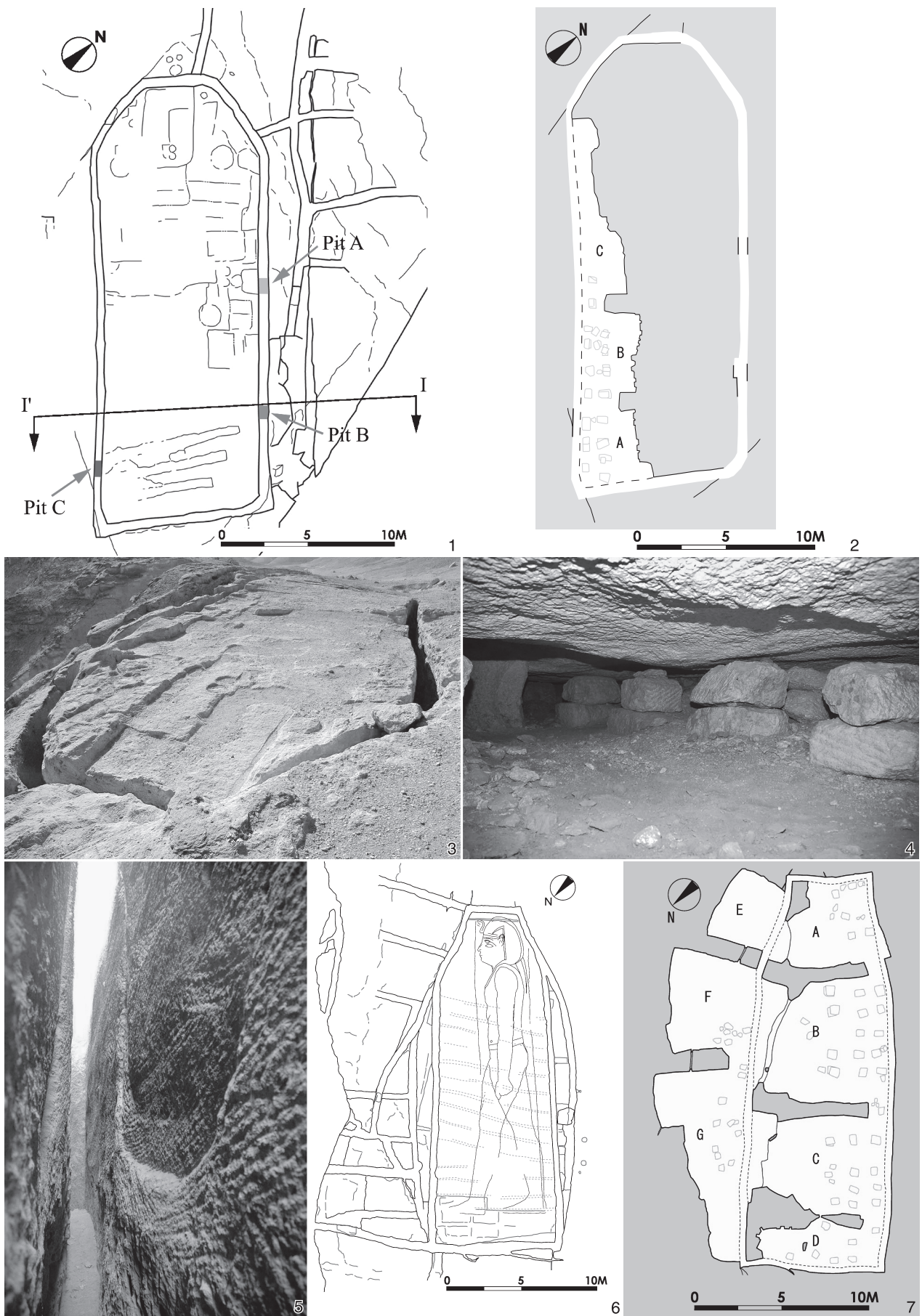


Fig. 16 Unfinished colossi of South Quarry and Zāwiyat al-Sultān.

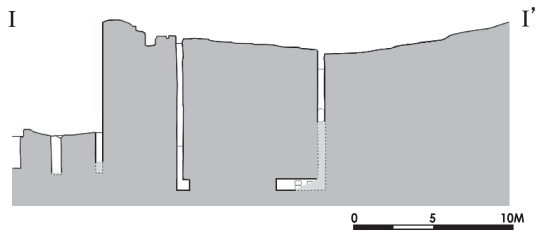


Fig. 17 Section of Unfinished colossus in South Quarry.

are thought to have been prepared for the cutting away of excess rock once the boulder had been separated from the bedrock and was to be moved out to the northeast (Fig. 16: 1). This assumption is also supported by the fact that excavation of the subterranean tunnels had been started from the southwestern vertical trenches (see sectional drawings; Fig. 17).

General measurements of the remains were made, and they revealed that the boulder is approximately 24m in length, with a maximum width of approximately 9m. The depth of the narrow separating-trenches measured at the bottom of Pit B is about 9.4m (Fig. 16: 5). It should be emphasized that these dimensions are almost identical to those of an unfinished colossus preserved in the quarry of Zāwiyat al-Sulṭān, as shown in Figs. 16: 1 and 6. It is also considered that, from a technical point of view, a similar procedure was adopted in the process for extracting a monolithic stone (Fig. 16: 2, 4 and 7, Fig. 17). Such evidence leads us to the interesting speculation that these remains at the South Quarry of Akoris might have been a pair of colossi of Zāwiyat al-Sulṭān that were ordered by the same Ptolemaic ruler. Some fragments of pottery dated to the Ptolemaic period were unearthed from the bottom of Pit C; thus, the possibility mentioned above would be increased by the discovery of subterranean tunnels in our excavation.

This paper serves as an interim report on the knowledge obtained so far from an architectural point of view. Further studies will be needed in the future on the contents summarized here. (T. ENDO)

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