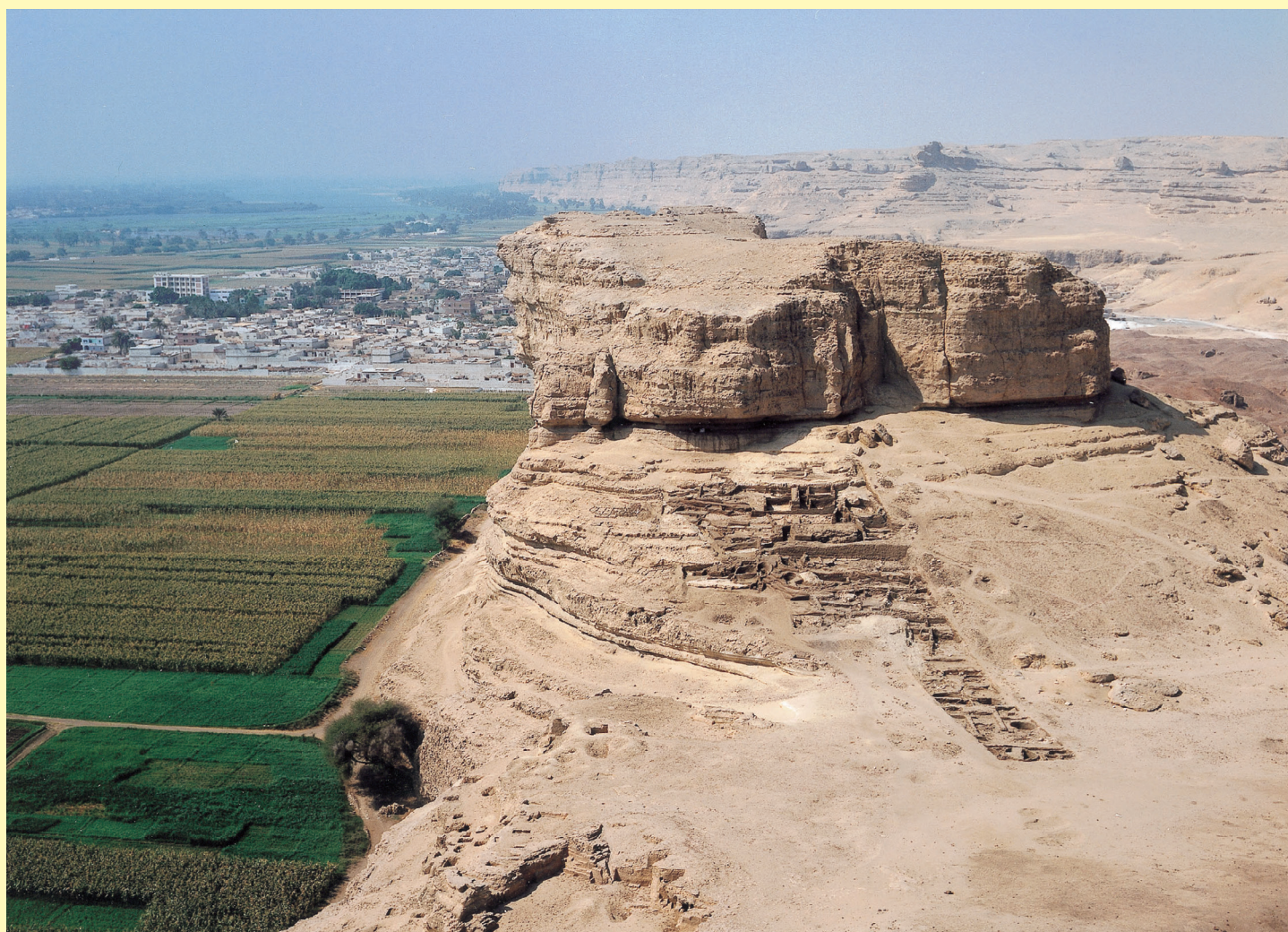


PRELIMINARY REPORT

AKORIS

2005



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1 GENERAL VIEW

The site of Akoris has historical significance in that both of burial grounds and industrial quarried areas beside a settlement can be ascertained. Considering that our aim is to re-examine ancient Egypt from the viewpoint of a local society, these three subjects, burial grounds, quarries and the city itself, from which immediate information with respect to the formation and function of the city can be extracted, have been the constant target of our investigation. In 2005 the south edge of the city area on the slope of a crag, the graveyard on its west rock shelf and a southward large-scale quarry some 12km away in addition to the nearby quarries were investigated in these last three seasons (Figs. 1–3).

The south edge of the city area has already been proven to have started as a military post such as a fort and consequently developed as a manufacturing area occupied by workshops and warehouses. A leather workshop could be confirmed and the manufacture of woolen textile and copper alloy products were suggested by relics uncovered in 2002–2004 seasons. Moreover, in 2005 clay moulds for casting flower-shaped beads and glass beads coiled around a copper wire were detected. These remains testify to the existence of a glass/faience manufacture. All of these above remains date from the Third Intermediate Period (TIP).

Pottery, except for a small quantity of objects from the Ptolemaic to the Coptic Periods excavated from the upper layers, belongs to the TIP. Phoenician-type amphorae were included in

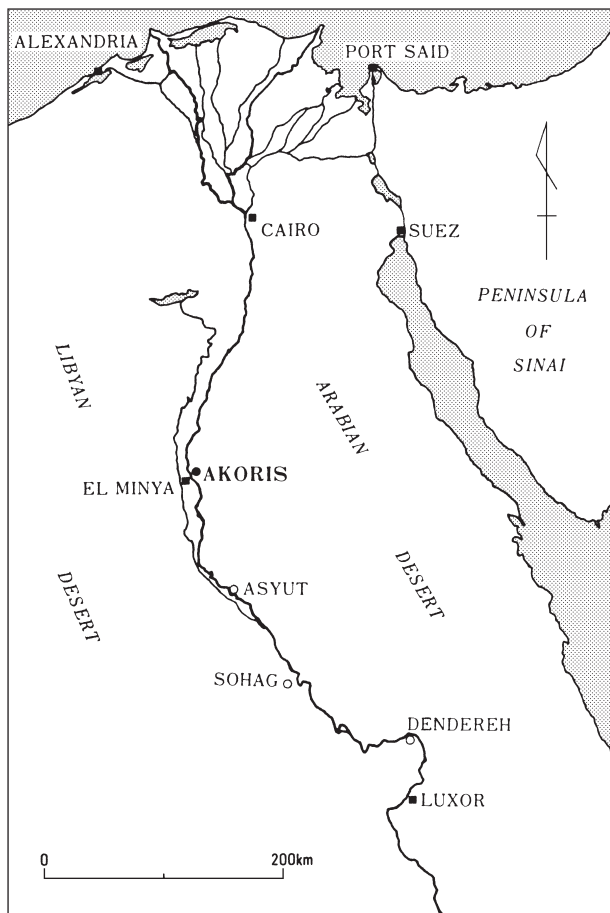


Fig. 1 Map of Egypt.

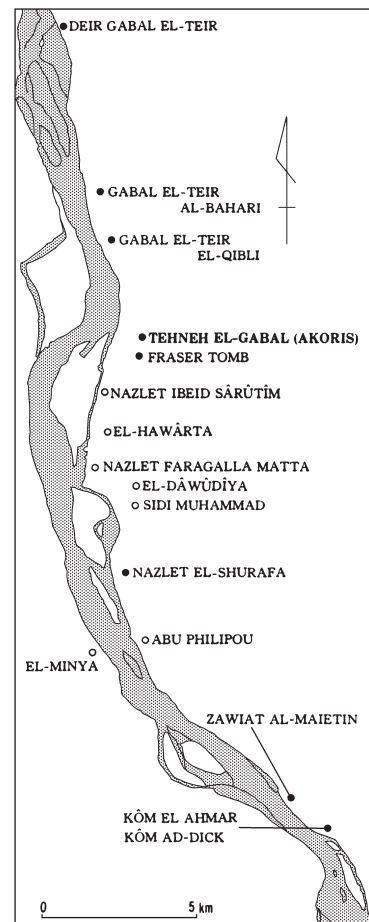


Fig. 2 Sites and villages near Akoris.

imported pottery. Adding the past seasons' examples and a Black-on-Red pottery of Cypro-Phoenician type found at the north edge of the city area in 2001, the pottery originating in the east Mediterranean was found to be not so scarce. Judging that the same type amphorae were unearthed at the site of Elephantine and other places, the early Phoenician trading activities seem to have covered Egypt and also reached the local cities such as Akoris before the Greek colonization flourished in the Late Period. It is assumed that the Pharaonic monopoly system of manufacture and trade broke down and their popularization advanced in the TIP.

Five graves, 2 women, 1 infant and 2 unidentified, were unearthed in this south edge. The total number of graves uncovered here reaches 12. Nine were confirmed as to their age/sex and were 4 women and 5 infants. While burial space lies around this area and many graves were actually made, just why women and infants were chosen and buried in the midst of such military or manufacturing area remains a question. (Kawanishi)

2 ARCHAEOLOGICAL INVESTIGATION

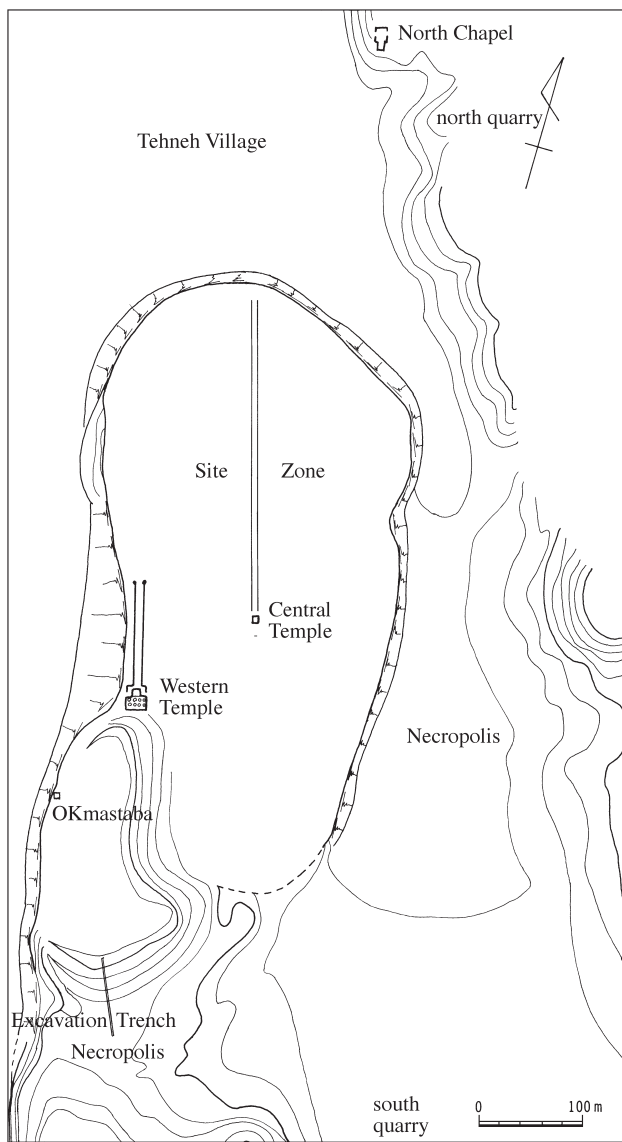


Fig. 3 Map of Akoris.

South Area (Cover; Figs. 3–6) Before going into description of the excavated area, we must inform that our chronology indicated in previous reports should be altered. Previously, the date of the excavated structures in the trench was tentatively thought to belong to the latter half of the Late Period. However, further study of pottery and other material finds suggests that the TIP - the Late Period (10th–7th century BCE) is more likely.

In 2002–2004, the excavation trench was laid measuring maximum 80.0m in length north-south on the slope and 19.0m in width east-west of the South Area at the base of the crag. The trench was divided into ten 8.0m-grids, labeled A–J from top to down. We have excavated 19.0m in width east-west in Areas A–F, 8.0m in width east-west in Areas G–J.

In 2005, we not only continued investigating the lower strata in Areas B and C which had been unidentified before, but also extended the trench 15.0–18.0m in Areas A–D further to the west of the already existing trench.

In order to distinguish the newly investigated area from the uncovered area, a new labeling system, putting a number before the alphabetical areas, was introduced from this season: for example, 'Area B' of previous sea-

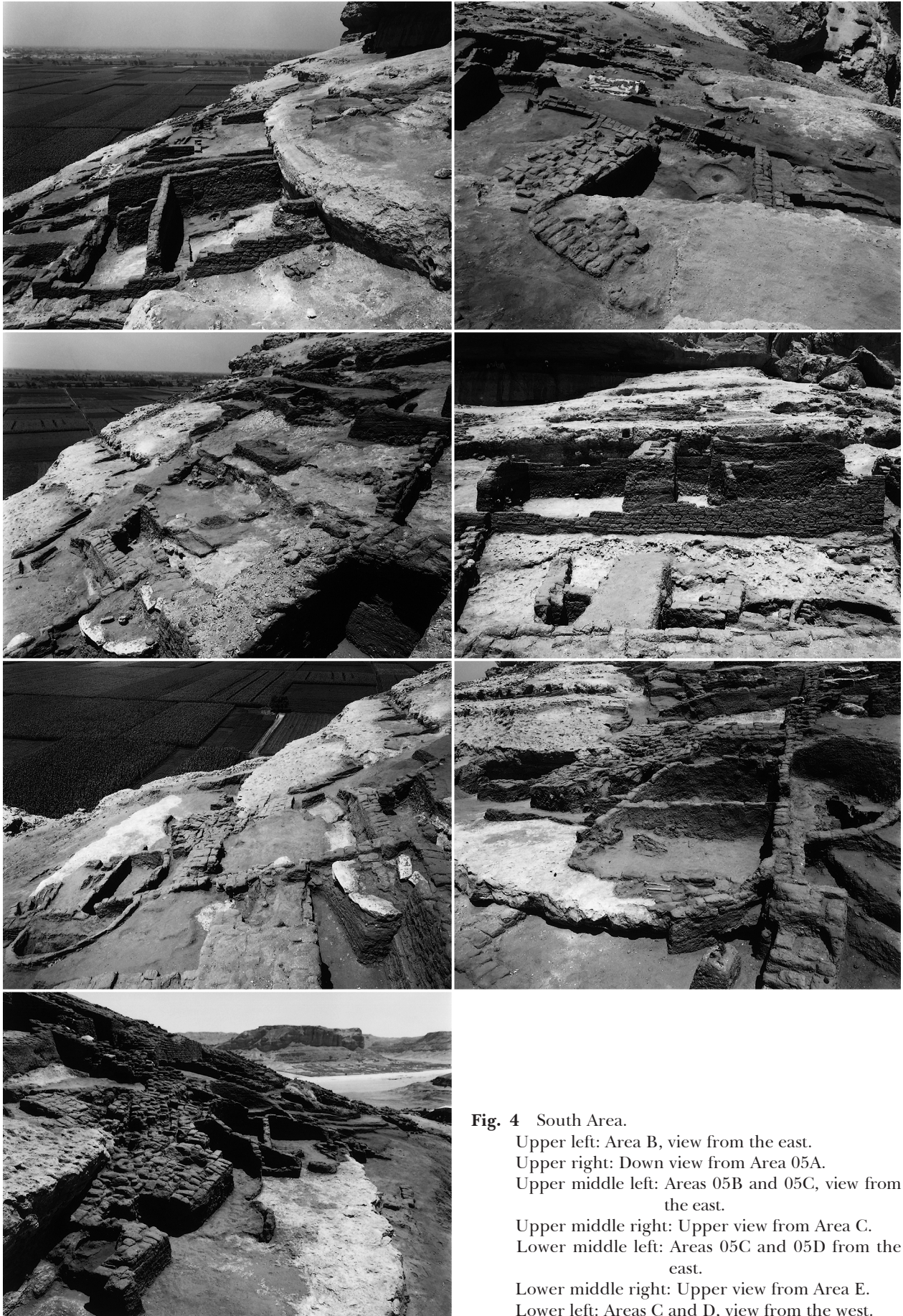


Fig. 4 South Area.

Upper left: Area B, view from the east.

Upper right: Down view from Area 05A.

Upper middle left: Areas 05B and 05C, view from the east.

Upper middle right: Upper view from Area C.

Lower middle left: Areas 05C and 05D from the east.

Lower middle right: Upper view from Area E.

Lower left: Areas C and D, view from the west.

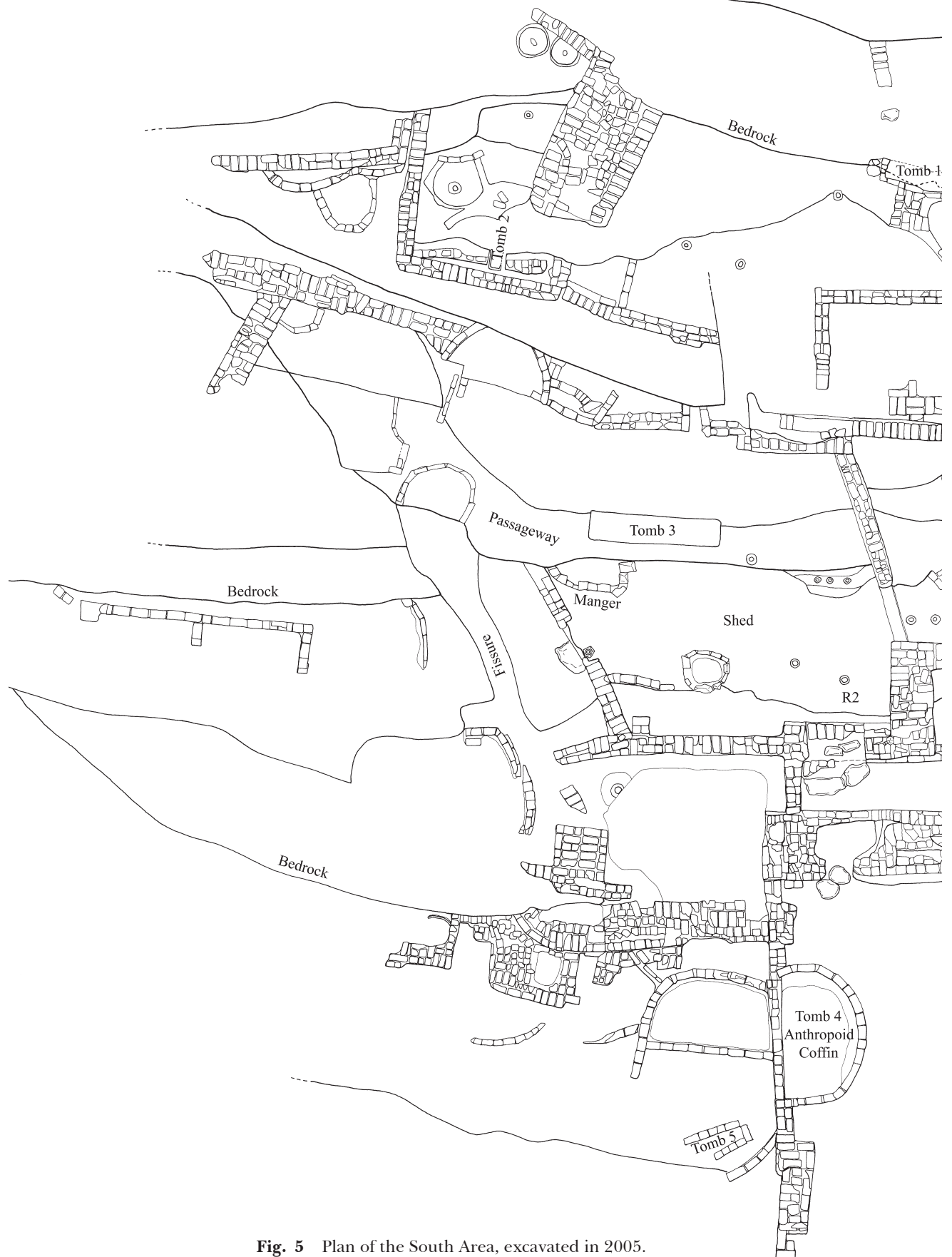


Fig. 5 Plan of the South Area, excavated in 2005.

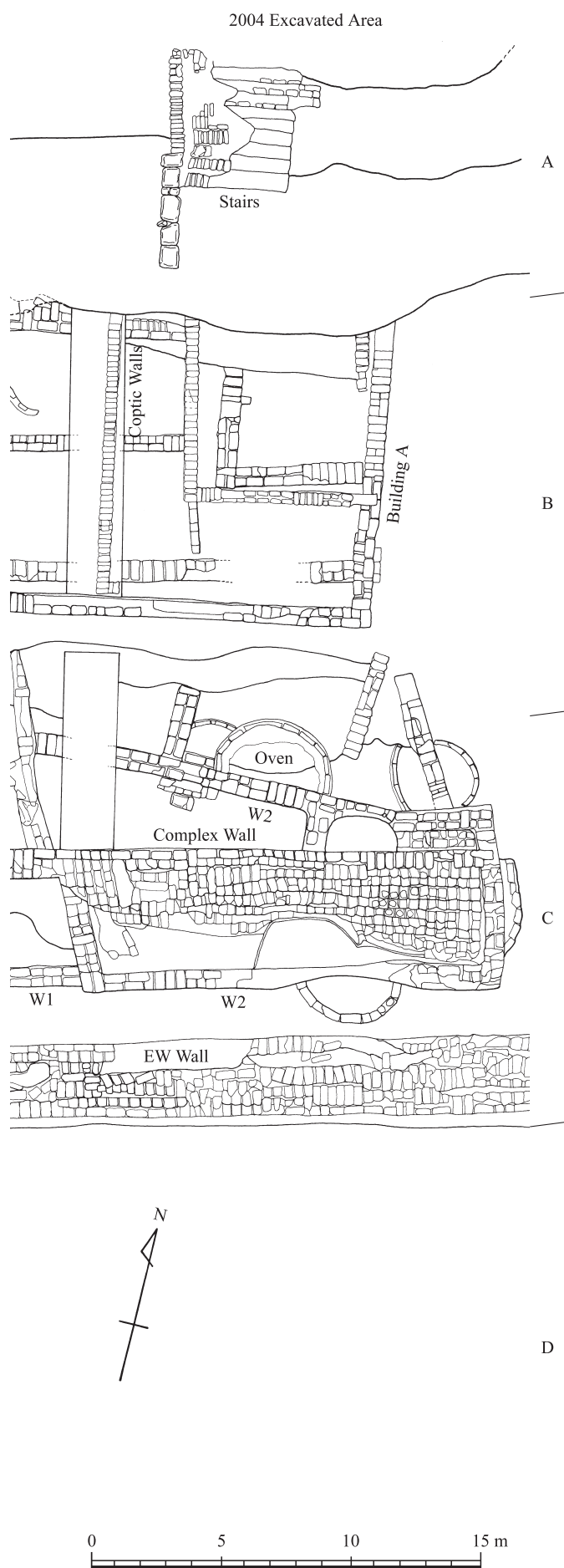


Fig. 6 Upper: Tomb 1; Upper middle: Area 04C; Lower middle: Tomb 4; Lower: Stamps found in Area 05D.

sons was re-labeled as 'Area 04B', and a new label 'Area 05B' was applied for the newly investigated area in 2005.

In Area 04B, an eastern wall and a part of southern wall, which formed the outer corner walls of a huge building (Building A), were found, although Coptic walls on the Building A had prevented us from further investigation. In the 2005 season, we kept the Coptic walls untouched and excavated only the interior soil of the Building A. Within this area, we newly found four remnants of mud brick structures. The description of each structure is as follows.

The first structure was built directly on the slightly inclined bedrock. It was composed of two walls, measuring 2.5m east-west and 2.4m north-south, and the thickness of the two walls is almost 0.40m. The east-west wall was connected to the western end of the outer wall of the Building A, and they were constructed with mud bricks of almost the same size, $36\text{--}38 \times 15\text{--}17 \times 7\text{--}8\text{cm}$. Judging from this observation, this structure is probably one of the rooms of the Building A which date from TIP.

The second structure is a single east-west wall measuring 7.9m in length at the north side of the southern wall of the Building A. Those two walls are running parallel. The size of mud bricks is $40\text{--}42 \times 19\text{--}20 \times 6\text{--}7\text{cm}$. The east-west wall was set directly on the bedrock and should be older than the Building A.

The third structure dating from the Coptic Period is composed of the U-shaped three walls, one of which is measuring 6.5m east-west in length and the other two are 2.0m north-south. The size of the mud bricks is $28\text{--}30 \times 14\text{--}15 \times 9\text{--}10\text{ cm}$, the general size of which suggests a date, the end of 4th century to the first half of the 5th century A.D..

The last structure situated below the bedrock eaves in Area 04B must have been a burial place (Tomb 1). It is surrounded by unformed mud brick walls measuring 0.7m in width and 1.5m in length (Fig. 6). However, we could find neither skeletal remains nor funerary gifts.

Two wooden coffins were found in the 2004 season, preventing us from digging the lower strata in Area 04C. In the 2005 season, we excavated further down.

In Area 04C, the right-angled southeastern corner of the W2 wall which consisted of the Complex Wall had been excavated in previous seasons. In the 2005 season, we found 'the extended wall' of the W2 wall continuing toward northwest. The total length of 'the extended wall' is 7.1m and the height is about 0.6–0.7m. The size of mud bricks is $37\text{--}40 \times 17\text{--}19 \times 6\text{--}7\text{cm}$. There is an entrance with limestone steps cut through 'the extended wall'. And a partition wall was running southward from the middle of 'the extended wall', the inside of which was plastered with white gypsum. It is supposed that the W2 wall was reconstructed and extended toward northwest, judging from their differences of the direction and the foundation height.

At the northern side of 'the extended wall', there is a semi-circular mud brick structure constructed directly on the bedrock (Fig. 6). This semi-circular structure measures 2.3m in diameter with a thin wall, which is 0.1m in thickness. The inside of the structure was burned up and heaped up by ash, charcoal and mud bricks, which changed the color of these bricks to reddish-black by fire. It could be an oven for unknown purpose.

In the newly investigated area in the 2005 season, two structures were excavated of which size and features could be estimated.

One of them is a part of a structure formerly reported as 'R2' excavated in Area 05C, and measures about $7.0 \times 3.0\text{m}$ square, at the western side of the Complex Wall. Though the room was

enclosed by mud brick walls on the two sides (eastern and western sides), the other two sides were blocked naturally by the bedrock. An entrance was cut through the western wall and a limestone door pivot still remains. There is a hearth, an irregular circle surrounded by mud bricks, measuring 1.1m in diameter at the southern end of the structure. In the debris, grains were heaped up and there were a wooden stick and a rope of vegetable fiber for hitching domestic animals. In addition, there was a manger surrounded by mud bricks and stones. These remains suggest that this structure was used for a shed for domestic animals. One of the stones of the manger is a reused funerary or votive limestone relief of the New Kingdom (Fig. 7). The detail of the relief is described below.

Another was a 3.5m squared structure which was built after a huge east-west wall (EW Wall) had been demolished. This structure is enclosed by remaining walls and a newly built northern wall. The natural bedrocks was used as the floor and paved with hardened earth, and the entrance was cut through the EW Wall with a limestone step.

In the 2005 season, we excavated five tombs, namely Tombs 1–5. Tomb 1 has already been mentioned above. Tomb 2 is in Area 05B, a fragment of a badly damaged wooden coffin; a sideboard plastered by white gypsum was the only remains. It measures about 0.5m in length and about 0.3m in width. We could not find any skeletal remains or funerary gifts.

In Area 05C, there is a Tomb 3 laid directly on the bedrock. We found the side and bottom of a wooden coffin, measuring 2.02m in length and 0.50m in maximum width. The original coffin was probably anthropoid. The axis of the coffin pointed east-west. The remnants of rope were found from the underneath and on the side of the coffin. The coffin must have been originally bound with a rope horizontally, similar to the anthropoid and rectangular coffins excavated in the 2004 season. The coffin contained clothes and skeletal remains of an adult of unidentified sex, about 35–40 years old, according to Ms. Tsujimura. There are some glass, faience and cowrie beads, and an earthen cobra figurine scattered around the coffin, however, there is no conclusive proof that those objects were buried together as funerary gifts.

There is a north-south wall in Area 05D, measuring 8.5m in length, touched and crossed the EW Wall at a right angle. The half-oval mud brick structure, measuring 3.2m at the longest point and 2.0m in width, was jointed to the eastern side of the wall. Tomb 4 was excavated under the harden floor of the half-oval mud brick structure (Fig. 6). We found an anthropoid wooden coffin from this tomb, measuring 1.91m in length, 0.51m in width and 0.41 m in maximum height, head pointing northwards. The outer face of the coffin was plastered and painted. The ground color of painting was whitish-yellow, although the part of the wig was coated by black. However, there is no decoration on the sides of the coffin, and the lid is totally destroyed. The coffin contained the skeletal remains of a female of early thirties, originally covered with a cloth, only fragments of which remain. There are some glass, faience and cowrie beads, and a faience scarab scattered around the coffin, however, there is no conclusive proof that those objects were buried together as funerary gifts. The coffin is similar to the anthropoid coffin investigated last season and it would be suggested that the coffin dates from the 21st or the 22nd Dynasty. The details of the dating were discussed by Mr. Uchida in the last season's report.

Tomb 5 was found in Area 05D, at the south-western side of Tomb 4. The outline of the tomb was lined with mud bricks, and only parts of the wooden side and bottom boards were found. There are skeletal remains of an old aged female.

There is a circular or round-cornered rectangular mud brick structure situated at the opposite side to the half-oval mud brick structure, in which Tomb 4 was discovered. The structure measures 2.9m in length east-west, 1.5m in north-south and about 0.9m in maximum height. There are unidentified eight stamps on the lower part of the western wall, three larger and five smaller (Fig. 6). The edges of large stamps were shaped one side round, and forked on the other side. The stamps measures 9.0cm in length and 4.5cm in width. The smaller ones are 5.0cm in length and 3.0cm in width, with one end curved rectangular and another end forked. Although each stamp has straight and wavy lines and triangular motifs, no hieroglyphic character was identified.

The observation of mud brick layout suggests that the South Area experienced some phases of rebuilding activities. First, small houses or buildings were sparsely built on the slope. Then, in the next phase, the EW Wall was constructed, and building plans were affected by the direction of this EW Wall. The Complex Wall was also built in addition to the EW wall, standardizing the direction of houses parallel to these walls.

Of course, the natural topography seems to have played an important role in arranging all walls and houses. Even the major EW Wall and the Complex Wall run parallel to the two different levels of the bedrock. A fissure running diagonally from the top of the crag down toward the bottom of the South Area was also recognized. On this account, the plans of some structures in Areas B and C are trapezoidal. (Hanasaka)

Relief fragment (Figs. 7, 8) This relief fragment, reused for a side of a manger in Area 05C, is the lower left part of a stela. No trace of colour is discernible. The original stela was probably a round-topped or a pyramidal-topped one common in the New Kingdom, and its missing upper part must have been a scene of adoration for a deity by the stela owner.

The remaining relief shows three male figures facing left in adoration, who are probably the family members of the stela owner. Their names and titles, originally inscribed above their heads, are now lost. The first and leftmost figure carries a bundle of plants in his left hand, raising his right hand in adoration. He wears a wig, a collar, and a short kilt. The other two figures to the right also make gestures of adoration raising their both hands. Each of them wears a military dress with a triangular front piece, which is common in the New Kingdom. The middle figure wears a wig somewhat longer than the one of the first man. The head of the rightmost figure is lost.

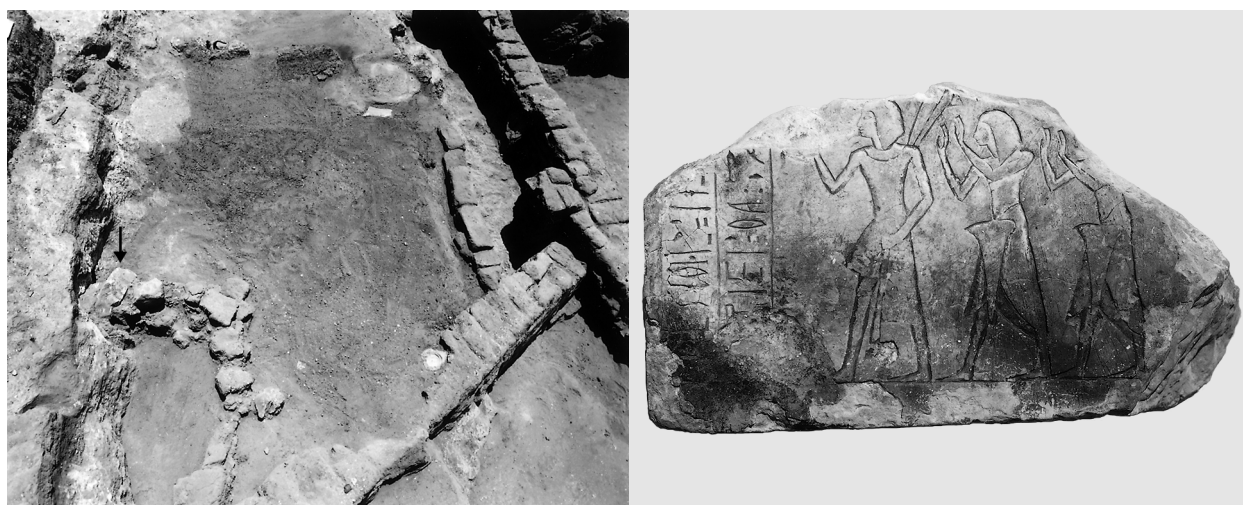


Fig. 7 Left: Exposed relief fragment, shown by the arrow. Right: Relief fragment.

To the left of these figures, the lower part of two columns of an adoration text is preserved (Fig. 8). Its transcription and translation are as follows, with restorations indicated by square brackets.

Column 1: *[rdit i3w n 'Imn-R^c] sn-t3 n rn.f di.f*

Column 2: *[^cnḥ wḏ3 snb spd-ḥr] ḥswt mrwt n k3 n S[bk-] ///*

[Giving adoration to Amun-Re], kissing the earth for his name¹, that he may give [life, prosperity, health, discernment], praise and favor² for the ka of So[bek-] ///³

Notes:

1. The phrase 'kissing the earth for' (*sn-t3 n*) some deity or its attribute is commonly preceded by the 'giving adoration to' (*rdit i3w n*) some deity in the New Kingdom texts. The name of a deity in the latter phrase here is almost lost except a vertical stroke at the end, most probably a part of the name of Amun-Re. Although the first phrase could be the 'adoration to' (*i3w n*) some deity, the assumed missing space seems to be too large for this alternative. The phrase 'kissing the earth for his name' (*sn-t3 n rn.f*) is attested following the 'giving adoration' phrase in several Ramesside texts. See K. A. Kitchen, *Ramesside Inscriptions: Historical and Biographical*. Oxford 1975–1990, Vol. VI, p. 213, ll. 10–11; p. 275, ll. 11–12, Vol. VII, p. 212, ll. 9–12. The peculiar writing of 'kissing the earth' (*sn-t3*) in our text is also attested in some Ramesside texts. See Kitchen, *ibid.*, Vol. III., p. 106, l. 15; p. 108, l. 3, Vol. IV, p. 97, l. 9; p. 287, l. 13, Vol. VI, p. 284, l. 2.
2. The formula 'that he may give life, prosperity, health, discernment, praise and favor' (*di.f^cnḥ wḏ3 snb spd-ḥr ḥswt mrwt*) is common in the New Kingdom texts. See Barta, W., *Aufbau und Bedeutung der altägyptischen Opferformel*. Glückstadt 1968, pp. 122, 150, 167 (Bitte 122a).
3. The name of the stela owner is almost lost except a part of the first letter, a *s* sign. The second letter to the right is lost, but its flat and narrow top is barely discernible, separated from the first letter by a space. This second letter could be *b*, and the first element of the name could be restored as 'So[bek-]' (*S[bk-]*).

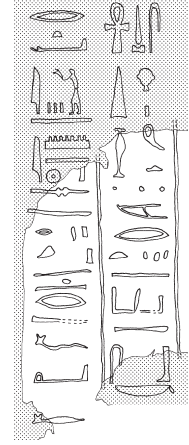


Fig. 8 Inscription with restorations.

Certain features of the figures, e.g. slender limbs and a characteristic military dress, and some features of the text noted above, indicate that this relief dates from the Ramesside Period. (Uchida)

Finds from the South Area (Fig. 9) Pottery (Nos. 1–3, 12–14) No. 1: Ledge-rimmed jar with a single handle, Area 05B (Tomb 1), h. 20.5 × d. 12.6cm. No. 2: Round bottomed bowl with a light red slip applied to exterior and interior of the rim, Area 04C, h. 6.3 × d. 12.1cm. No. 3: Round bottomed shallow bowl with a light red slip applied to interior of the rim, Area 05C, h. 7.1 × d. 12.0cm. No. 12: Pottery sherd, probably a pottery lid with a small rectangular stamp representing a cobra and a bird (vulture or falcon) with a scepter, Area 04C, l. 7.0 × w. 5.7cm, the size of stamp is 1.06 × 0.98cm square. No. 13: Pottery sherd, an imported pottery handle carved with a design of plant and applied orangish-red and dark brown slip to exterior, Area 05C, l. 5.64 × w. 3.43cm. No. 14: Pottery sherd, an imported pottery sherd with black and red geometric pattern, Area 05C, l. 3.83 × w. 3.84cm.

Glass Objects (Nos. 4, 25, 32) No. 4: Glass vessel of light emerald green, made not by core-

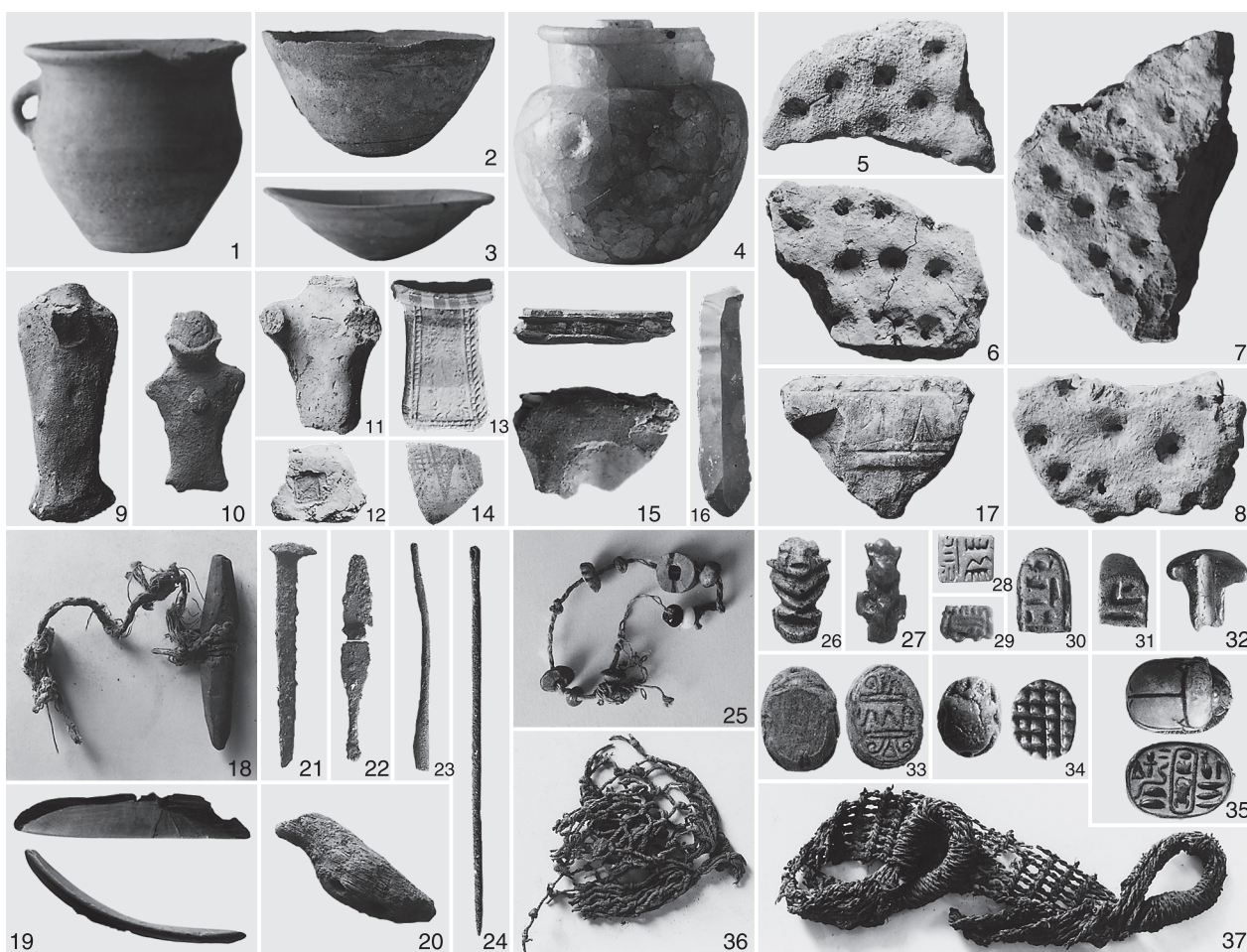


Fig. 9 Finds from the South Area.

technique, possibly by modeling, Area 05D, h. $7.6 \times d. 6.1$ cm, thickness of glass is about 0.75cm. No. 25: Bracelet, with various colored beads, 6 glasses, 1 faience and 1 bone, Area 05B, about l. 10.0cm. No. 32: Glass ornament, a half part of ear stud of dark blue glass, Area 04B, l. $1.52 \times w. 1.55$ cm, d. of a hole is 0.31cm.

Earthen Objects (Nos. 5–11) Nos. 5–8: Unfired clay porous molds for glass/faience flower-shaped beads, Area 05C, l. $16.8 \times w. 9.5 \times t. 5.6$ (Nos. 5, 6), l. $13.4 \times w. 5.8 \times t. 4.8$ cm (Nos. 7, 8). The average size of each hole is d. $1.1 \times$ depth 0.5–0.7cm. No. 9: Cobra figurine, Area 05B, h. $12.2 \times w. 5.0$ cm. There are 37 cobra figurines of similar size and shape found from the South Area. No. 10: Human figurine with a navel-like projection ('button'), Area 05D, h. $8.08 \times w. 4.53$ cm. There are 9 figurines of this type found from the South Area in this season. No. 11: Hand molded human or animal figurine, Area 05C, l. $6.5 \times w. 5.0$ cm.

Stone Objects (Nos. 15–17) No. 15: Flint blade for a wooden sickle covered by gypsum, Area 04B, l. $6.28 \times w. 4.34 \times t. 1.40$ cm. No. 16: Flint blade, Area 05B, l. $7.44 \times w. 1.71$ cm. No. 17: Unfinished limestone votive relief with *hṭp* and *di*-sign, Area 05D, h. $11.0 \times w. 14.5$ cm.

Wooden Objects (Nos. 18–20) No. 18: Wooden toggle-shaped piece with a long string about 17cm in length, Area 04C, l. 7.42 cm \times d. 2.80cm. No. 19: Fragment of wooden headrest, with two holes, Area 04C, l. $13.1 \times w. 2.5 \times t. 1.1$ cm. No. 20: Bird-shaped figurine with two holes at the bottom, attendant on some product, Area 04C, l. $7.2 \times h. 4.0$ cm.

Metal Objects (Nos. 21–24) No. 21: Iron nail, Area 04B, l. 5.15cm. No. 22: Bronze small tool, possibly a knife with bending end, Area 05B, l. $6.02 \times w. 0.81 \times t. 0.06$ cm. No. 23: Bronze pin, made by bending a bronze foil, Area 04B, l. $9.68 \times d. 0.6$ cm. No. 24: Bronze knitting needle, Area 05C, l. $15.3 \times d. 0.32$ cm.

Amulets (Nos. 26–31, 33–35) No. 26: Faience human/god figurine, Area 04C, l. $1.61 \times w. 0.98$ cm. No. 27: Upper part of faience Hathor figurine with papyrus stick, dark blue, Area 05C, l. $1.77 \times w. 0.86 \times t. 0.52$ cm. No. 28: Amulet, a stone plate, carved with an altered shape of *mn*-sign, Area 04B, l. $1.60 \times w. 1.37 \times t. 0.44$ cm. No. 29: Faience *Udjat*-eye with two uraeri, turquoise blue, Area 05B, l. $0.97 \times w. 0.69 \times t. 0.29$ cm. No. 30: Fragment of faience ring, with the hieroglyph read as “*Imn-R^c nb///*”, Area 04B, l. $2.43 \times w. 1.52 \times h. 1.78$ cm. No. 31: Fragment of faience ring with hieroglyph sign read as *hm-ntr*, Area 05C, l. $1.25 \times w. 0.77$ cm. No. 33: Half of stone scarab with a design of plant, an upper part was scraped off, Area 05C, l. $1.44 \times w. 1.06 \times h. 0.64$ cm. No. 34: Faience scarab of light blue with a latticework decoration, Area 05D (Tomb 4), l. $1.36 \times w. 1.04 \times h. 0.60$ cm. No. 35: Faience scarab of light green, the remaining inscription reads “*ntr nfr nb t3wy*” “*Mn-hpr-R^c*” “*di-^cnh-dt*”, Area 04C (lower part), Area 05D (upper part), l. $1.70 \times w. 1.23 \times h. 0.92$ cm.

Organic Objects (Nos. 36, 37) No. 36: Fragment of small netting pouch, Area 04C, l. 13cm. No. 37: Fragment of basket with two handles, vegetable materials, Area 04C, l. $11.0 \times w. 8.0$ cm.

(Hanasaka)

West Area (Fig. 10, 12) On the west slope of the crag facing the Nile Valley, a rock-cut mastaba that dates from the beginning of the 5th Dynasty remains and many rock-cut tombs are located around it. Seven shafts situated in front of the façade of the mastaba and twelve shafts and two tunnel-type tombs distributed northward were excavated in the 2002–2003 seasons. And the existence of twelve shafts was confirmed southward within the limits of 18m from the mastaba in 2004. As a result of the excavations, it was proved that they had been made in the Old Kingdom (OK) and most of them had been reused in the TIP. Among the shafts found in 2004, Nos. 7–12 in the south half have not been excavated yet, as we gave preference this season to confirm the extent of a necropolis further to the south.

The investigated area is a narrow, gentle slope continuing from the north and ca.12m higher than the field level. Within the area extending 70m south from No. 12 which is located at the south end of the last season’s area, we found 19 tombs (No. 13–31) including an unfinished one (No. 27), and exposed a Middle Kingdom (MK) tomb (No.18) cut out on the side. No shaft was found within the distance of 8.5m as far as the south edge of the area from No. 31, so it is assumed that the necropolis terminates there. However if shafts do exist beyond the south edge, this would be the longest interval between shafts. Meanwhile, no rock-cut stairways, leading up from the west approach like those that were found to the north of the OK mastaba, were discovered.

Almost all of the shafts were in a line along the cliff and measured ca.1m square at the mouth except Nos. 23 and 24 whose shapes were unclear because they were covered with broken mud bricks and pebbles. In the north part, cracks running from the southeast to the northwest are converged and several shafts (Nos. 16, 17, 20, 21) are located at long intervals as if to avoid them. However, compared to the shafts found in the last season which were in a line at nearly 1m intervals, those of this season are generally further apart. In addition, considering that a crack touched the corner of No. 19, the cracks probably occurred after the shafts were constructed.

At the distance of 28m southward from the north end of the investigated area, a rock-cut



Fig. 10 West Area.

Upper left: General view from the southwest; Middle left: Exposed shafts, southward view from the Roman chapel; Upper right: Exposed shafts, northward view from the MK chapel; Lower right and left: Brick structures in front of the MK chapel.

funerary chapel remains on the east cliff of the investigated area, and the plan of the chapel plus the tool marks indicate that the features are of the MK. The rock-cut Roman funeral chapel is at the distance of 23m southward from the MK chapel, and some mud brick structures survive here and there in the area, especially in front of the two chapels. Judging from unearthed pottery, other objects and the size of the mud brick, all of the brick structures date from the TIP.

In front of the MK chapel, a flat 80cm wide ledge which gradually descends to the west was cut in the bedrock about 1m deep. A surface layer of sand and a thick layer of limestone pebbles accumulated on the bedrock slope 4m westward. An eroded brick floor in front of the chapel

extends over the layer of pebbles.

On the other hand, three low brick circles measuring 3.0–1.6m in diameter with mud plastered inside and three shafts (Nos. 20–22) were uncovered. Under the circles, there was a layer of pebbles 20–30cm thick. The north circle formed with bricks of three tiers is partitioned by the east-west row of bricks and connected with the two other circles by a north-south row. The latter row is not connected directly to the east-west wall of mud brick ($35 \times 17 \times 6\text{cm}$) built on the north part of the north circle, but its presumed extension would cross at a right angle with the wall. Furthermore, the brick floor was possibly used to join the east-west wall making something as a terrace in front of the chapel. The direction of the shafts in front of the supposed terrace and Nos. 17 and 19 shafts are coincident with the direction of the east-west wall. That is, the brick structures have a distinct relationship with these shafts. An eroded brick floor ($34 \times 17 \times 6\text{cm}$) also survives in front of the Roman chapel, and extends 18m long \times 1.5–2.0m wide. But many bricks have been moved to the south from their original position. Therefore, the relationship between the shafts and the brick floor here, like that observed in front of the MK chapel, is not clear.

Meanwhile, two brick circles are located between two chapels and one of them was found just beside a shaft (No. 26). The close positions of overlap and adhesion between shaft and circle might have been accidental, but if not accidental, just what the function of each pair of shaft and circle would have served, for example, facilities for burial and for memorial services, is not clear. In this case, the brick circles would not have been used but for one or two generations, considering that the east-west wall was constructed before the direction of shafts was forgotten. If it were a singular chance, this area would have been used for another purpose besides that for the necropolis.

From traces of holes on the east cliff used to install dynamite, it is easy to suppose that brick structures might have been destroyed here in recent times. Therefore, it cannot be denied that this area was occupied by a settlement in the TIP. In any case, the settlement would have not been as dense as the Coptic settlement which spread out of the city wall on the west of city area.

Though the existence of a narrow rock-cut path above the chapels extending from the south was confirmed, almost all of it was broken by earthquakes, weathering and dynamite. (Tsujimura)

Finds from the West Area (Fig. 11) No. 1: Cup, the layer of pebbles in front of the MK chapel, alabaster, present size h. 3.35cm \times w. 2.17cm.

No. 2: Ring, the layer of pebbles in front of the MK chapel, faience, intact, d. 2.29cm, w. 0.21 \times h. 0.36cm (section), light blue.

No. 3: Lid, the layer on the brick structures, limestone. Mushroom shape with a hole, intact, d. 5.38 \times h. 2.02cm, d. 3.23 \times w. 0.62 \times h. 0.55cm (tongue). The hole is opened from the top. A rotary trace of shaving remains distinctly on the inside.

No. 4: Human Figurine, the layer of pebbles in front of the MK chapel, hand modeled, present size d. 5.0 \times w. 3.0 \times t. 1.5cm, the head is missing. The bottom has two projections expressing legs and two “buttons” measuring d. 0.7cm are attached vertically on the square body. (Tsujimura)

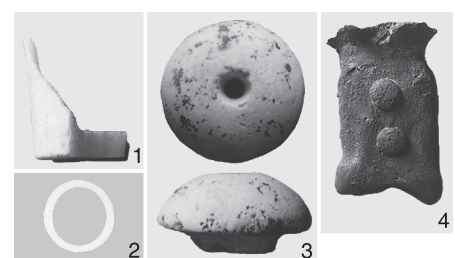
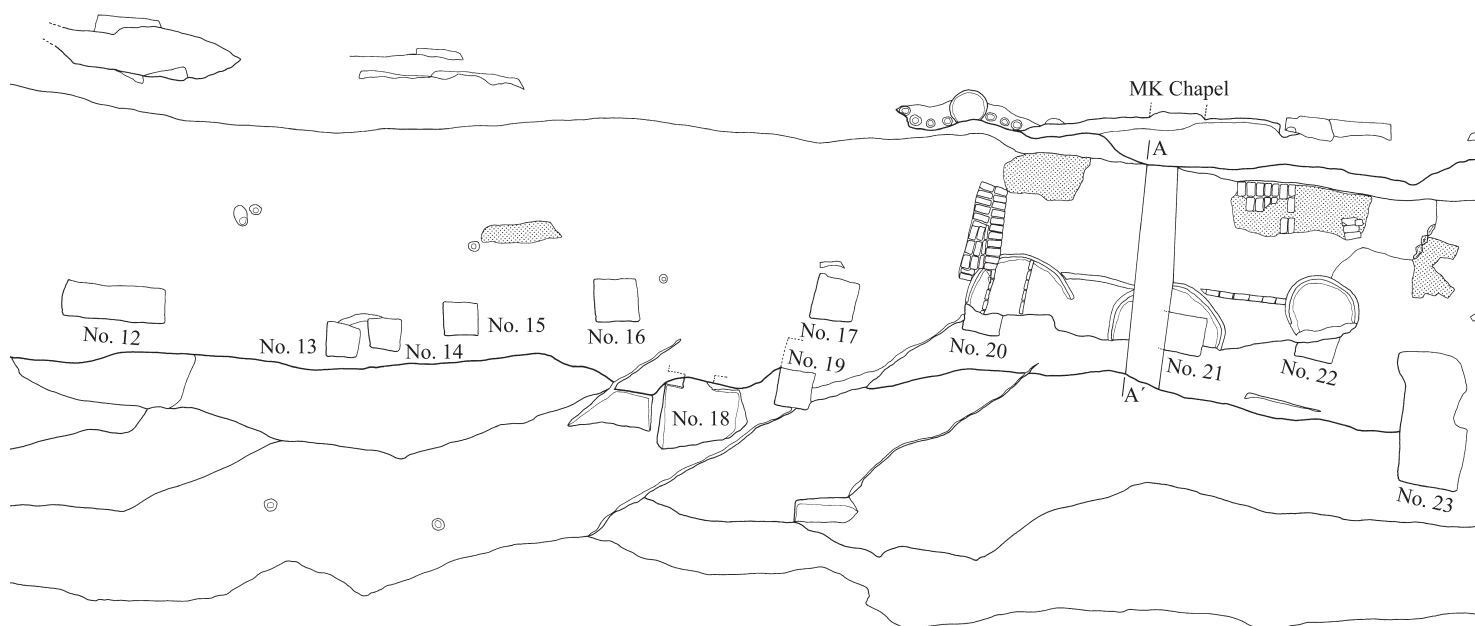
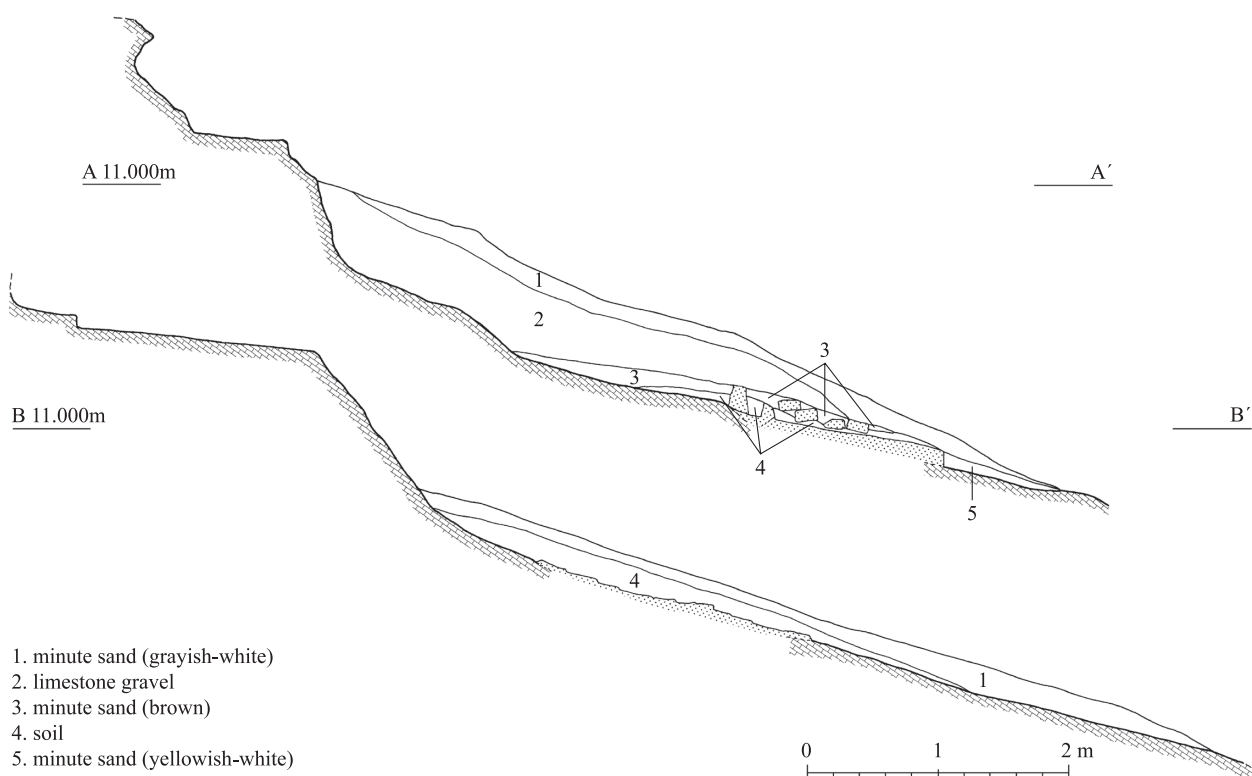


Fig. 11 Finds from the West Area.



Bedrock

Present Road



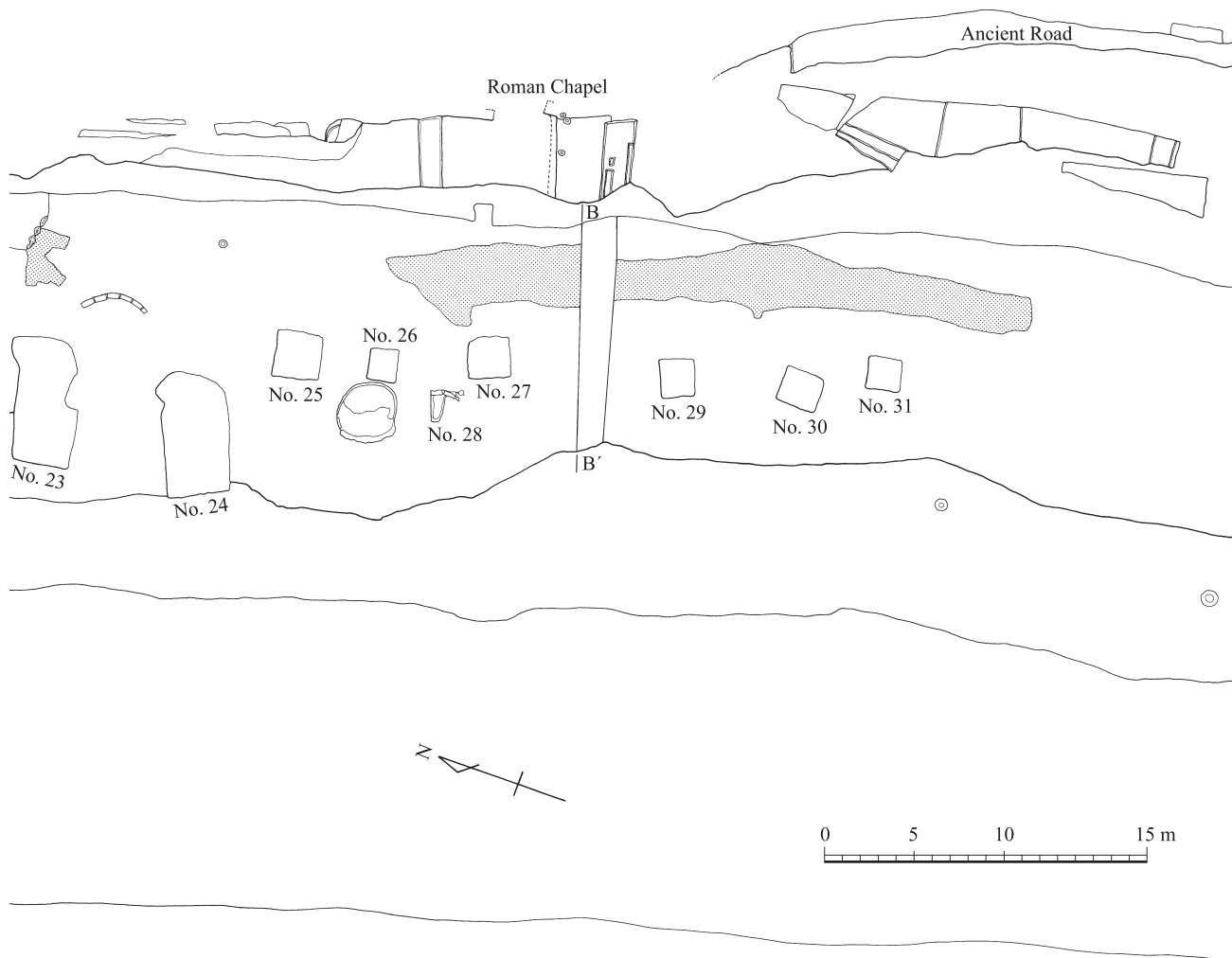


Fig. 12 Plan of the West Area.

3 QUARRY

Architectural Survey on the Quarry Faces in Zawiet Sultan (Figs. 13–16) Zawiet Sultan exists some 12km south of Akoris and consists of an undulating plateau of limestone denuded of the soil of fertile river plane and dissected by a tributary of Wadi Sheikh Yasin (Fig. 13 left). It is sited in a valley between two ranges of hills running parallel with the River Nile whose contours are defined by very stiff and dense in west but sparse in east (Fig. 13 upper).

In Zawiet Sultan, a large number of Greek and Demotic graffiti on the quarry faces datable to the reigns of Ptolemy II or VIII have been identified in our surface survey (Fig. 14), and R. Klemm and D. D. Klemm have surveyed an unfinished colossus and partially reported some of quarry faces (Klemm, R. and D. D. Klemm, *Steine und Stein-Brüche im Alten Ägypten*, 1992, Berlin, pp. 92–100). If the colossus boulder was also applied at this time, the date to the New Kingdom period given by Klemm and Klemm can be down to the years shortly before the middle of the 3rd or 2nd century BCE, since the similar demotic graffiti are observed on the ceilings of horizontal tunnels beneath the boulder of the colossus.

The ancient quarries consist of three parallel faces running north to south and rising steeply, which reach heights of 2.5 to 7.5m and are stepped back into the east mountainside. The detachment of blocks was not always carried out in straight line, but the layout of quarries often

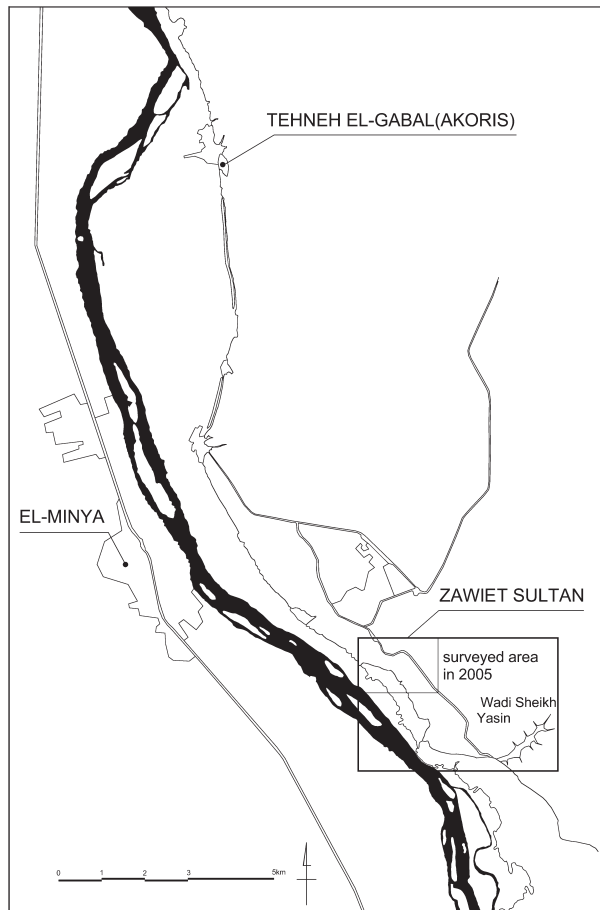
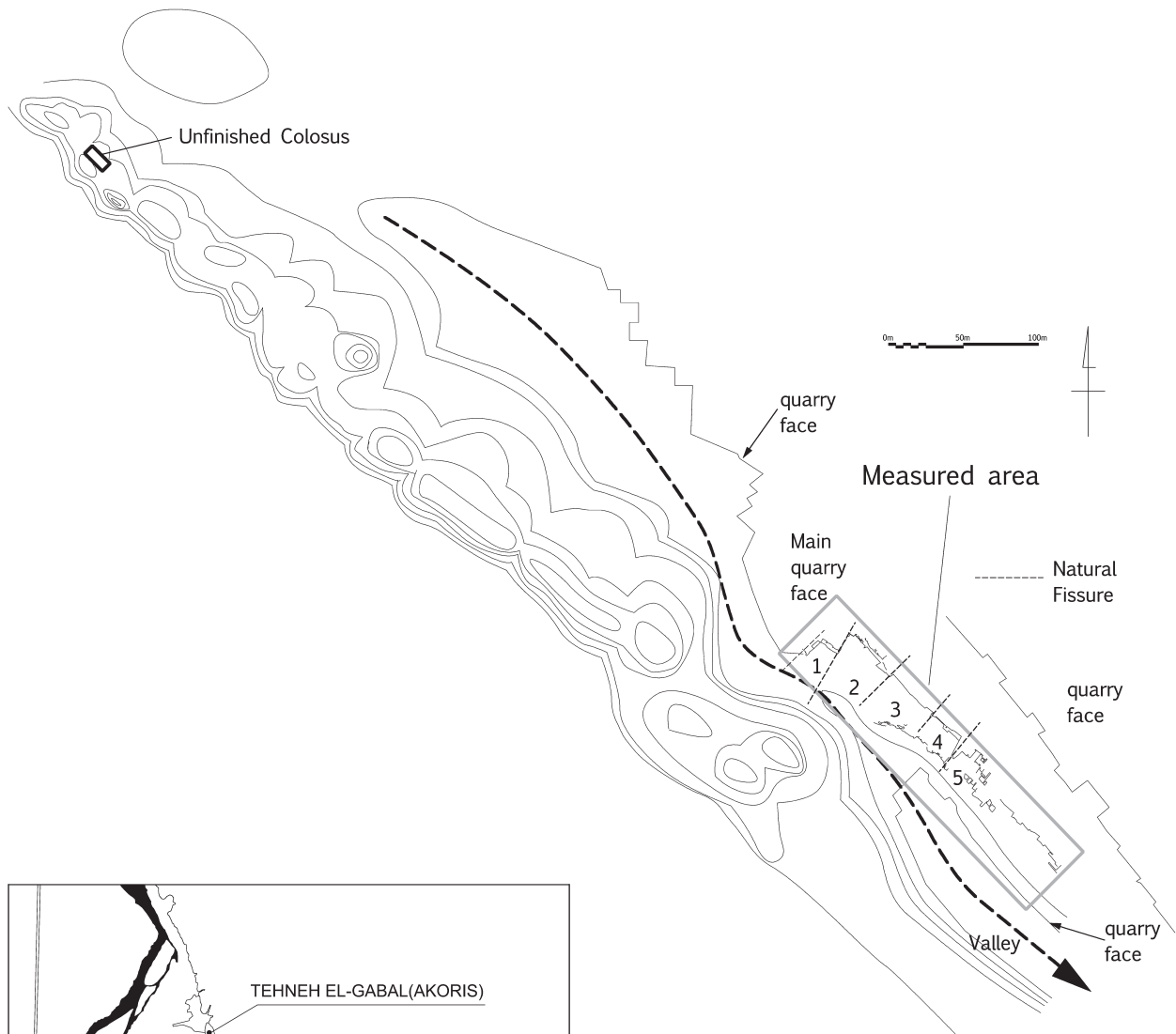


Fig. 13 South Quarry.
 Left: Zawiet Sultan and Akoris.
 Upper: Geographical Map of Measured Area.
 Photo: Distant view of Zawiet Sultan.

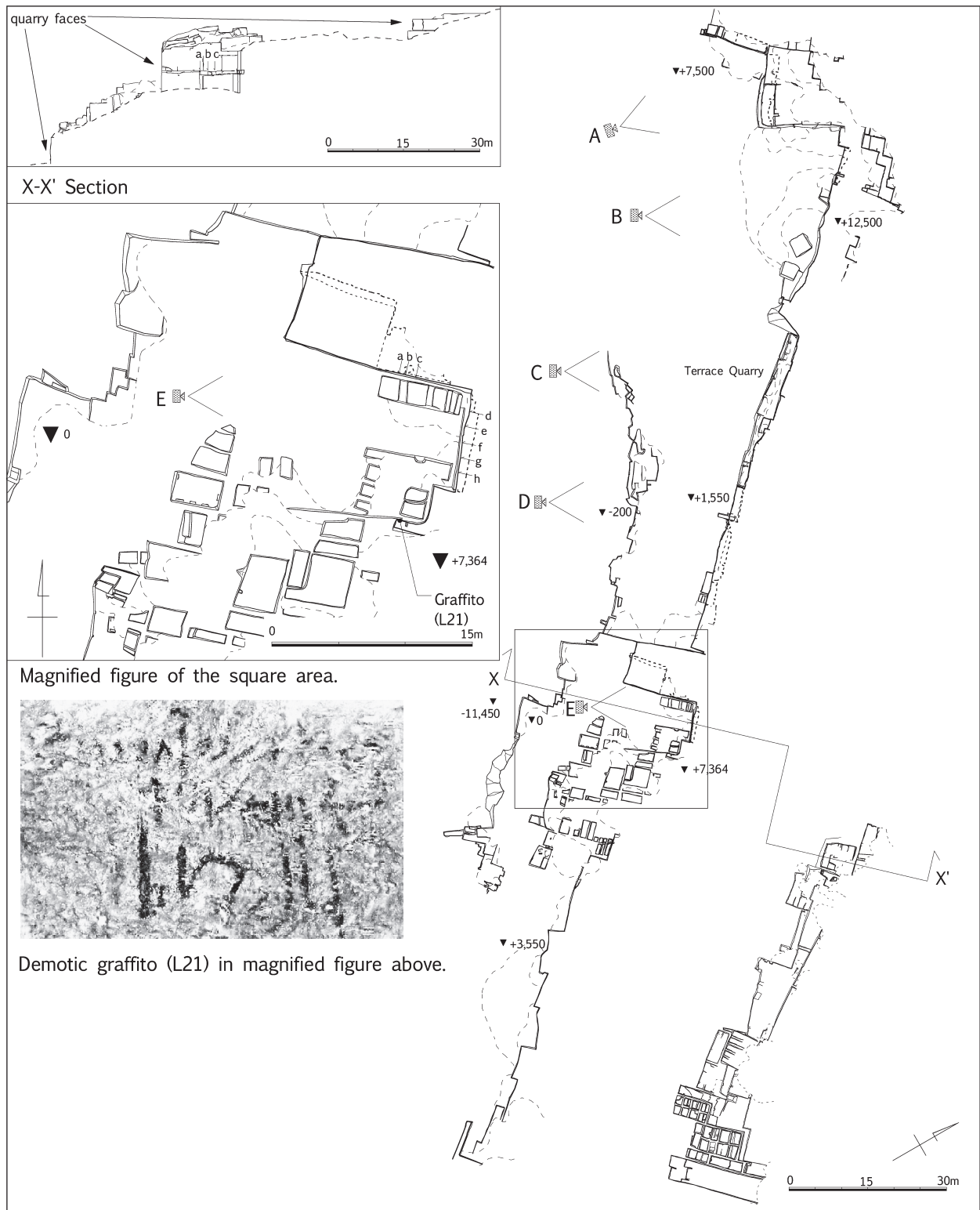


Fig. 14 Quarries in Zawiet Sultan.

afforded corners and steps, producing rather irregularly shaped ground plans.

In this season detailed survey have been carried out on the middle quarry face and quarry floor covered in medium blocks and crumbled limestone (Fig. 14). The measured area can be separated into five subareas by natural fissures (Fig. 13 upper). Normally a block was defined at the quarry face by cutting trenches along the back and sides with a pick, and split from the bedrock, however

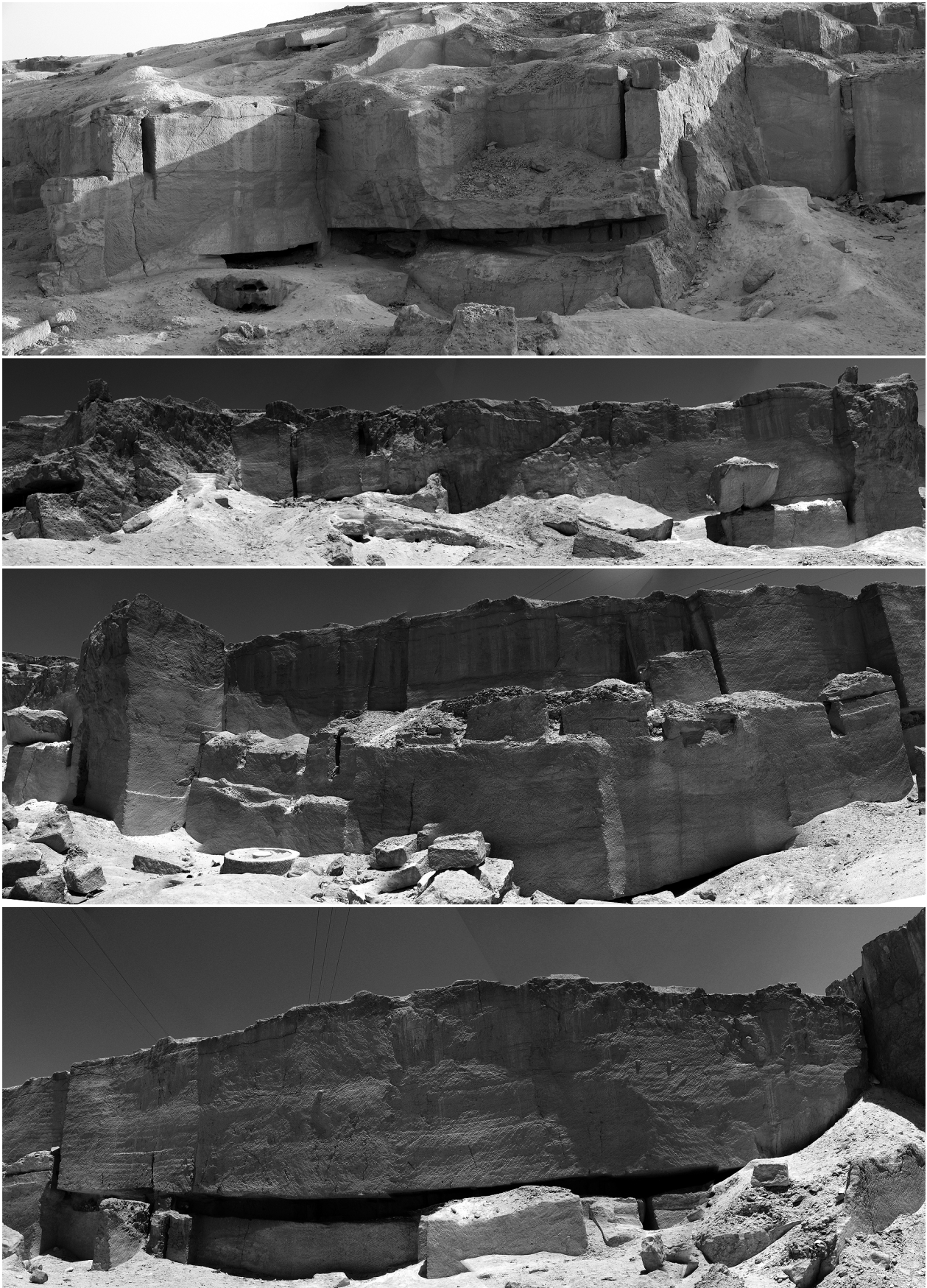


Fig. 15 Photo A, Photo B, Photo C, Photo D, from the top (see Fig. 14).



Fig. 16 Photo E (See Fig. 14).

quarrymen actually begun to cut a horizontal trench 7.5m beneath the top of the quarry face and then vertical trenches along the sides on the natural fissures, which limit the size of masses of extractable and usable limestone, they provide natural openings that help make quarrying easier. The separation could have been achieved only by cutting vertical trenches along the back. The bottom corner of the stones were marked by a succession of indentation with a chisel that indicate the vertical separation trenches between the blocks or the

system of work organization (lines a-h in Fig. 14). However the blocks have never been extracted. In the last day shortly after the year 35 of Ptolemy II or VIII, Zawiet Sultan quarry has been abandoned suddenly as same as other ancient Roman quarries around city Akoris.

In conjunction with establishing the post-abandonment history of the quarry, is the next stage to proceed to trial investigation to determine what relationship between other Roman and Byzantine quarries or to city Akoris the surface material and other graffiti has? Detailed survey in the next season will provide the figures for determining the extracting procedure, which only geometrical and architectural process can explain. (Hori)

Greek and Demotic Graffiti from Quarry (Figs. 14) Extensive traces of ancient quarries in a barren rocky valley to the southeast of modern New Minya have been noted for some years by the members of architectural history of the Akoris Archaeological Project. In 2005, we started investigations of the painted graffiti (dipinti) left in this site, with the aim of elucidating their nature within their proper historical settings. Although these graffiti had been painted with red wash in rather cursory way on the surface of the quarried rocks, a number of them were preserved in excellent condition due to the accumulation of huge debris covering them. Although preliminary in nature, the following observations will shed new light on the local economic activities in Middle Egypt in Hellenistic times.

In this season, we concentrated our investigations on counting and registering the graffiti left in three areas on the eastern side of the valley. A total of 105 graffiti were ascertained, of which at least 25 were written in Greek. Interestingly enough, the Greek graffiti were invariably written on prominent vertical walls, while the demotic ones were situated on various points of the rocks, in particular on the ceiling of large niches. This may indicate that the Greek graffiti were used purely for administrative purposes, while the demotic ones were written for several purposes including the recording of on-going working process by local people.

Several types of graffiti have been discerned during the course of our investigations at the site. The most notable group may be the graffiti designating a date, a personal name in the genitive case, and a set of enigmatic numbers. Regarding this category of graffiti, it is customary to find two texts, one in Greek on the right side and the other in demotic on the left, juxtaposed on or near the corner of a vertical rock. Greek personal names are often transcribed phonologically in the demotic text, e.g. *Tmtry*s for Demetrios.

Here is a translation of the Greek text composing from one such pair of bilingual graffiti (L 20):

Year 35, Month of Epeiph 16,
(charged by?) Diodoros
4,
2 2/3, 1

The year dates in the Greek graffiti are regnal years 35–38, which suggest that this quarry was exploited either during the reign of Ptolemy II in the mid-third century BCE or that of Ptolemy VIII in the later second century BCE. Since the survival in large numbers of second-century Rhodian amphorae at Akoris suggests a close economic relationship between Alexandria and Middle Egypt at that period through the transportation of local limestone blocks, the latter date is more probable.

Although it is extremely difficult to envisage the exact purpose of such bilingual graffiti at the present stage of investigations, they must be an eloquent testimony for the functioning of the royal control of this large important quarry, where Greek officials and local workers (of whom the latter must have been represented by both native Egyptians and the descendants of Greek settlers) cooperated in a highly systematic way.

The discovery of these bilingual graffiti at Sawiet Sultan will offer good opportunity to examine farther the function of “text” in the *chora* of Ptolemaic Egypt. (Suto)

Most demotic graffiti ascertained at all areas consist of three consecutive numbers often linked with the preposition ‘by’ (*r*), e.g. ‘5 by 4 1/2 by 1’, which are probably the three-dimensional measures related to some process of the stone quarrying. It is noticeable that the third number is mostly ‘1’.

However, at least 15 demotic graffiti are more complicated, and juxtaposed with the Greek ones, forming ‘bilingual graffiti’ as mentioned above. Each of these demotic texts generally consists of three parts, largely corresponding to the elements of the juxtaposed Greek one. Personal names in the demotic texts are mostly the transcriptions of those in the Greek ones. The demotic text also designates an above-mentioned three-dimensional measure, whose numbers are apparently corresponding to a set of numbers in the juxtaposed Greek text. This measure probably indicates the size of a quarried stone, or a trench for quarrying.

The ‘date’ in the demotic text is expressed differently from the one in the Greek counterpart. The former consists of two or three consecutive months and seasons, e.g. ‘the second month of Summer, the third month of Summer’, indicating a certain period of time, while the latter is expressed as a specific date indicated by a regnal year, a month, and a day. These demotic ‘dates’ possibly indicate the period of quarrying related to each of these bilingual graffiti, while the dates in the Greek texts seem to indicate the end of the quarrying (see below).

The Greek text L 20 cited above is juxtaposed with a demotic text (L 21, Fig. 14) translated as follows,

The 4th month of Winter, the 1st month of Summer, the 2nd month of Summer.
Titrus (*Tytrs*)
2 2/3 by 4 by 1 (Uchida)

The graffiti are to be dated to the reign of either Ptolemy II Philadelphus or Ptolemy VIII Philometer. Although regnal years extending to the 38th year allow another candidate of Augustus, it is unlikely that the graffiti were written in his time: firstly, the usual dating formula for Augustus’

reign 'Kaisaros (of Caesar)' is not used here; secondly, the Greek handwriting style fits the Ptolemaic period better than the early Roman period. L 20 clearly shows Ptolemaic forms of omega and omicron which are small and hang on the lines. These letter forms are commonly found in other Greek graffiti. And although the rounded delta in L 20 looks like later lettering, the other graffiti more commonly use the older triangular delta.

These remarks are owed to Prof. W. Clarysse (Leuven Catholic University) who examined facsimiles of the graffiti. Reading through the Greek texts, he gets an impression that the handwriting of the graffiti dates to the second century BCE, while Dr. M. Depauw, his colleague, assumes a third century BCE date for the demotic ones. Both admit, however, that their assumption is rather impressionistic and the handwritings cannot determine to which king's reign the graffiti belonged. Therefore both possibilities should be open to date them. If the graffiti were written under Ptolemy II, it is dated 5th September 250 BCE. If they were under Ptolemy VIII, it is dated 7th August 135 BCE.

As mentioned above, the juxtaposed Greek and demotic texts are not identical but contain differences which suggest different concerns on the part of the Greek writer/reader and the demotic one, even though the texts were very likely written simultaneously. While the Greek text (L 20) is dated to the month Epeiph, the third month of the summer season, the demotic text (L 21) records the previous three months. The same pattern is repeated in the other cases, namely that the month in the Greek texts is either the last month or the one following the last in the demotic texts. I owe the reading of the demotic texts to Dr. Depauw. This strongly suggests that the date in Greek indicates the end of the procedure. It seems that Greek writers/readers were interested in the precise day of completion of quarrying, the date of examination of the stone, or that of delivery, while demotic users were concerned with how many months the quarrying procedure took. I appreciate the kind advice of Prof. Clarysse and Dr. Depauw. (Takahashi)

The authors give sincere thanks to Dr. J. G. Manning, who read the 'dimension' in demotic, and checked the translations of the graffiti.

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