

REPORT TO THE SUPREME COUNCIL OF ANTIQUITIES
ON THE 2001-2002 FIELD SEASON OF THE DAKHLEH OASIS
PROJECT.

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Introduction

The Dakhleh Oasis Project began the 2001-2002 field season with the arrival of the Director on 17th November, 2001 in the oasis. Field work continued without interruption until 21 March, 2002, when the camp was closed. A total of 124 days. Our field camp was set up at Ezbet Bashendi, in eastern Dakhleh Oasis, as usual, and most of the field activities were conducted from there. Our fieldwork included physical anthropology, prehistoric survey and excavation, excavation into historical sites of several periods at Ain el-Gezzareen, Mut el-Kharab, Ismant el-Kharab, and Amheida, the initiation of studies and conservation work at el-Qasr, as well as in ancilliary areas. Each of these separate activities, conducted by various members of the Project, will be described in turn as they have been reported and observed by me. Although we had expected a considerable number of members of the team, the event on 11 September, 2001, meant that a large number of them did not come. The number of members who were in the field with the Project this season was 39.

In addition, some members of the Dakhleh Oasis Project spent about ten days in the Kharga Oasis as members of the Kharga Oasis Prehistory Project. Their results are of importance to the work of the Dakhleh Oasis Project and is integrated into our studies. There will be short statements here about that work, although their main report about the KOPP season will be made separately to the S.C.A.

As always, our results are both interesting and encouraging, as will be seen in the following reporting.

ENVIRONMENTAL STUDIES.

GEOLOGY AND ZOOLOGY

Professor C. S. Churcher was active in the field for six weeks, from 16th January, 2002. He has reported as follows:

His main activities included :-

1. Identification of animal remains from Epipalaeolithic /Neolithic sites excavated by Dr. Mary M. A. McDonald, from the Old Kingdom site of 'Ain el-Gezzareen excavated by A. J. Mills, and from the Old Kingdom to modern site of Mut el-Kharab, both excavated by Dr. Colin A. Hope.
2. Tracing further the south shore and CSS sediments of Palaeolake Kellis with Dr. Maxine R. Kleindienst between Ezbet Sheikh Muftah and Mut..
3. Preliminary geological investigations of the Wadi el-Medawara tufa terraces and surrounding areas with Dr. Maxine R. Kleindienst.
4. Locating origins of the tufa blocks found in wadis directly east of Balat Point, Dakhleh Oasis, in cooperation with Dr. Maxine R. Kleindienst
5. Recovery of Sheikh Muftah Cultural Unit age bone specimens from the south margin of the cultivation south of Ezbet Masara.

1. The Identification of Ancient Animal Remains from Archaeological Excavations.

A. Epipalaeolithic/Neolithic Sites.

Samples from two major sites were analysed:

Location 136: a Sheikh Muftah Culture site to the east of Teneida on the margin of the occupied oasis, referred to as Camel Thorn Basin.

Most of the bone remnants recovered from this site were small or poorly preserved. The usual spectrum for these cultural sites comprised a large bovid, probably *Bos*, goat - *Capra hircus*, Dorcas gazelle - *Gazella dorcas*, hartebeeste - *Alcelaphus buselaphus*, and these yielded the majority of elements. A few specimens represent rabbit - *Oryctolagus* sp., Cape Hare - *Lepus capensis*, and a fragment of a calcaneum (heel bone) that may be Cape buffalo - *Syncerus caffer*, further support the fauna previously reported by Churcher. The presence of buffalo is uncertain on the fragment

available but because of materials obtained from Loc. 406 (see below), may be considered likely (Peters, 1988).

A sample of charred bovid, probably cattle - *Bos taurus*, from a fire pit in Loc.136, derives from a single animal. The elements recovered represent ends of the limbs, tail and a few other scraps, as though the items represent rejected parts discarded after boiling for soup. Some elements are still associated as units, despite having been mauled or smashed to break the bone or expose marrow cavities.

Loc. 404: A Sheikh Muftah Culture site to the north of the Old Kingdom settlement site of 'Ain el-Gezzareen.

Animals identified include cattle - *Bos taurus*, goat - *Capra hircus*, Dorcas gazelle - *Gazella dorcas*, hartebeest - *Alcelaphus buselaphus*, Cape hare - *Lepus capensis*, Nile oyster - *Etheria elliptica* and turret snail - *Melanoides tuberculata*. A gerbil - *Gerbillus* sp., is also present but is probably intrusive.

The mammalian fauna presents no unexpected taxon when compared to other faunas from sites of similar ages. The presence of Nile oyster may be due to contact with the Old Kingdom inhabitants at 'Ain el-Gezzareen and the turret snail could easily have been blown onto the site from elsewhere.

Loc. 406: a deflated alluvial site, possibly marshy and certainly wooded, on the south margin of the cultivation south of Ezbet Masara.

This site contained some mounds of bone, clusters or concentrations of bone, pottery and hearth debris and a concentration of bone from a single ass - *Asinus asinus*. These were collected as palaeontological materials without there being an archaeological excavation - see below.

B. Romano-Byzantine Sites. Mut el-Kharab

Dr. Colin A. Hope carried out a preliminary excavation at Mut el-Kharab (**31/405-G10-1 et seq.**) and submitted 23 samples for identification. Beneath the Romano-Byzantine deposits are deposits reaching back to Old Kingdom times.

The mammalian fauna comprised cattle - *Bos taurus*, pig - *Sus scrofa*, goat - *Capra hircus*, ass or donkey - *Asinus asinus*, and camel - *Camelus dromedarius*. All but the camel are well represented; the camel is represented by a single bone. A few bones of dog - *Canis familiaris*, Dorcas gazelle - *Gazella dorcas*, and man - *Homo sapiens* were also recognized, and a modern or not very

ancient skull of a horse - *Equus caballus* was recovered. Birds recognized are chicken - *Gallus gallus*, duck - *Anas platyrhynchos*, and goose - *Anser anser*.

As the excavations were a number of testings or sondages, and the specimens derive from layers dated from the Old Kingdom time to modern times, the presence of these animals has no historic or dietary implications for previous eras.

The snails, apple snail - *Pila ovata* and turret snail - *Melanoides tuberculata*, occur in only one sample, but these snails are throughout the site and only imply the presence of wet conditions and flowing water from wells.

Samples of leather, as off-cut scraps, from cow, goat, and possibly pig hides were also noted.

A few samples left over from the excavation at Kellis (Ismant el-Kharab = **31/405-D6-1**) were also examined but no items of importance or rarity were recognized.

C. The Old Kingdom Site of 'Ain el-Gezzareen (**32/390-K2-2**)

A. J. Mills excavated 21 bone samples from this site. These produced a fauna essentially the same as found here previously, of cattle - *Bos taurus*, goat - *Capra hircus*, Dorcas gazelle - *Gazella dorcas*, small mammals, birds and molluscs. The other small mammals include a small dog or fox - *Canis* or *Vulpes* sp., rabbit - *Oryctolagus cuniculus*, possibly cat - *Felis catus*. Ostrich is represented by many pieces of eggshell; some small birds and chicken - *Gallus gallus*, are present but, as the layer excavated was thin and near the surface, the chicken is probably later and intrusive. Molluscs present include the Nile oyster - *Etheria elliptica*, turret snail - *Melanoides tuberculata*, and spiral marsh snail - *Planorbis alexandrinus*, the latter possibly also intrusive or wind-introduced. A single catfish - *Clarias* sp., vertebra was present.

It is interesting that cat has been possibly a domestic, has been tentatively identified as this would be the first record of this animal on this site. Unfortunately the thin layer in which the small taxa lay allows them to be intrusive or to date from more modern times.

2. Geological Activities.

A.) Tufa Deposits in Dakhleh Oasis (**Loc. 399**).

On Feb. 15th, Maxine Kleindienst showed me many large blocks of tufa in the second wadi east of the shoulder of Balat Point (Gebel Balat), which she recognized at an earlier visit. We noted two horizontal deposits at the base of the chalk scarp capping the escarpment, seemingly perched on the crest of the talus slope descending from the scarp. They appeared similar in appearance to tufa

outcrops that we examined in Kharga Oasis at Wadi el-Medawara earlier (see below). On Feb. 17th we, accompanied by Johannes Walter, scrambled up a wadi defile to inspect the two deposits which lay at the head of the defile. As we walked up the wadi floor and ascended the defile, more and more tufa blocks were found, some the sizes of motor cars and, on the crests of the wadi and defiles walls, tufa was observed in place.

These tufas are full of casts of vegetation, including many leaves of reeds and wood or branches up to 15 cm in diameter. The best preserved tufa mound or shelf has a central mound some 10 m high, three surrounding benches or shelves at its base, each a meter or so thick, and a wide but thinner apron spreading outwards about 30 m and descending across the slope from the central base. The tufas appear to represent two outpourings of carbonate rich water, with an older, denser and more recrystallized, dark lower tufa and a lighter, less recrystallized upper tufa rich in plant casts.

The importance of these tufas is that it is now likely that the Northern Escarpment at Dakhleh Oasis was mantled in tufa deposits as was that at Kharga Oasis, and that most of the Dakhleh tufas have been stripped away by erosion by the north wind. The tufas at Kharga remain on its eastern escarpment because the north winds there have descended to the oasis floor and do not affect the Escarpment face or its east-west trending wadis as much as on a south facing Northern Escarpment with winds scouring the north-south trending walls.

B) Tufa Deposits at Wadi el-Medawara, el-Kharga Oasis.

The period Jan 26th to Feb 5th was spent in Kharga Oasis, working in the tufa complex north of Wadi el-Medawara and on the surrounding bedrock stratigraphy (see el-Hinawi *et al.*, 1978) Maxine Kleindienst and I visited many parts of the tufa terrace and basin system to the north of the Wadi el-Medawara complex, checked its geomorphology and mineralogy against the geological descriptions of el-Hinawi *et al.* (1978) and the later map of J. Smith (2001/2).

At the foot of the tufa complex, overlying probable Baris shales, occur some bright white stratified and fissile silts. These silts are similar to those occurring in the basins in the brown tufas within the tufa complex stratigraphically higher up and are suspected of being lake deposits similar to the palaeolakes known to occur in Dakhleh Oasis (eg., Palaeolake Kellis, below).

C). South Shore of Palaeolake Kellis.

The previous years from 1997, except for a few seasons when one or both of us were unable to get into the field, Kleindienst and I have traced the calcareous lake marls (CSS) on the floors of

palaeolakes Teneida, Balat and Kellis from east of Teneida and the eastern limit of Dakhleh Oasis to just east of Sheikh Muftah on the west flank of the Tawil Taref Sandstone Anticline. This year we concentrated on the southern shore and lake deposits of Palaeolake Kellis and extended this margin due south of Mut where the oasis depression abuts the east flank of the Mut Taref Sandstone Anticline. Many 'gebels' with a Mut Fm. base of speckled muds and shales or Mut Red Muds are capped by variably thick layers of CSS, up to 10 m thick. These gebels extend from east of the Sheikh Muftah Embayment almost to the main road from Mut to Mut Airport.

When we prospected for CSS deposits to the south of the ascending slope of the Taref Fm. Sandstone rim south of Ismant and Masara, we found gebels capped with CSS south of the rim in the southern sand plain. It is conceivable that Palaeolake Kellis extended some 17 km east-west. If the southern limit of the sand plain represents the southern limit of Palaeolake Kellis, then a southern extension of some 8 km is possible, with a greater north-south diameter of 14 km. We further speculate that a coeval palaeolake existed between Qasr and Maohoub, and probably south of Gebel Edmonstone.

We have described a number of contacts between the Mut or Taref Fms and the basal CSS. Some of these show banded or confused marsh or lake shore deposits above the Cretaceous bedrock giving way to the cleaner marl. Clasts may be present in the basal contact layers. Vertebrate fossils are sparse along this south shore of Palaeolake Kellis, but have been collected from many CSS exposures (see below). In one or two localities plant casts, mainly apparently reed stems and leaves, are common.

D). Dakhleh Glass.

New concentrations of Dakhleh Glass were located on a few of the CSS-capped gebels along the southern deposits of Palaeolake Kellis. Many isolated blocks or fragments are visible on the surfaces of the caps and slopes or between the gebels. Some Dakhleh Glass was observed *in situ* within the CSS, above the basal contact layer but not high up in the CSS section, but often as high as the CSS deposits are preserved. It is possible that the glass sank through the semiliquid and plastic marl to a level where it could be supported, and thus it is found at different levels above the basal contact. Although this height above contact varies, much of the glass lies above the Mut Fm contact, with the highest above bedrock contact being about 5.0 m. In places the glass caused burning, probably of the immediate vegetation, and some baking of the marl or silt below the fragment.

Samples of this glass, and of associated CSS, were gathered for subsequent analysis by Dr. Henry Schwarcz of McMaster University.

3. Palaeontology.

As most of the 2002 Field Season was concerned with geology, my palaeontological activities occurred linked to the geological investigations and are not prominent..

A. Mid-Pleistocene Iron Balls Fauna.

Collection of mid-Pleistocene vertebrate specimens of the Iron Balls Fauna from the CSS of Palaeolake Kellis went together with M. R. Kleindienst's and my mapping activities of the CSS outcrops along the lake's south shore. Most of the specimens were surface pickups and usually bone scrap of uncertain value and little information. Some 25 specimens of some value were collected. These include part of the jaw of a small canid with $M_1 - M_2$ in place; comparison with other African canid jaws suggests that this specimen represents the Egyptian wolf-jackal - *Canis lupaster*. Two long-bone fragments, probably metatarsal shaft, match in section and straightness those of the giraffe - *Giraffa camelopardalos*, Associated metatarsal, astragalus, calcaneum and partial navicular-cuboid represent the mid-sized antelope recovered from Iron Balls faunal locations (e.g., Loc.348) elsewhere. An iliosacral fragment of the iliac of two small mammals were recovered and are as yet unidentified, though both are probably from antelopes.

The canid jaw fragment is the first canid recognized the Iron Balls fauna and the giraffe metatarsal fragments represent the first identified giraffe from the Quaternary plains of northeast Africa.

B. Late Neolithic (Old Kingdom times equivalent) Oasis Fauna.

While surveying the CSS outcrops south of Ezbet Masara, M. R. Kleindienst noted a collection of bone in silts in a deflating pan, similar to those on the eastern margin of Camelthorn Basin or the east of the Sheikh Muftah Embayment. It proved to be an ass or donkey - *Asinus asinus*, whose preserved skeletal elements were the lower jaw, and long bones. The elements were somewhat confused with radius, cubitus and cannonbone wedged within the lower jaw. But no ribs lay in parallel order as parts of the cage, unbroken, but disarticulated from the vertebrae. No skull, pelvis and few vertebrae are represented, although tooth marks from carrying or playing, rather than chewing by small to medium sized canids (dog/jackal size) are present.

The bones lay above a 5-8 cm thick layer of silt above a friable blackened sandy layer and with a further soft deposit. Sheikh Muftah lithics and hearths lie above and below the bones= stratigraphic horizon. Nearby are a few debris or hearth mounds full of Sh. Muftah cultural unit debris, from one of which we have obtained other ass materials. Thus, ass appears to have been present in Sheikh Muftah times and associated with Sheikh Muftah peoples.

The ass does not seem to have been butchered or mauled in any way as were long bones of other animals, although apparently some selective agency operated to eliminate the skull, most vertebrae, and pelvis from the collection. The second individual is represented by a metacarpal, patella fragment, proximal end of a tibia and a cuboid found mixed with the first individual. At present, these circumstances are inexplicable.

This information shows that ass was properly present in the Sheikh Muftah people's life style and was not an obvious part of their diet. Thus, other ass remains recovered from Late and Latest Epipalaeolithic sites in Dakhleh Oasis are not necessarily intrusive.

The main individual is not aged, (its third premolars are about 80 mm in length from occlusal surface to division between roots, which are open) and so was either killed or died of natural causes, but not because of age. None of its preserved bones are diseased or abnormal ones.

Associated with the metacarpal of the second ass are two almost complete calcanea. One represents cattle, a large *Bos*, and the other Cape buffalo - *Syncerus caffer*, (Peters, 1988). Other elements of *S. caffer* have been identified also. One can envision the Sheikh Muftah people using ass or cattle (oxen), but not buffalo, as pack animals to transport their household effects including pots and grindstones. Thus, the palaeontology of the larger animals associated with the Sheikh Muftah peoples presents a number of questions, e.g., 1. were ass and cattle used for transport?; 2. Were ass eaten and, if so, why were they not butchered in the usual way by mauls or smashing?; 3. Could the cattle have also been used for milk and blood, and only killed when no longer useful as pack animals?; 4. Does the presence of Cape buffalo indicate hunting of these animals when less dangerous prey, e.g., antelope, existed?

Summation.

The 2002 Field Season has resulted in an understanding of the probable limits of Palaeolake Kellis, the recognition of extensive *in situ* tufa deposits in Dakhleh Oasis, the construction of a framework to explain the geological history of the tufa complex at Wadi el-Medawara, and the

recognition of ass and Cape buffalo as parts of the Holocene fauna of Dakhleh oasis, some 5000 years BP, associated with the Sheikh Muftah peoples occupational debris.

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GEOLOGY AND GEOARCHAEOLOGY

A parallel set of observations by the Project geoarchaeologist and Pleistocene prehistorian, Professor M. R. Kleindienst were also made. Prof. Kleindienst and Prof. Churcher worked together throughout their season, viewing their evidence and finds from different perspectives. Professor Kleindienst reports as follows:

I. Palaeolakes.

Together with C. S. Churcher, most of my time in Dakhleh was spent in detailed investigations at the Pleistocene sediments related to Palaeolake Kellis. We now formalize these as the "Lake Kellis Formation" (LKFm), with 3 main facies - (cf. J. Frizano): 1.) The ferruginous sandy deposits (FSS) derived from runoff from the Taref Fm. sandstone dipslopes; 2.) The calcareous marls and siltstones (CSS) derived from runoff from the Escarpment; and 3.) Sediments related to outflows from artesian spring vents. LKFm sediments usually overlie an uneven topography of weathered Mut Fm claystones, but may also overlie the Taref Fm sandstones. Basal gravels are rarely present at the contacts. We conducted intensive survey for fossil bone and artefacts weathered-out of the LKFm, with some success.

I verified earlier observations that Balat Unit artefacts are related to basal LKFm units along the eastern lakeshore on the Tawil Anticline. A few similar finds were made in the central Sheikh Muftah Valley, derived from basal deposits or low in the CSS sections (Loc.396, the >central CSS ridge=. Elevation of the basal contacts here is ~140 m a.m.s.l. Middle Stone Age (MSA) artefacts have previously been found high in FSS sections (cf. Loc. 329K), which are planed-off at about 150 m a.m.s.l. (= top of 'Dune Hill').

We made an unsuccessful search along the southern margins of Holocene pan sediments for prehistoric human burials for Dr. J. L. Thompson. We did discover an area of calcareous LKFm outcrops c. 3.5 km W of 'Dune Hill', Here, the basal units on weathered Mut Fm are at an elevation of >150 m a.m.s.l., climbing the Taref SST dipslope southward (prograding lake). Searches between Feb.07 and Feb.13 yielded some fossil bone, and numerous small-sized MSA artefacts (Locs. 397 & 398). The age of this MSA cannot presently be determined, based upon typology or technology. The small sizes probably reflect both water sorting and the paucity of large pieces of chert in the vicinity. I can only note that the basal CSS units here are approximately at the same altitude as the MSA in the Sheikh Muftah Valley LKFm.

We then continued our survey westward, finding a few small CSS outcrops about 2.5 km further W, but mainly FSS and spring vent-related sediments. Still further W, we were unable to

drive through the ancient-and-modern-irrigation works W of 'Ain el-Azizi'. We did find one CSS outcrop frosting a high (>150 m a.m.s.l.) SST jebel in the sandsheet south of the 'Taref Rim'.

We investigated the west end of LKfm sediments, finding a small CSS remnant downslope (Loc.411, very abraded Balat Unit-type bifaces), and a more extensive terrace upslope (Loc.413, MSA). These lie about 1 km E of the Airport Road, south of Mut cultivation. They extend the south shore of Palaeolake Kellis c. 12-13 km W from 'Dune Hill', along the Taref dipslope, to where the west lake shore must have followed the Mut Anticline. Palaeolake Kellis, then, must have extended 14 - 15 km E-W, and possibly 8 - 10 km N-S - not an inconsiderable body of water at its widest extent. We could not identify any obvious breaks in the sequence, although multiple cycles of coarser to finer sediments occur. The archaeological remains consistently bracket the time range as between Balat Unit ($\leq 300,000$ years ago) and some time in the MSA time range (?200,000 years ago).

A new find, at Loc.397, in two of the highest preserved sections, is that of 'Dakhleh Glass' *in situ* within the CSS. This may date the lake.

We also revisited Loc.390, - the 'Dakhleh Glass' locality on CSS at the south end of Palaeolake Balat ('Lake Balat Formation'), in order to sample the underlying sediments. We briefly investigated the fault trough to the west, which also contains a small CSS remnant.

II. Piedmont and Escarpment: Tufa Terraces.

On Feb 15, we made a trip to Mut Fm outcrops in the second large wadi E of 'Balat Point' (Loc.399), where there are also relatively large areas of PII and PIII terraces preserved. I found a little fresh older MSA (cf. Gifata Unit) on the PIIA and PIIB. (The double terraces here relate to structural control by more resistant bedrock horizons.) More MSA, abraded, occurred on the PIII - probably derived from the PIIIs, including a 'Gifata Point'. There is also an unusually high incidence of tufa boulders in the modern wadi.

From a distance, we noted dark patches on the Escarpment face, which we and J. Walter investigated. A steep climb up the Escarpment resulted in the discovery of several degraded tufa terraces, the highest at about the level of the Tarawan LST/Dakhla shales contact. No artefacts were found embedded, but MSA pieces lie on the highest eroded tufa surface, and others on the talus slopes below. The area requires further investigation.

These tufas are much larger than the bare remnants of terraces which we found in 2000 on the el-Batikh Promontory Escarpment. The thick masses suggest a long period of spring flow from the face of the Libyan Plateau, as occurred at Kharga Oasis along the W-facing Escarpment there.

III Other Finds.

Serendipitous finds during the LKFm survey were:-

1) The discovery of a Sheikh Muftah Unit site (Loc.406) with better preserved faunal remains than are usually found, including the bones of 2 donkeys *in situ* and African buffalo (cf., Churcher, above, McDonald, below).

2) The discovery of a Dakhleh Unit concentration (**Loc.412**) on the sandsheet south of Mut cultivation. Probably other Aterian concentrations could be found there.

3) We noted **30/420-E1-6**, a puzzling alignment of rocks in the shape of a 'flowerpot', below the Central CSS Ridge in Sheikh Muftah Valley.

4) Finally, in the sandsheeted depression south of the Taref Rim, south of Mut, sediments of a late Pleistocene playa/sandsheet occur as yardangs or as patches on SST jebels to ~ 4 m above the present surface. Very small, fresh Sheikh Mabruk-type artefacts (ironstone & chert) were found in a blowout, weathered from these sediments (1 *in situ*) (**Loc.414**). This area also requires further investigation.

IV Kharga Oasis Prehistoric Project.

Churcher, McDonald and I spent 10 days in investigations at Kharga Oasis (KOPP). Nine field days were spent at the Wadi el-Midauwara (Luxor Road), in investigation of the bedrock geological setting, of Pleistocene terraced gravels, of the tufas as mapped by J. Smith & R.Giegengack, and of the associated prehistoric remains. We found 16 new localities (4 Pleistocene, 12 Holocene, **KH/MD - 17** through **KH/MD - 32**) It appears that the Earlier Stone Age ("Darb el-Gaga Unit") and the older MSA occur mainly (?or only) in redeposited situations, in lag gravels or washed into deflation basin silt infills. Only 2 later MSA localities were noted: **MD-26** (?Kharga Aterian), and **MD - 28** (Khargan Unit workshop on a high jebel). In contrast, use of the landscape in early- to mid-Holocene times was intensive (cf. McDonald, below).

ARCHAEOBOTANY

This year's field season of the archaeobotanists Ursula Thanheiser and Johannes Walter lasted for four and six weeks respectively, starting on 21/1/2001. During this period plant remains from three Holocene sites, the Old Kingdom site 'Ain el-Gezzareen, the Græco-Roman village of Kellis and of the multi-period site at Mut were extracted and analysed.

Holocene Sites

This year's work concentrated on the extraction of plant remains from three neolithic Sheikh Muftah sites: Loc. 135, Loc. 136 and Loc. 404. The first two locations were selected for excavation because of a visible concentration of animal bones on the surface, usually indicating good preservation of organic material. The third site was selected because of its vicinity to the Old Kingdom settlement with its excellent preservation of charcoal and macro remains. Unfortunately, the sediment in all locations was again very poor in botanical remains and therefore all soils samples had to be screened by hand using a dissecting microscope. Only minute charcoal fragments, too small to be identified, were found. Plant macro remains were not present in the samples. The absence of plant macro remains on Sheikh Muftah sites seems to reflect a special use of these sites.

Old Kingdom Site - 'Ain el-Gezzareen (32/390-K2-2)

Twenty-three soil and ash samples were taken at the site from ashy deposits visible on the surface plus some additional samples from excavated structures. The results are very similar to those of past seasons: The majority of plant remains are cereals (barley - *Hordeum vulgare* and emmer wheat - *Triticum dicoccum*), and fuel (twigs, flowers, seeds and fruits of acacia - *Acacia sp.* and tamarisk - *Tamarix sp.*). The associated weedy species belong predominantly to the taxonomic groups of *Brassicaceae*, *Fabaceae*, *Poaceae*, and *Cyperaceae*.

Roman Period village, Ismant el-Kharab [=Kellis] (31/420-D6-1)

Forty-eight botanical samples (37 soil samples and 11 samples from screening) from areas C/2/2, C/2/5, C/2/7, B/1/3, ST4/2, and NT2/5 were analysed.

The samples from screening comprise big seeds, stones, and fruits of date (*Phoenix dactylifera*), olive (*Olea europaea*), peach (*Prunus persica*), grape (*Vitis vinifera ssp. vinifera*), fig (*Ficus carica*), dom palm (*Hyphaene thebaica*), as well as twigs, bark, and wood of these trees.

The soil samples very regularly contain cereals (barley – *Hordeum vulgare*, bread and hard wheat – *Triticum aestivum*, *T. durum*) and millets (*Pennisetum americanum*) as well as other field crops like fava bean (*Vicia faba*), lentil (*Lens culinaris*), safflower (*Carthamus tinctorius*), cotton (*Gossypium sp.*), and flax (*Linum usitatissimum*). Spices (coriander – *Coriandrum sativum*, rosemary – *Rosmarinus officinalis*) and fruit (olive – *Olea europaea*, grape – *Vitis vinifera ssp. vinifera*, date – *Phoenix dactylifera*) occur regularly. The common weeds belong to the taxonomic groups of *Poaceae*, *Brassicaceae*, and *Fabaceae*. Beside these groups *Asphodelus fistulosus/tenuifolius*, *Calendula arvensis*, and *Alhagi maurorum* occur in several samples. The most common shrubs and trees, presumably used as fuel, are acacia (*Acacia sp.*) and tamarisk (*Tamarix sp.*).

Multi-period site Mut el-Kharab (31/405-G10-1)

Of the c.100 samples taken for botanical analysis during excavations this year, 36 samples could be analysed. Unfortunately the soil samples are again quite poor in plant macro remains. Cereals (rice – *Oryza sativa*, barley – *Hordeum vulgare*, bread/hard wheat – *Triticum aestivum/durum*) are dominant; other field crops, esp. pulses and flax (*Linum usitatissimum*), are missing. In some samples glumes of rice are dominating and one ash sample consisted almost entirely of the silica skeletons of these glumes. Besides the field crops fruit (grape, olive, date, dom-palm nuts) occur regularly. Weeds are almost missing.

ARCHAEOLOGICAL STUDIES

HOLOCENE PREHISTORY

Dr. M. M. A. McDonald reports as follows on aspects of her research:

I was in Dakhleh Oasis for 2 months. Working with me on Late Prehistoric material were 2 students, Ines Teubner from Humboldt University in Berlin and Ashden Warfe, Monash University in Melbourne.

This season, much more time than usual was spent doing lab analysis of artefacts rather than fieldwork. Both students are using Dakhleh material for their dissertations: Teubner the Sheikh Muftah or late Neolithic chipped stone, Warfe the Prehistoric (Sheikh Muftah and earlier) pottery. Each spent only a few days doing field work, the rest of the time on analysis.

Fieldwork in the 2002 season.

Most field time was spent on sites of the Sheikh Muftah cultural unit, most of that on **Locality 136**, with a day on each of 3 other sites. In addition, 2 days were spent on a Bashendi site, **Loc.269**, and several days at Masara site **Loc.264**.

Loc. 136 is an extensive scatter (3200 m²) of Sheikh Muftah material located in Camel Thorn basin in south-eastern Dakhleh Oasis. Intensive work began there in 2001 season, with the collection of artefacts from the surface of about a of the site and excavation to sterile soil of 46 m². It proved to be a very important site with pottery spanning 1200 years and showing connections with the Nile Valley in predynastic and later times, and with cultural deposits in some places preserved up to 1 m deep.

This year we wanted, as far as possible, to finish work at the site, which is threatened by expanding cultivation in the area. Accordingly, we completed the surface collection, covering some 1900 m² (an additional 240 m² within the grid was destroyed when a road was bulldozed across the site.)

Loc. 136, like most prehistoric sites in Dakhleh, is largely deflated, but some material remains *in situ*. Contexts include hearths, fire pits (sometimes extensive ash patches containing animal bone, sherds and chipped stone) and cultural material stratified within natural wind- or water-laid deposits. Examples of the latter, running up to 1 meter deep, were excavated last year, and this year we returned to one of these areas, where up to 6 culture bearing layers has been detected. This year I expanded a test trench, finding cultural material to 80 cm deep, and excavated 3 m², getting chipped stone, animal bone and part of a pot *in situ*. Nearby in M25, Teubner excavated a well-preserved fire pit, 1 m in diameter and 35 cm deep. It was filled with fire-cracked rock, charcoal and sand, and above this a cluster of charred cattle bones - mostly the lower limb bones from one individual. Nearby but stratified at a lower level, Teubner recovered sherds from a whole vessel.

Elsewhere on locality 136 we surface scraped or excavated a total of 13 promising areas, including hearths and the deflated remains of many fire pits, recovering pottery, chipped stone tools and much chipping debris and animal bone. In general we removed all cultural material from the surface of the site, but there remains material *in situ* in the stratified layers around J-L 25-26, the K-L 13 test trench from last year, and elsewhere.

One day's work was done on each of three other Sheikh Muftah sites. Warfe and I revisited **Loc. 135** so that he could familiarize himself with this important early Sh. Muftah site, and collect examples of the pottery. On **Loc.404**, excavated last year, we finished collecting from a pottery-filled

pit and from 11m² around it. I also dug a test trench to confirm that 'features' detected in a magnetometer survey were just iron-rich spring-mound deposits and not cultural. On **Loc.406**, where C. S. Churcher and M. R. Kleindienst had found a Sh. Muftah-era donkey skeleton, we examined the Sh. Muftah scatters in the area.

A little fieldwork was done on 2 sites of earlier Holocene date. **Loc.269** is an important site - a large ring of stones almost 50 m across. However, it remains poorly dated: no organic remains were found for C-14 dating, and the sparse cultural material is lying on the surface. This year I dug in one end of the wall, and recovered a bifacial knife *in situ*. This helps confirm a late Bashendi A date for the site.

On the early Masara C site, **Loc.264**, I cleared out a hut circle that had been tested in 1998. Hut 1 is a semi-subterranean structure 2.5 m across, with a ring of sandstone slabs at surface level, and its floor dug 40 cm deep in the sandstone bedrock. A rich deposit of charcoal was found at floor level, and samples taken for botanical analysis and radiocarbon dating.

Laboratory work in the 2002 season.

Final results of the recording of lithics and ceramic samples this season must await analyses back home. However, some preliminary results are available.

Warfe conducted several types of study of the Loc.136 ceramics. He weighed the pottery collected from each 4 m² unit and plotted this information on a grid map of the site. He thus highlighted the spots with the most pottery, shedding some light on activity areas and perhaps length of occupation of various parts of the site. He recorded construction techniques, vessel size, shape and surface treatment, but focussed particularly on a microscopic study of vessel fabric. He thus defined seven major fabrics based on proportion of sand, shale and vegetable matter present, and degree of coarseness. Some of these fabrics are very common on this and other Sh. Muftah sites, 1 or 2 resemble Bashendi wares and might be early, and 2 of the fabrics appear to be imports from the Nile Valley. While the plotting of these wares is just beginning, variations in their distribution might suggest differences in activities and history across the site.

A total of 8500 pieces of chipped stone or some 32 kilogrammes were recovered from Loc.136. In her study of this material, Teubner has sampled flakes and other elements. This season however, she concentrated upon the tools, designing a typology appropriate for the late Neolithic assemblage. She has divided the corpus of 519 tools into 10 major categories, some with subdivisions. Included are trapezes, triangles, arrowheads, scrapers, points, drills, notches,

denticulates and combination tools. Within each type, every tool is described first as a blank, then as a tool. Thus its dimensions, shape, raw material, scar pattern, etc., are listed, as well as the nature, shape and dimensions of its modification into a tool. The analysis, when completed, should shed light on activities performed on various parts of the locality, relations with other sites, the acquisition of raw materials, &tc

Work in Kharga Oasis.

The fieldwork conducted in Kharga Oasis will not be described in detail here. It should be noted, though, the area under investigation, the Wadi Miduawara in the extreme SE of Kharga Oasis, along the road to Luxor, has yielded some apparently close cognates to several of the cultural units defined from Late Prehistoric Dakhleh Oasis. No Sheikh Muftah-like material has been found, but it is to be expected on the oasis floor rather than high on the escarpment. Equivalents of the Dakhleh Early Holocene Masara A and C, and of the mid-Holocene Bashendi A and B have been recorded, however. The discovery of such similar material so far away and in apparently such a different environment (small basins in the tufas just under the lip of the escarpment) may help us better understand early to mid-Holocene human adaptations in both oases.

HISTORICAL ARCHAEOLOGY

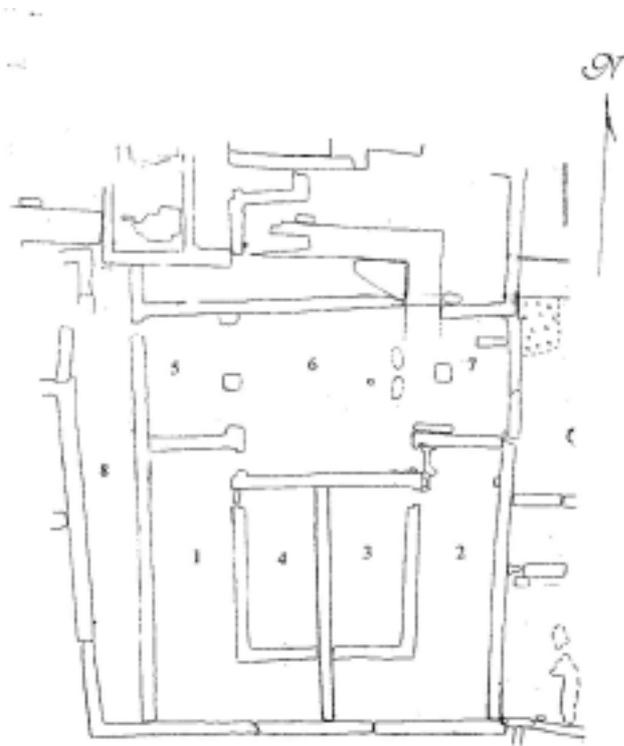
1. Old Kingdom

A. 32/390-K2-2, 'Ain el-Gezzareen.

Excavations continued at this settlement site for the fifth season during February, 2002. The work was concentrated at Building C, a mudbrick structure which was begun last season and at which time the southern portion of the building was cleared. That part of the building was seen as a symmetrical structure of four rooms lying east-west of each other, with western two rooms not interconnected to the eastern two. The walls of these rooms are well built, compared with other buildings exposed on the site in earlier seasons, and had a thick, distinctive mud plaster on all faces. The maximum preservation was seen to be some 0.75 m, at the south-west corner, but the main part of those rooms has less than 0.50 m remaining height. At points on the walls, there are traces of a thin yellow painted wash and elsewhere, a thicker red paint. Floors, where preserved, are of packed mud. Evidence for ceilings/roofing was collected in the form of clods of mud with the impressions of palm

ribs on one side. Finds are almost exclusively potsherds and included a 'dumped' pile of polished red ware which seemed to have been swept up into the corner of Room 3.

This season, the area immediately to the north of Rooms 1 to 4, containing Rooms 5,6, and 7 was cleared as our primary objective and subsequently, Room 8, a narrow chamber on the entire west side of the building C, was excavated. Room 8 is being viewed as a part of Building C because it is just the length of the west side of the building and because the wall surfaces had been given the same thick plaster coating as the other walls of Rooms 1 to 7. It shares a common wall with Rooms 1 and 5.



32/390-K2-2: Building C, Plan.

Room 5 is separated from 6 by three pillars/pillasters, situated in a north-south line. At the north end of 5 there is a feature which may probably have been the entrance 'porch' into the complex. No other external access has been discerned. The ground slopes down to the north and at the north wall

of these rooms, is less than a single brick thick. Features of this building lying further to the north have been lost through erosion.

Room 6 situated at the centre of the group, contained a large, round, limestone column base, some 0.65 m in diameter, set into the floor. Another, smaller column base, some 0.23 m in diameter, and with traces of red paint on it, similar to several discovered last season, was also found, but was not apparently in place. At the eastern edge of Room 6 were two large ceramic basins or bins, embedded in the floor, lying end to end. One of these had a large hole worn into the flat bottom. A rectangular feature with a brick edging and adjacent to the southernmost basin may have been part of its original use, although this is not definite (due to the eroded nature of the feature).

Room 7, at the eastern side, is almost entirely gone at this high level.

Room 8, adjacent to the western side of the building, cannot easily be explained as a part of Building C. The ceramics from this area are similar to the rest of the building and there is no doubt that it is a part of the structure. It is a plain room, with no access over the southern $\frac{3}{4}$ of the space. In the centre of the room was a large, shallow pit which had been filled with sherds of heavy, coarse pottery. This pit was lined with a grey (ashy?) substance. Then, towards the northern end of the room, but underlying the western wall, is a pottery kiln especially used for the production of bread moulds. The kiln has only been partially excavated and the stratigraphic position will be assessed next season. There were a number of stands or 'kiln dogs' remaining in the kiln, of which the exact function here is not understood. These are rounded with one flat side, and pointed at one end. One possibly was in place, with its pointed end towards the centre of the kiln. There are a number of unfired bread moulds in the vicinity of the kiln, which seem to have been left in place when the kiln area was abandoned. The northern end of Room 8 above the kiln has basically been destroyed and with it the probable entrance into Building C.

Stratified occupation levels have appeared close to the surface in this northern end of Building C. The most noteworthy is the heavy eastern enclosure wall, which was built over by Building C, but which appears from under the floors in Rooms 2 and 6-7. There are also several layers of flooring in some rooms and in Room 8 there is the wall-kiln sequence to help. The stratified architectural remains will be a target for the next season.

Objects recovered from this season's excavation include several sealing impressions, a group of mud gaming pieces, and a faience button seal with the depiction of a lizard and a palm tree.

Ain el-Gezzareen continues to provide interesting results. Building C is not certainly a temple. There is a similar structure at Ain Aseel, which our IFAO colleagues have identified as a house(G.

Soukiassian, "A Governors' Palace at 'Ayn Asil, Dakhla Oasis," in *Egyptian Archaeology*, 11 [1997], p.16). The difficulty here is that there are no mudbrick temple buildings in settlement situations known from elsewhere in Egypt, so parallels are not available. Certainly, Building C is unusual at Ain el-Gezzareen, being so well built and carefully finished, unlike the remainder of the exposed architecture. That it is from the last phase of the site is also certain, and the ceramics indicate a late Dyn. VI date.

B. Old Kingdom Watch-Posts.

Dr. Olaf Kaper reports as follows:

The Wadi Battikh is situated to the east of the present-day Dakhleh Oasis, and it has been assumed that a caravan route passed through this wadi in prehistoric and early-historic times. In order to test this hypothesis, a start was made with a series of field trips into this region in order to look for artefacts and epigraphic material from different ages. The preliminary conclusions of this investigation showed that the oldest remains date to the New Kingdom, which leads to a reconsideration of existing theories about the routes to and from the oasis before that date.

In addition, a joint visit was undertaken together with Dr Rudolph Kuper to an Old Kingdom site in the desert to the south of Sheikh Muftah in order to discuss the nature of this site and its future recording by the DOP.

2. Late Pharaonic periods.

Dr. Colin Hope reports on the Excavations at Mut el-Kharab in 2001-2:

The second season of excavations at Mut el-Kharab, site **31/405-G10-1** of the survey of Dakhleh Oasis, was conducted from 20/12/2001 until 22/01/2002 and funded by a Faculty of Arts Research Innovation Fund grant from Monash University, Melbourne. Work was focussed within an area to the north of the centre of the site where a depression with a scatter of sandstone fragments indicates the original location of a temple, in which the 2000/1 excavations were also conducted. That work showed the temple to have been extensively robbed to the lowest level of its walls and, in some places, to below foundation level. It proved that the temple was dedicated to Seth, Lord of the Oasis, and that the cult of Amun-Re was also celebrated there. A well preserved, sandstone block from a mud-brick chamber adjacent to the temple on the west was decorated with a scene of Psamtek I making offering to Re-Horakhty and Atum. Another block indicated that the temple had been in

existence before Dynasty XXV as it showed an original writing of the name of Seth with the figure of his sacred animal that had been changed to a spelling with an anthropomorphic figure as the determinative. This, and other material, confirmed the site as the provenance of the two Dakhleh stelae purchased by Lyons, dating to Dynasties XXI and XXV. The excavations revealed that the temple was built over stratified deposits of Old Kingdom date, containing pottery of a types dating to before Dynasty VI. Other ceramics covered the time span from the Old Kingdom to the Mameluk Period.¹

In 2001-2 the mud-brick structure that yielded the Psamtek I block was excavated in its entirety, three trenches were excavated to produce a complete north-south section through the depression, and an area in the south-east corner of the temenos enclosure was examined. Adjacent to the temenos on the south lies a cemetery of brick and stone tombs; two of these were examined also. Details of each of the excavation areas follows.

I: Excavations within the Area of the Temple of Seth

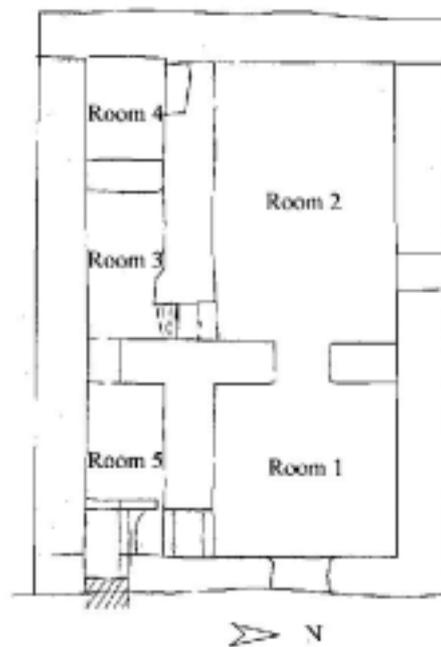
I.1 Trench 6: A mud-brick shrine on the north of the temple (Fig. 1).

This rectangular building, oriented east/west, comprised five rooms in its final form that are the result of various modifications to an original structure. The external and probably all internal walls were constructed atop brick rubble that overlies a hardened earth surface directly above Old Kingdom deposits. This sequence was revealed only in the south-west corner of the building where the rubble occupies a depth of 0.7 m below the upper earth floor of the room. The external walls have three original doorways: one in the north wall and two in the east wall. The original internal layout comprised four rooms with two larger rooms on the north, Rooms 1 and 2, and two smaller rectangular rooms on the south, Rooms 3/4 and 5. Room 1 was entered from the east and gave access to Room 2, which was also entered by a door in its north wall; the eastern doors into each room are on the same

¹ For published reports on this work see: C. A. Hope, Excavations at Ismant el-Kharab and Mut el-Kharab in 2001, *Bulletin of the Australian Centre for Egyptology* 12 (2001), 35-63; Egypt and Libya: Excavations at Mut el-Kharab in Egypt's Dakhleh Oasis, *Artefact* 24 (2001), 29-45; and O. E. Kaper, Two decorated Blocks from the Temple of Seth at Mut el-Kharab, *Bulletin of the Australian Centre for Egyptology* 12 (2001), 71-8.

axis. At the east end of the south wall of both rooms doors gave access to the other rooms, 5 south of 1 and 3/4 south of 2; Room 5 was also accessed by a door in its east wall.

Room 1 was excavated in the 2000/1 season; it has internal dimensions of 3.87 m east/west on the north and 3.92 m on the south, and 3.82 m north/south on the west and 3.90 m on the east. It was originally provided with a stone-paved floor supported upon mud-brick foundation walls that abutted the walls of the room. The central part of the room between these foundation walls was filled with dumped ceramic of Dynasty XXV date in which were objects of earlier date, including several of the New Kingdom. The inscribed and decorated block of Psamtek I was found in its north-east corner. Below the dumped material Old Kingdom strata were revealed. These were also found under Room 2, the walls and floor structure of which was constructed to the same depth onto this material. Room 2 is 7.2 m east/west and 4.7 m north/south. Below floor level, abutting the north, south and east walls, but 0.6 m from the west wall, are red-brick walls 0.45 m high that have a width of 0.3 m on the north, 0.7 m on the south, 0.9 m on the east and 1.4 m on the west. Within the area created by these walls and abutting them are yellow-brick walls, also 0.45 m high, but 0.6 m wide on the north, south and west,



Trench 6: Sketch Plan

Figure 1

and 0.7 m wide on the east.

Below these latter walls on the south and west a ledge of mud bricks projects 0.8 m; it is only one brick in height. The surface of this ledge was covered by an earth layer that extended across the remaining part of the room over sand containing Old Kingdom material. Above this surface, contained by the yellow-brick walls, was a powdery earth material with some smashed sandstone under irregularly-shaped stone blocks. These blocks were then covered by compacted earth to the level of the top of both the yellow- and red-brick walls. Over the entire room, save where intrusive pits had been cut, there was a deposit of water-hardened earth with areas of crushed sandstone. This material can be related to a similar deposit found in Room 1 upon which an original sandstone-paved floor was laid. No trace of this paving remained in Room 2, however, and the assumption is that it was removed during a major alteration to the room.

Instead, atop the crushed sandstone and earth material in the centre of the room was a thin lens of clean yellow sand, 2-3 cm thick, below a powdery earth material that supported the remains of a stone and baked-brick structure. The extent and nature of this structure are uncertain. The bricks, laid obliquely from north-east to south-west, occupy a rectangular area approximately 1.85 m north-south and 3 m east-west in the centre of the room and the sandstone blocks occur at its edges, though only parts of nine of these remained. Traces of gypsum on the south wall of the room imply that stone blocks may have abutted this wall and partly closed the door into Room 3/4, although this may indicate that room had received a plaster facing. The feature appears to have been a stone-walled structure with a brick floor set within the original room, which represents a major change to the original architecture.

Possibly coincident with the erection of this feature were other changes to the smaller southern rooms. Room 5, originally 4.32 m east/west by 2 m north/south, had two small rooms built at its eastern end that necessitated the blocking of the door from Room 1 and probably the eastern external door. To access the room it was necessary to cut a door through its western wall from Room 3/4. At some stage the latter space was divided into two creating a room 4 m east/west and 2.1 m north/south on the east (Room 3) and one on the west 2.1 north/south and 2.25 east/west (Room 4). When this was done no access to the western room was created. The north wall of Room 4 displays unusual construction technique, with a series of cavities within the fabric of the wall in its eastern part; the face of the western part of this wall is poorly preserved, and it may represent a repair to an original wall. The door into Room 3 from Room 2 was eventually blocked; this was done at the same stage as the

stone and baked-brick structure was erected in Room 2, which implies that all other modifications to the southern chambers predated this event. Thus, in its final stage the building contained only two accessible rooms.

Throughout the collapse that filled the building were fragments of decorated and inscribed sandstone blocks and ostraka; the latter, like others from the site, are inscribed in both demotic and abnormal hieratic, some of which can be ascribed to Dynasties XXV-XXVI. They are currently being studied by Dr Günter Vittman of Würzburg University. One block is decorated in a style very similar to that of the Psamtek I block from Room 1, while a fragment of a cartouche appears to contain part of the name of Psusennes I of Dynasty XXI. The most interesting blocks were found reused in the lower sandstone paving in Room 2. Found face upwards was the left side of a lintel and cornice from a door; most of the surface had been cut back to remove the decoration, but fortunately not all. On the extreme left the figure of a female making an offering is preserved; the style is clearly Ramesside. It appears to derive from either a door of a private house or possibly a tomb. Two large sections from a cavetto cornice with torus moulding were found, as were sections from a doorsill. A decorated and painted block from the vicinity of the northern door into the room preserved a representation of what is tentatively identified as the front of a sacred barque and the short section of text that survives refers to Amun-Re.

I.2 Trenches 7 and 10: the Main Temple. (Fig. 3)

Trenches 7 and 10 are located in the area of the depression with sandstone chips. Trench 7 is 9.5 m east/west and 4 m north/south and lies 2 m due east of Trench 4 excavated in 2000-1, the latter being 10 m east/west and 3 m north/south and abutting the east wall of the mud-brick structure of Trench 6. Trench 10 lies 2 m to the south of Trench 7 and is 10 m east/west and 5 m north/south. These trenches appear to span the maximum width of the temple building and both abut on the east a north/south mud-brick wall. The area has been extensively plundered for stone and various pits cut through floors.

As in Trench 4, these two trenches revealed deposits of sand underlying the temple foundations that contained Old Kingdom ceramics and lithics, and also ceramics of the Sheikh Muftah Cultural Unit. No structures were found, though some of this material was associated with ash lenses. The foundations for the building were either set on top of this material or dug into it. Resulting from the depredations of those who removed the stone for use elsewhere, and also robbers digging random pits, the layout of the building is not easy to determine. Over the sand deposits a layer of brick rubble was

laid and this served as the foundation for the temple building. There appear to be two north/south

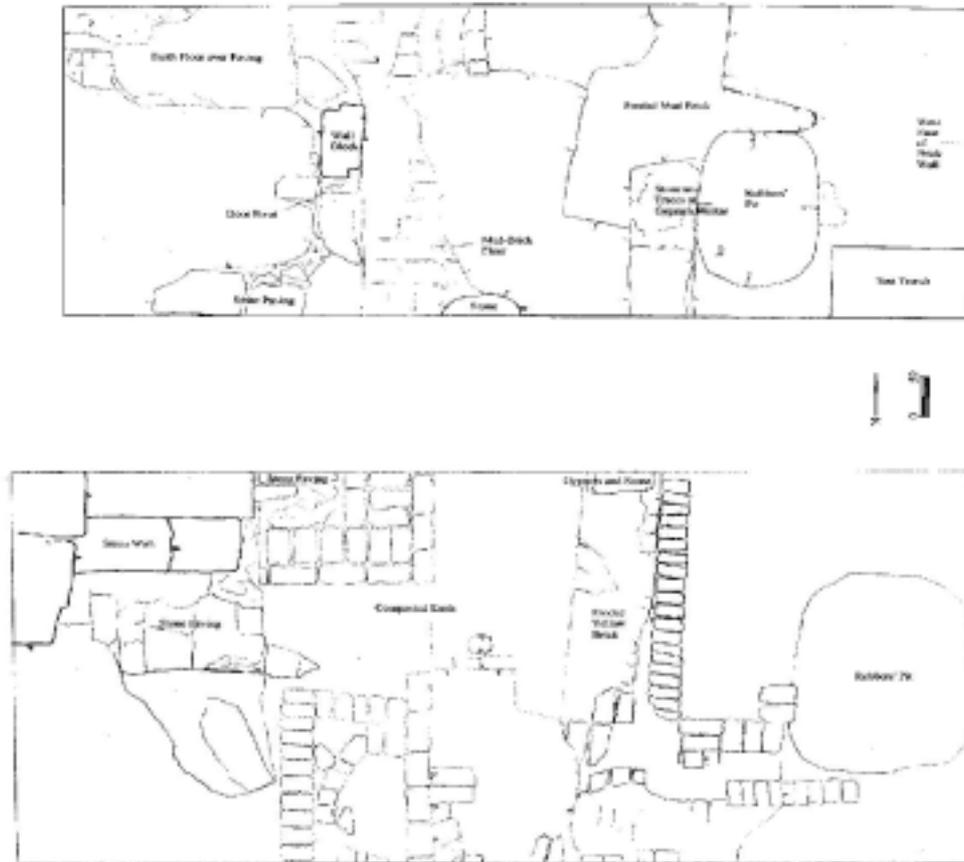


Figure 3: Plans of Trenches 7 and 10

mud-brick walls that divide each trench into three equal parts and which may have served as foundations for sandstone walls. Between the north/south walls in the centre of the trenches are areas of mud-brick paving, and traces of the same in the south-east section of Trench 10 may imply that it extended beyond the eastern wall to the wall that the two trenches abut on the east. Some sandstone paving remains in the area on the west. This is set upon a foundation of crushed sandstone; similar material occurs below the few remaining sandstone wall blocks in Trench 7 on the north/south brick walls and their brick foundation. In the north-west corner of Trench 10 the intersection of parts of two stone walls is preserved, one north/south and the other east/west, the former also upon a mud-brick foundation. Approximately in the centre of the western north/south wall in Trench 7 the remains of a stone door-pivot was found. It is possible that the entire eastern two-thirds of both trenches was

covered with a mud-brick paving and what appear to be north-south walls are actually a part of this feature.

Overlying the remains of the building were deposits of stone and brick rubble, amongst which was abundant ceramic ranging in date from the Late Period to Mameluk Period. Architectural fragments were also found as well as decorated and/or inscribed blocks from different construction phases. The oldest attested to date is from the reign of Thutmose III; a fragment of a cartouche containing his praenomen was found in a deep pit in the south-east corner of Trench 10, and a few other pieces stylistically datable to the same reign were also found, one in Trench 6. This pit also produced a fragment from a stela with a funerary inscription and two large blocks, possibly of the Third Intermediate Period, one of which preserved part of an epithet of Seth. Trench 7 yielded a block decorated with part of a jubilee relief, possibly also of the Third Intermediate Period, and two fragments from a wall relief with a fecundity figure and an ibex, possibly of the Ptolemaic Period. This material indicates an extensive and continuous period of use for the temple, though the date of the construction of the surviving sections is uncertain.

I.3 Trench 8: south of Main Temple building

In 2000-1 Trench 5 was excavated to the north-east of Trench 4 and abutting the western face of an approximately square mud-brick structure that appears to be preserved to two storeys in height. The eastern face of this building is composite and apparently comprises several thicknesses of walls built against one another. These walls extend to the south of the building. In order to investigate the relationship of this structure and the southward-projecting walls, Trench 8 was located against the western face of a north/south wall that appears to be a continuation of one of these walls and aligned with Trench 7. It is 8 m east/west and 4 m north/south, and 7.9 m south of the large brick structure.

Again, the lowest deposits excavated, commencing 2.29 m below the base of the eastern wall, contained Old Kingdom pottery with some New Kingdom and Late Period pieces at the interface with overlying material. They were exposed only in a narrow area in the south-east corner of the trench 1.94 m east/west and 0.52m north/south. Above this part of a dense pottery dump was encountered in the same area to a height of 1.88 m and elsewhere for its upper part only, but clearly this extends across the entire area of the trench including under the eastern wall. It produced in excess of 1332.5 kg of pottery; the forms are dominated by roughly-made offering jars (so-called beer jars), many with deliberately-perforated bases, that may be ascribed to the Third Intermediate to Late Period. Also found were a variety of small bowls, tall stands, tall stands with bowls attached to their tops (offering

stands) and fragments of local New Kingdom amphorae and decorated jars. The material dates mostly to the Late Period (Dynasty XXV) though some is likely to be as early as Dynasty XIII. A thick pocket of ash fills a pit in the sherd material in the south-west of the trench, and a deposit of compact brick rubble 0.375 separates the top of the sherd layer from the base of the east wall. This wall is preserved to a height of 2.3 m below topsoil.

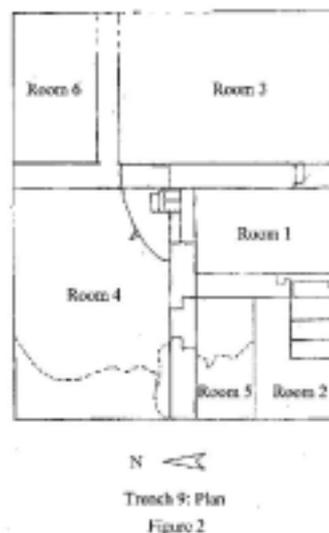
Abutting the lower part of the west face of this wall is mud-brick rubble, 0.75 m thick at the south/east corner but increasing to a maximum of 1.875 m on the west and over much of the trench. This clearly represents several episodes of collapse or dump as the lowest 0.625-0.8 m on the west extends under a north/south mud-brick wall at the western edge of the trench. This wall is 1 m thick and preserved to a height of 0.825; within the brick collapse running under this wall are pockets of crushed sandstone. The top of the brick collapse at its maximum depth is level with the extant top of the western wall and the upper rubble contains various sandstone blocks including some with traces of decoration and inscriptions. An east/west mud-brick wall preserved only a few courses in height extended from the eastern face of this wall 2.1 m into the trench and was also built on top of the lowest rubble. Part of another mud-brick wall oriented east/west was found abutting the western face of the wall at the west end of the trench.

The width of the eastern wall was extended possibly by as much as 2 m when another mud-brick wall was built against its western face, again over brick collapse/rubble; it is preserved to a height of 0.65 m. It was cut into when a series of roughly-constructed walls comprising dressed and rough stone blocks, and mud bricks were erected. The southern face of one extended into the trench on the north for a length of 3.46 m, while one at the south section of the trench appears to have been at least 8 m long. Projecting south into the trench from the western end of the northern wall was the remains of what might have been another similarly-constructed wall, but which was poorly preserved. These walls were built on the surface of a deposit of brick rubble that contains ash and which extended either up to or under the extension of the eastern brick wall. Amongst the stone blocks incorporated into these walls were several from formal structures, including sections of columns, and others with traces of panel delineators for inscriptions. The upper deposits in the trench comprised more brick rubble with sandstone blocks. Ceramics throughout the rubble were of mixed date covering the same time span as that from Trenches 6, 7 and 10; numerous demotic and abnormal hieratic ostraka were found, as was a votive terracotta figure of a hippopotamus.

In so far as the stratigraphy can be interpreted, it would appear that the earliest constructional phase represented by the eastern wall, being built over the sherd dump that contained Dynasty XXV

pottery, must post-date that period. At the earliest it is, therefore, of Dynasty XXVI; whether it represents an extension of an existing building or a new structure has yet to be determined. That there is smashed sandstone beneath the western brick wall may relate its construction to that of the building in Trenches 7 and 10, especially as amongst the brick rubble under the wall are sections of articulated brick that may represent the remains of a brick floor. The extension to the eastern wall, lying atop rubble with sandstone blocks, appears to be a fairly late addition after the Main Temple was being used as a source of building material, and the rough stone-wall structure is later still. It is possible, in light of the occurrence of Mameluk pottery amongst the rubble, that the later structure is of that date, while other ceramics of the 5th-6th centuries CE attests Late Roman Period activity possibly to be associated with a presumed church at the site.

I.4 Trench 9: Domestic Structure south of Trench 6 (Fig. 2)



To the south of the mud-brick shrine of Trench 6, and separated from it by a narrow lane, lies a mud-brick structure that appears to be of a domestic nature. It has internal dimensions of 7.4 m east/west and 5.8 m north/south. It is entered via a door on the south that leads to an entrance hall, Room 1, 2.5 m north/south by 1.55 east/west, off which opens a stairway, Room 2, to the west against the south wall. A door in its east wall provides access to Room 3, 3.9 m north/south by 2.8 m east/west, while another in its north wall leads into Room 4, 4.1 m east/west by 2.7 m north/south. From the south of

the latter, abutting the stairway, opens Room 5, 2.2 m east/west by 1 m north/south, and in the north-east corner of the structure is Room 6, 2.8 east/west by 1.4 north/south, opening off Room 3. The large rooms, 3 and 4, also communicate. Traces of water-hardened earth floors were found throughout, though no obvious roofing material was found amongst the brick collapse that filled the structure. We can assume that it had a flat roof, probably supported on timber beams, given the existence of the stairway.

The ceramics from the building were again of mixed date, though mostly late; several fragments of terracotta figurines were found, including part of one of Harpocrates, as were a variety of ostraka. Underlying the wall separating Rooms 4 and 5, below floor level, a cache of ceramic vessels was found, mostly comprising roughly-made jars, several with perforated bases. They may be ascribed to the Third Intermediate Period or early Late Period. The building was constructed atop some brick rubble with broken stone pieces that overlies a compact red earth material. One decorated sandstone block from the structure preserves part of a figure of a king offering linen to Amun; the style resembles that of the Psamtek I block found in Trench 6, and the upper part of a cartouche with a solar disc as the uppermost sign of the prenomen would accord with this identification.

II: Excavation in the South-East Corner of the Temenos

The course of the temenos wall around the temple area can be determined for its full extent on the south and west, but only for approximately half of its length on the east and it is almost completely absent on the north. Where the walls are missing on the north and east modern houses and animal mangers are present. On the south and west the wall is in excess of 5 m thick and stands to approximately 8 m above the surface of the site in sections on the south. No obvious gates can be located, but it is possible that there are traces of such on the west and south. The walls are constructed in the typical technique employed throughout Egypt with separate sections; brick and mortar colours vary. Abutting the exterior of the eastern end of the south wall are mud-brick structures of uncertain function and date. The actual south-east corner of the temenos wall is missing, having been cut away when a modern asphalt road was constructed; damage to the southern end of the eastern wall continues as a result of the dumping and removal of garbage against it and building of adjacent houses.

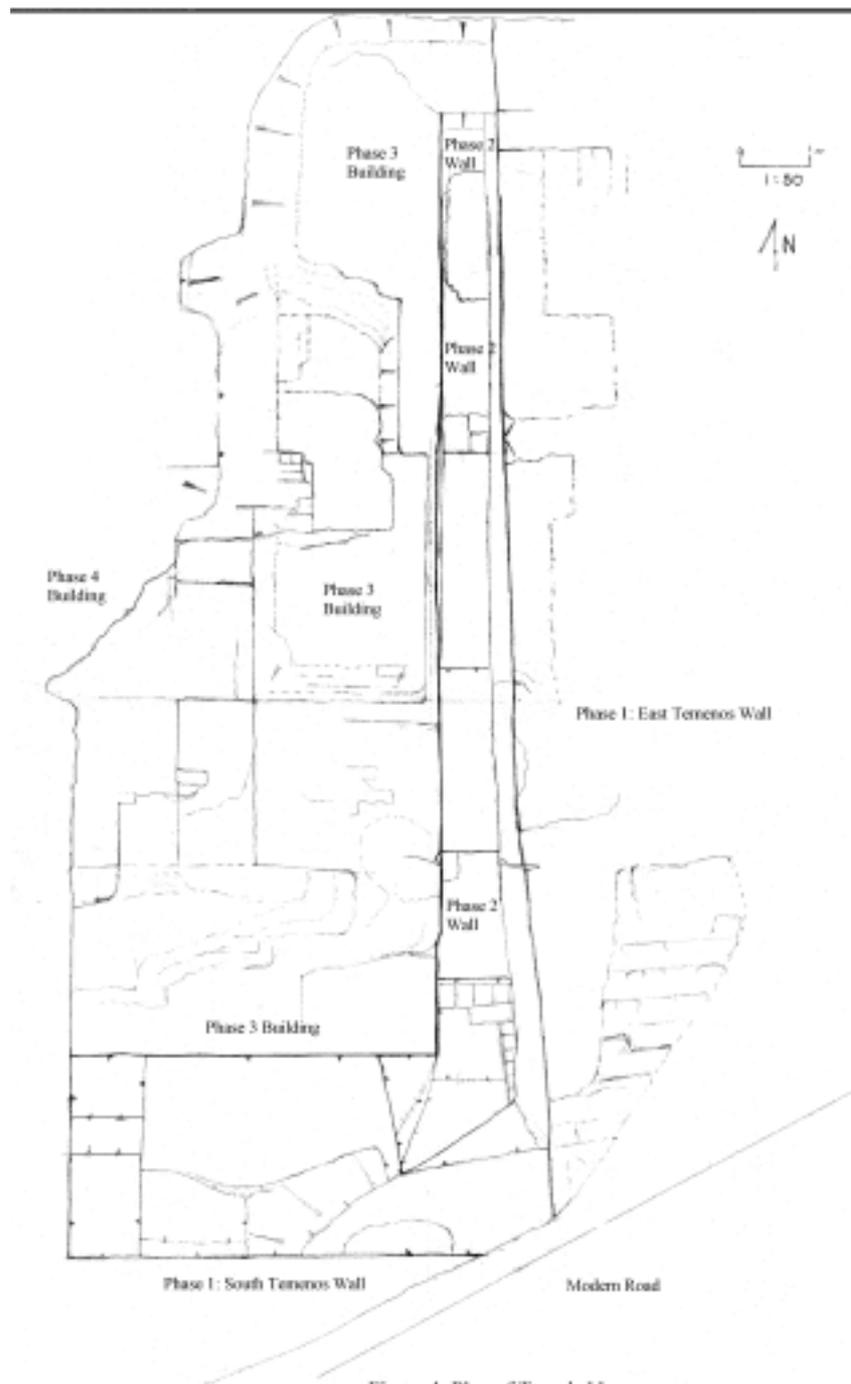


Figure 4: Plan of Trench 11

Excavation within the inner south-east corner was conducted by the Dakhleh Inspectorate in the early 1990s. This exposed parts of the lower walls on the east and south, and the existence of a late mud-brick structure built directly upon an earlier one of substantial size that filled the area to within 3 m of the southern temenos wall and 0.8-1.5 m of the eastern wall. The excavations did not reach the base of either the external walls or the lower inner building. It was decided to clean this area of accumulated garbage and sand, and to continue the excavation to basal layers so as to determine the relationship of the lower inner building to the temenos walls, and hopefully to date both of these features. To this end the area between the temenos wall and the lower building was excavated. Four distinct building phases were documented (Fig. 4)

Phase 1: Construction of the temenos walls. The base of the temenos walls was not reached, in part due to the confined area available. They are set into basal clay and sand deposits. The eastern wall has been traced to a width of 8 m, at which point it disappears under the modern road, and a height of 4.6 m exposed. The mud-brick courses are laid horizontally and comprise bricks that are 0.5 m long, 0.25 m wide and 0.1 m high, and of maroon and yellow colour in the lowest courses but brown in the upper ones. The inner face is battered. The outer face of the south wall is poorly preserved, but the wall appears to be at least 6.5 m thick and has been exposed to a height of 6 m. Brick types and details of construction are similar to the eastern wall. Against these walls sand deposits accumulated to a depth of 1.2 m, after which another construction phase occurred.

Phase 2: Extending the west from the eastern wall, two mud-brick walls were erected: one on the south 3.5 m from the southern temenos wall, 1.8 m wide, and one 5.85 m to its north, 4.9m wide. The southern wall is preserved to a height of 1.55 m; the base of the northern wall was not revealed. At the same time another mud-brick wall was built 6 m west of the eastern temenos wall; only part of this wall was revealed to a width of 1.1 m. The nature of the structure to which these walls belong is unknown. During its use further sand deposits with ash pockets formed containing ceramics, including some complete and reconstructable vessels, all of which can be dated to the Late Period, probably Dynasty XXVII and later. Another phase of sand deposition occurred, but this time associated with some brick collapse and the erosion of the surrounding walls. This material extended over the extant tops of the walls built against the temenos.

Phase 3: Following this a substantial mud-brick building was erected using a variety of bricks of different colour, but predominantly of light shades than the earlier walls, ranging in length from 0.38-0.48 m. This structure has been revealed over an area of 14 m north/south and 5.25 m east/west and comprises sections of walls abutting one another; no internal features were exposed. The construction

of this building truncated the walls of *Phase 2*; it was set into a foundation trench. The date of this building may be estimated as either Dynasty XXX or Ptolemaic Period. Windblown sand deposits again built up against the walls of this building.

Phase 4: After the partial collapse of the walls of the *Phase 3* building and also the temenos walls, a further mud-brick structure was erected, in parts built directly onto the *Phase 3* building. It is poorly preserved but covers an area of at least 14 m north/south and 8.5 east/west; whilst internal divisions are visible, its overall plan is uncertain. Ceramics from the area surrounding this structure cover a wide time span, from the Late Roman Period to Mameluk Period.

III: Excavations in the Cemetery south of the Temple Enclosure

During the 2000/1 season the existence of a cemetery in the mound to the south of the temple complex was noted, primarily as the result of the digging of pits by robbers. This revealed the presence of a large sandstone sarcophagus within one of these tombs, from which small faience shabti-figures originated. Amongst the rubble that resulted from the exposure of this tomb were found fragments of pottery vessels of Late Period date, seemingly of Dynasty XXVII. The number of tombs within the cemetery is uncertain, but there may be in the region of 30; their location is revealed at surface level by the mud-brick walls of their superstructures. In one part of the cemetery relatively recent domed, mud-brick tombs exist. During the latter part of the 2001/2 season parts of two tombs were excavated; Tomb 1 is the one revealed by robber activity in 2000/1 and Tomb 2 is located immediately to its north.

III.1 Tomb 1 (Fig. 5)

At surface level, this tomb comprises two rectangular rooms on an east/west alignment. The eastern room is defined by mud-brick walls up to 1.3 m wide and is 5.18 m east/west and 3.38 m north/south. The brick walls of the western room are not well preserved, but it appears to have measured 4.6 m east/west by 3.9 m north/south. These rooms communicated by a door at the southern end of the partition wall and may have been vaulted. The floor of the eastern room was of compacted earth set directly on top of basal clay; no trace of the floor of the western room survived and no means of accessing the upper rooms was found. The western room contained a lower burial chamber.

Excavation showed that the tomb was constructed by cutting the burial chamber into the surface of the mound to a greater depth than the eastern room. The chamber was then paved with

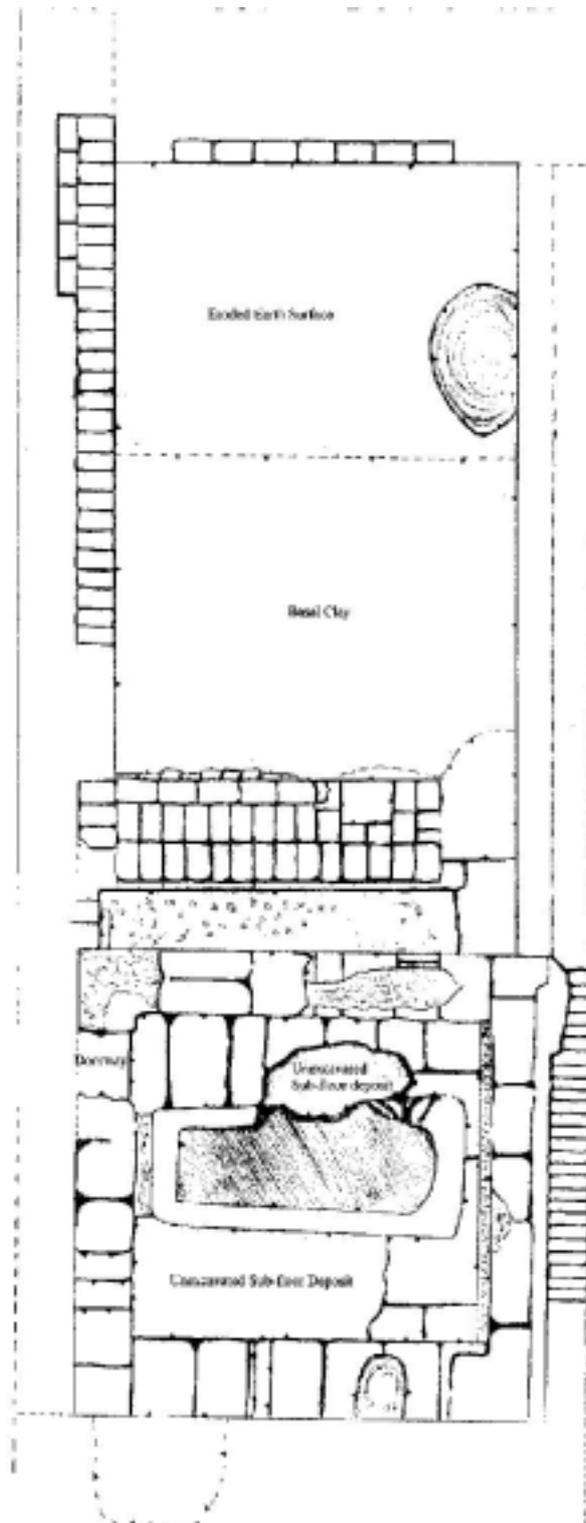


Figure 5: Plan of Tomb 1;

sandstone blocks and its sandstone walls, one block wide and four courses in height, were then constructed to a height level with the base of the cut for the eastern room. The brick walls were then constructed against the sides of the cut for the eastern room and extending over the stone walls of the burial chamber. There is an arched door in the northern stone wall at its eastern end that leads into a chamber on the north; this was not excavated. There are traces of red paint on the east and west walls implying that they were once decorated. The centre of the burial chamber is filled by a large sandstone sarcophagus, cut from a single block of stone. This measures 2.54 m in length and has a width at the foot end of 0.93 m and 1.21 m at the head end; it is 1.37 m deep and has walls 0.19-0.25 m wide. Its lid, fragments only of which survive, was also cut from a single block.

The fill of the tomb comprised brick collapse from the walls and blocks from the stone walls. The lid of the sarcophagus had clearly been broken through to access the contents; soot covers most of the walls. Human skeletal remains were found in the fill; at least two individuals are represented. Of the grave goods some ceramic material was found, as were fragments of faience and metal vessels; large quantities of small, poorly-made, faience shabti-figures were found. Following the completion of excavation the burial chamber was back-filled.

III.2 Tomb 2

Surface remains indicate that like Tomb 1, Tomb 2 comprises an upper series of chambers with mud-brick walls, a burial chamber that is stone-lined below a western room with another chamber opening to its north. Only the burial chamber was excavated. Its stone walls are set within a pit in the surface of the mound. This chamber measures 2.96 m north/south, 1.76 m east/west and stands 1.76 m in height. It is constructed from ashlar sandstone blocks of various dimensions and has a barrel-vaulted stone roof; originally it also had a sandstone paved floor, through this has been removed almost in its entirety. Over the stone vault are the remains of a mud-brick vault. The chamber that opens to the north of the burial chamber, and from which it was originally entered, is constructed of mud brick; the door between the two chambers was 1 m high and 0.95 m wide, and is arched.

All of the walls are covered with a very thin layer of gypsum plaster that may also have covered the vault, and they are painted with religious/mortuary scenes in polychrome. On the northern wall, flanking the door into the secondary chamber, are two squatting figures; on the east the figure is that of a male deity with a crocodile head, while on the west there is another male figure possibly with a lion head. A text panel in front of the crocodile-headed god provides the name and rank of the tomb's owner: he was a priest of Seth (Sutekh) named Sutekhardis. On the left of the panel above the door is a winged oudjat-eye. A lower panel on both the eastern and western walls contains a row of

anthropomorphic gods facing north, holding sceptres and ankh-signs; they are each shown within a shrine with vaulted top. There are panels of text in front of each figure that provide names and titles; not all of these are legible and the figures on the eastern wall are poorly preserved. On the west the figures of Osiris, Isis, Nephthys and Anubis are identified; there is also a crocodile god. The south wall was decorated with the figures of two winged goddesses flanking the Abydos fetish on top of a neb-basket. On the western wall above the lower panel is a row of stars and circles and the lowest part of an upper register also with figures. Comparison of the decorative scheme of this, the first painted tomb of period following the late Middle Kingdom and before the Roman Period to be found in Dakhleh, with others in the northern oases enables a date within Dynasty XXVI to be suggested for its execution.

The tomb had been completely robbed; a hole through the northern part of the vault shows how the robbers gained access. Interestingly, this was covered with the stone blocks that had been removed to gain access. The interior fill comprised loose rubble and sand in which there was ceramic and some modern rubbish. The robbers had removed most of the stone floor blocks, many of which were found in the fill. Only a few objects that could have been part of the original burial equipment were found; these included fragments of small faience shabti-figures and fragments of a hard white stone moulded and decorated with geometric designs. Little remained of human skeletal material. Either the majority of the contents had been removed or had decomposed as a result of exposure to moisture. That the latter has posed problems to the tomb can be seen from salt formations on the walls and behind the plaster. A deposit of blackened sand was found below the original floor level and immediately above the yellow basal clay, which might represent decomposed human and artifactual materials.

Essential cleaning and consolidation of the sections of wall worst affected by moisture was carried out by our conservator Laurence Blondaux. This task will be completed in collaboration with the conservator of the Dakhleh Antiquities Inspectorate in the next season. A complete photographic record of the wall paintings was made before the tomb was closed and buried.

3. Roman and Byzantine Periods.

The Excavations at Ismant el-Kharab 2001-2002

The excavations at Ismant el-Kharab in 2001-2 were confined to Shrine I, the *mammisi*, of the Main Temple complex, area D/2, and were located within the outer room of the structure. The excavations were supervised by Dr Olaf Kaper of Monash University with the assistance of Laurence Blondaux;

the study of the pharaonic-style decorated plaster was undertaken by Olaf Kaper also, whilst the classical painted plaster was studied by Dr Helen Whitehouse, Ashmolean Museum, Oxford. Their reports are presented below, as is an identification of the major inscribed finds by Professor Klaas Worp, University of Leiden.

I: The Excavations and Study of the Pharaonic-style Plaster

Excavations in the antechamber of the *mammisi*, Room 2, were carried out between 19-28th January 2002. The aim of these excavations was twofold: to determine the nature of the painted plaster decoration of the outer room and the method of covering of this room, which measures more than 6 m in width. Two trenches were dug, labelled Test 1 and 2.

I.1 Test 1

The western end of Room 2 was first excavated, after the area cleared during the 2000/1 season had been exposed again. In the previous season, only the upper layer of wind-blown sand had been removed and the upper layer of mud brick collapse revealed. This season, the trench was laid out against the length of the western wall with a width of 2 m. along its northern half and 1 m along the southern half. The same trench was now fully excavated to floor level in its northern half, as well as a smaller section along the southern end of the western wall.

The rubble collapse consisted of standard-size mud bricks; no vaulting bricks were found or other kinds of roofing material. It was concluded from this that the room had been open to the sky in the manner of a court. The rubble collapse contained a few dressed stone blocks, which must have been introduced during the dismantling of the Main Temple. Two fragments of the same block were found in different parts of this collapse. Also among the collapse in the south-western corner of the room were various fragments of a plaster bust of a goddess, similar to earlier finds around the Main Temple. This sculpture had originally been gilded. In the same context another fragmentary plaster sculpture was found, preserving a pair of legs in classical style with an enveloping garment. Numerous fragments of plaster wall decoration were among the collapse.

Beneath the collapse, at approximately 1.75 m depth, several layers of earth floors could be distinguished, the uppermost of which contained much stable material. Within this, a group of Greek papyrus documents was found along with two miniature wooden codices (one of 4 leaves and one of 3 leaves with their string binding) and one single wooden board, all inscribed in Greek. These were found together against the northern part of the western wall.

A classical dado decoration still remains upon the walls, and this was documented largely already during the previous season. This time, among the bricks from the collapsed walls, large segments of the decoration could be retrieved, which had originally been present above the dado. A preliminary reconstruction of this wall was prepared as a result of a study of the fragments in cooperation with Dr Helen Whitehouse.

The classical dado decoration with panelling was surmounted by a floral frieze decoration. North of the doorway upon the western wall, this frieze was surmounted by a painting of a series of personages, one male and at least one female, shown in classical style probably of the third century CE. Above this was a painting of a horse, probably with a horseman, but not much of this element has survived. To the left of the doorway were figures of Egyptian gods in pharaonic style, but the excavations have not exposed all the relevant fragments on this side of the wall.

The doorway itself, the entrance into the mammisi, was again decorated with the same classical dado pattern and floral frieze, and the decoration continued above with pharaonic imagery. Several scenes of gods in pharaonic style may be reconstructed here, covering the upper jambs and lintel. A cavetto cornice with a painted winged sun disc was attached above the door.

Above the cornice was a painting of the principal god of the temple, Tutu, in the form of a sphinx set upon a pedestal facing right. Inside the pedestal were images of the seven demons who were associated with the god. To the left of this central image was a large human figure dressed in military boots, who seems to represent a deity, but not many fragments could be retrieved of this figure. To the right of Tutu was the aforementioned horseman.

I.2 Test 2

A second trench was opened at the eastern end of Room 2 across the entrance into the shrine, with a width of 2 m. Time constraints did not allow this section to be completed, but the results have already confirmed the conclusions drawn at Test 1, as the depth of deposit at this end of the room is much less, circa 0.9 m. There is again no roofing material to be found among the collapse in Test 2, which consists of regular mud bricks only. The painted plaster at this end of the room is much more weathered than in Test 1. The dado decoration upon the wall and doorways has lost nearly all its painted detail, and only small fragments of floral decoration could be retrieved from among the fill. The floor level was only reached inside the northernmost part of the triple doorway, and no finds were recorded.

II: The Study of the Classical Painted Plaster

In this short season, the aim was to consolidate and extend the previous year's work at the eastern end of the vaulted mud-brick mammisi (birth-house), which lies parallel to the central stone-built Main temple (oriented east-west) and is entered via a large outer room opening onto the temple forecourt; and to embark on the final conservation and recording of significant elements from the collapsed painted vault of the mammisi, retrieved in fragments in previous seasons of excavation through the 1990s.

At the outset, the fragments of painted vault plaster recovered from the eastern end of Room 1 of the mammisi in the 2001 season were sorted and recorded: these confirmed that the design of the eastern half of the ceiling was a complex geometric one based on squares and 8-point stars, a pattern more commonly found in mosaic floors. This fits with the rest of the vault scheme, which uses mosaic-type patterns to create a simulated coffered ceiling centred on a portrait tondo within an imbricated shield supported by kneeling figures within a square frame. The scheme has parallels in the 'zodiac ceilings' of Egyptian temples and tombs of the Roman period, and also Roman temples elsewhere in the Eastern Mediterranean; of closer significance, the portrait-in-a-shield can be paralleled in Alexandrian mosaics, including new examples retrieved in the current French and Polish excavations.

Selected pieces of the central part of the vault, which had been recovered in shattered state in earlier seasons, were removed from storage and our conservator Laurence Blondaux consolidated these. The most challenging were the remnants of the central tondo with the portrait of a goddess: these had to be cut from the large blocks of vaulting bricks with which they had fallen. Considering their friable condition, this operation went well, resulting in two substantial cohesive areas of painting with some small fragments still needing reattachment. We also began to reconstruct the best-preserved of the supporting corner figures after the pieces had been conserved.

Further progress with these earlier finds was, however, halted by the unexpected success of this year's work at the western end of the outer room, where a 1 m-wide strip was cleared to reveal the entrance wall into the mammisi, and part of the adjoining north and south walls: the original floor level was reached at the northern corner, below some 0.28 m of deposit, which indicated the later use of the room as a stable. Initial clearance revealed a classical-style panel scheme on a red ground, partly observed last season and fully recorded this year. This overlies an earlier layer of painted plaster on the east and south walls and is related to structural modifications observable in the mud-brick walls. The decoration is comparable to the panel-design on the mammisi walls, but this season's work showed that

it was topped by an acanthus scroll which also relates it to a scroll and panel design, on a green ground, painted all round the temple enclosure. The similarity suggests a uniform redecoration of the temple, perhaps related to one of the major renovations of the 2nd century CE attested in inscriptions.

As clearance progressed downwards, substantial amounts of painted plaster from a higher part of the wall were retrieved from the fill: many of these fragments required on-site conservation before they could be lifted. Luckily, it was possible to consolidate and move large pieces of the painted decoration in this way, which will help us to understand and piece together the rest, which is very fragmentary and also visually very complex. The upper part of the wall seems to have been painted at a later date than the panel scheme below with possibly two registers of figures centring on the sphinx-deity Tutu, to whom the temple is dedicated, above a winged-disk cornice over the doorway into the mammisi. The flanking figures include both pharaonic-style divinities and others painted in Roman style: Isis-like goddesses, a hero-god in military dress and a horse-rider. These paintings are crude in execution, but vivid and colourful, and they are unique in content, not only within the range of motifs so far discovered in this temple, but also in the corpus of Graeco-Roman temple décor in Egypt. Most surprisingly they also include the full-length portrayal of a man and woman, evidently private citizens of Kellis, depicted in the manner of contemporary funerary portraiture but apparently here associated with divinities as donors to the temple, or commemorated dead. Parallels for some of the other elements in this décor can be drawn from wall paintings excavated at Karanis and Theadelphia in the Fayum, and the rare panel-paintings of individual divinities, tentatively dated 2nd-3rd century. But the ensemble here, and the mélange of pharaonic and Roman motifs painted by the same hand, are unparalleled.

Just above floor level, on the beginning of the stable deposit, was a small cache of papyri and pocket-size codices of wooden tablets, written in firm, clear Greek, in an excellent state of preservation: the uppermost fragments of papyrus come from a letter addressed to one Stonios, probably the Aurelios Stonios who was a priest in the temple, attested in documents of the 330s AD. These await study by the project's papyrologist (not present this season), and the new painted material will require further conservation, reassembly, and recording. The cache of documents - taken from some storage place, perhaps, and dumped when they were seen to be of no monetary value - eloquently testifies to the first stages of the temple's dissolution. The new paintings add an unexpected dimension to the later stages of its use as a place of cult. We are extremely excited by these results, and grateful to the Griffith Egyptological Fund for the financial support which made them possible.

III: A Note on the Inscribed Wooden Boards

Object 31/420-D6-1/D/2/44: a single wooden board inscribed with eight lines of Greek text. Each line contains, in theory, a Greek verb in the first person singular active, but the forms in lines 3 and 7 do not correspond with any known verb.

Object 31/420-D6-1/D/2/45: three faces of the two wooden boards contain calculations made by a schoolboy supposed to calculate a series of fractions of a given number.

Object 31/420-D6-1/D/2/46: five faces of three of the wooden boards preserve 12 lines presenting part of a parody of Homer's *Illiad*. While the genre itself is not unknown (see S. Douglas Olson and A. Sens, *Matro of Pitane and the Tradition of Epic Parody in the Fourth Century BCE*), the new text is apparently not found elsewhere.

Amheida (33/390-L9-1)

Dr. James Conlon led the field party of the team undertaking this aspect of the Dakhleh Oasis Project. He reports as follows:

Objectives

Last season a team of specialists collected general information on the topography of Amheida and its immediate surroundings, conducted preliminary study of surface finds, and determined potential excavation areas. Our objectives for the 2002 season were to build on last years work and develop a detailed geographic reference system to facilitate next season's excavations. To this end, we conducted a 1) topographical and magnetic survey of the core of the settlement area; 2) lay two fixed grids for excavation in Structures N3 and N4; 3) conducted more focused magnetic surveys both in the areas slated for excavation and construction of onsite laboratories; 4) complete photographic documentation for digital resources on the Columbia University campus and on the World Wide Web; and 5) produce a Geographic Information System (GIS) in ArcView 3.2 for ongoing project use.

Considering the size of Amheida, we initially expected to survey Area 1, which includes Structures N3 and N4, in the northern section of the site and continue on south to Area 2 and the rest of the core areas of the settlement only if time allowed. As for the magnetic survey, any work beyond the detailed mapping of Structures N3, N4, and the site of the laboratories was considered test ground for the mobile magnetometer and global positioning system unit. After three weeks of fieldwork, we have conducted a detailed topographic survey including building footprints to the northern edge of the

section of burials on the southern half of the site. We have also conducted daily magnetic surveys covering roughly 20% of the site beyond the aforementioned detailed work. Photographic documentation was conducted over three days and we developed the GIS system on a daily basis as we exported each day's survey work from AutoCAD into ArchView SHAPE files. In short, we have accomplished our objectives and more. The following sections discuss the methodology of each survey in further detail.

Topographic Survey

The topographic survey was conducted with a Sokkia Total Station working in unison with a Trimble GPS base station and roving unit to develop a digital elevation map including the built environment of the settlement core of the Amheida site. The Museum of London Archaeological Service (MoLAS) team divided up into two units: one pair to run the total station and an individual to take elevation points using the GPS base station and rover. Work with the GPS unit began with defining the boundaries of the site based on last year's work. This lasted approximately one day with survey work then focusing on the collection of elevation data beginning in the north end of the site and moving south to the end of the settlement core. Work with the total station followed a similar course, moving from Structure N4 in Area 1 on the north side of the site down south through the settlement core. The three members rotated between stations daily.

The MoLAS team also put in two reference grids oriented with structures N3 and N4. These grids were used this season for detailed magnetic survey as well as for reference points for photographic documentation. The survey used a set of localized fixed points for the grids and total station work and converted translated them into the global Universal Transverse Mercator (UTM) system.

At the end of each day, the points from both the Total Station and the GPS unit were downloaded into AutoCad where they were edited, saved as individual images, and then added to a master file of the entire site. Elevation data was also evaluated each evening using PenMap software to gauge our progress until the files became too large. At this point, we began adding each day's points and line drawings (i.e. elevation points and building footprints) into the ArcView GIS system as SHAPE files.

A little more than two weeks into the season, trouble developed with the GPS rover unit. After three to four hours of work in the morning, the rover started to overheat and had trouble getting a fix on satellite broadcasts. Regardless, we were able to log some 600-800 points or more each morning

before the unit broke down. On these days we would put three people on the total station or have an extra hand help with the magnetic survey, lay the grid, etc. in the afternoon.

Magnetic Survey

Data acquisition was conducted using two magnetometers. A Scintrex Envimag was used for the base station to measure diurnal variations in the local magnetic field of Amheida. This station was tuned to 41000 nT (ambient magnetic field) and was set to record at 2 seconds intervals. The base station was set up each day at the same location. Data was downloaded in the field directly following completion of each field day.

The performance of the base station (in terms of capturing the magnetic field and the variations therein) was checked by comparing the data recorded by the Envimag over several one-hour periods with similar data collected by the G858. Some examples of these curves are shown in Figure 2. This shows that the Envimag changes can be reliably used to apply the diurnal correction. It also shows that the expected accuracy in the diurnal correction is on the order of .5 nT.

Data was collected with a customized cart made from PVC plastic tubing to cause the least amount of interference possible with the magnetometer. We set up a fixed position for the magnetometer sensors as well as the GPS. Data collection was at 5 Hz rate. While this results in data that is somewhat noisier than if one collected at 1 Hz, the noise is in the order of 0.1 nT, and the added resolution (when walking at about 1 m/second) is worth the slight degradation in data quality.

We had to work out several problems in conducting the magnetic survey. Initially the GPS antenna and central unit were mounted on the cart. However, it was found that this created a change in the magnetic measurements. While (for a fixed orientation) this change would be constant (and could thus be ignored), when changing orientations this change is variable and thus degrades the data quality. This became apparent in some of the data collected during days 1 and 2 (February 25 and 26). Subsequent to this, the GPS and cart were back mounted. The distance was based on walk-away tests as well as functionality. A small effect of the GPS/receiver unit is still present. This effect is angle dependent; our orientation to the earth's magnetic field is likely to remain constant over the area and can be corrected in the final processing stage off site. We also experienced problems in the final week of the season with the power source of the Envimag base station causing us to halt data collection for the final days of the field season.

Even our preliminary results show clear anomalies in the data of about 4nT presumably associated with walls because of the linear features and the ground truth confirmation of the data. In addition to numerous 'wall' anomalies, there are several others located in the large, relatively cursory survey. The detailed survey of structure N4 revealed clear wall anomalies as well as strong variations at and around the kilns. All these anomalies will be reviewed and processed further at the campus of Columbia University and reexamined in further detail in subsequent years. In this preliminary stage, there appear to be no significant anomalies at the proposed site of the laboratories, but the data will be reviewed further by Dr. Versteeg at Columbia University.

Photographic Documentation.

The photographic documentation took just over three days. In addition to general photographic documentation of equipment, methodology, etc. for seasonal comparative purposes, we took multiple sets of panoramic images for use in educational resources. This includes some 14 individual Quick Time Virtual Reality (QTVR) nodes for Web-based resources roughly circumventing the site and well as an intensive documentation over the fixed grid on Structure N4. They will be embedded in our maps and put on line.

The more intensive photographic documentation coincided with the detailed magnetic survey of N4 as well as the preliminary ceramic study of surface finds in the same area in the 2001 season. The grid is 50m x 50m with the fixed point #300 (by MoLAS convention datum points are numbered as 300) at the southeast corner. We drove in stakes at 10m intervals beginning with #700 moving on the south edge of the square east to #704; #705 on the west edge of the square moving north through #709; #715 on the north edge of the square moving east to #714; and #713 on the east edge of the square moving south to #710. We also planted center point #719 and a smaller square within with northwest corner #725, northeast corner #727; southeast corner #721, and southwest corner #720.

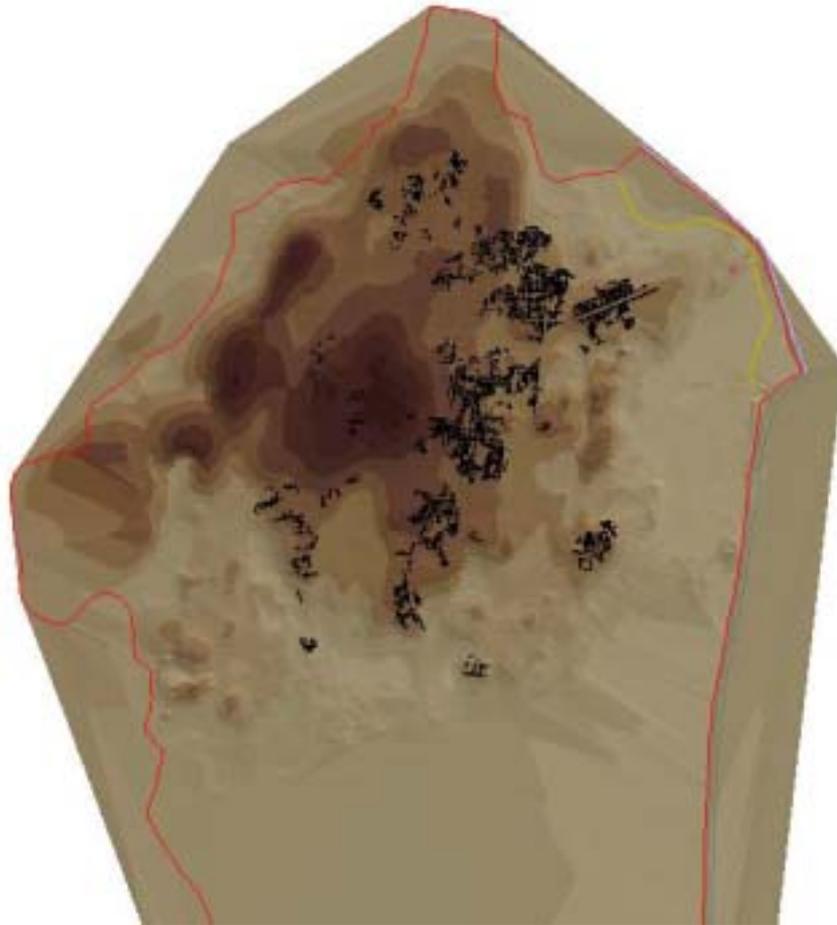


Fig. Map of Amheida, the result of this season ' s survey, displaying surface architecture and shaded contours

Panoramas were taken starting as 9:00am for the entire outer square at the 10m points moving from the southwest corner of the outer grid clockwise taking most of the day in the field. We then returned to the grid at the same time several days later to take panoramas for the interior square at every 6.25m points again starting from the southwest corner and moving clockwise around the square. Both days work totaled 844 photographs for structure N4 and 254 for the QTVR nodes.

Conclusions and Acknowledgements

In completing detailed documentation of the settlement core of the Amheida Archaeological site, we have surpassed our objectives for the 2002 field season. In establishing a fixed geographic reference system, we now have the framework in place for next season's excavations. We also have created an accurate digital resource for any future study and excavation that may take place outside of the current project.

PAPYROLOGY

Drs. Wof-Peter Funk and Anthony Alcock worked on Coptic documentary texts from Ismant el-Kharab (Kellis). These are the texts that will form volume 2 of a series of Documentary Coptic Texts from Kellis (Vol. 1 was published in 1999). The principal concern this season was to establish as accurate a text as possible: all those members of the editorial team (Gardner, Funk and Alcock) had already produced a preliminary reading of the texts from the originals themselves and from photographs. A close reading this season has enabled us to make many improvements to approximately 40 of the 50 texts to be included in the volume.

PHYSICAL ANTHROPOLOGY

Dr. J. E. Molto, the head of this team, reports as follows:

2001-2002 was a study season, with the objectives to analyse previously excavated skeletons from the 'Kellis 2' cemetery (**31/420-C5-2**) and to begin analysis of burials previously excavated from the village site of Ismant el-Kharab (**31/420-D6-1**) by Dr. Hope. No new excavations were undertaken this season for the recovery of human remains.

1) Previously excavated human material from 'Kellis 2' (**31/420-C5-2**) still required additional study. These are all pathology specimens and include three cases of *humerus varus* deformity (B89, B124 and B402), B59 which had an unusual case of widespread periostitis (still undiagnosed) and burials 6,116,392 and 437, all of which show pathognomonic signs of lepromatous leprosy. The skulls of the latter burials were re-photographed for publication purposes. In addition, a number of subadult burials required age assessment and analysis of the non-metric traits.

2) Ismant el-Kharab Town site burials.

Archaeological investigations of several areas/tombs inside the Kellis town site by Dr. Colin Hope=s team yielded a large number of burials in various degrees of preservation. The archaeology and dating of these remains are not clear at this time, although the inhumations inside the North and South tombs are believed to be later intrusions, not the original burials for which the tombs were constructed. Burials found in areas D6 and D7, like those in the tombs, are likely from the later Roman period. The fact that the burials are clustered in separate areas may reflect familial associations, an aspect of immediate concern in the skeletal analysis. The fact that they may represent the late occupancy of Kellis and these burials were not included in the Kellis 2 cemetery is duly noted. The skeletal analysis focused on the most complete burials first, with the remaining burials being sorted and preliminarily analysed (e.g., age and sex). The burials are briefly described below and are outlined in Table 1. Some preliminary findings are discussed in the Summary section of this report.

Areas D6 and D7 Skeletons.

These two clusters are treated as an inclusive unit since the burial numbers seem contiguous (D7, I9, D6, 10,11, etc.)

Burial D7.3: is the complete skeleton of a female with an estimated age of 65 ± 5 years. This person likely died from complications sequel to a major intertrochanteric (femur) fracture, which showed no resorptive changes associated with osseous healing. How long she survived following this fracture is speculative, though it was likely less than two weeks. In addition, there was a healed fracture of a left true rib (likely 4, 5/6), and the left second proximal phalanx of the foot. The latter fractures occurred long before her death.

Burial D7-4 is the complete skeleton of a late fetus or perinate. The remains were wrapped in a cloth. There is no evidence of pathology or key nonmetric traits.

Burial D7-5: is the complete skeleton of a female with an estimated age of 48 ± 5 years.

Burial D7-6: is the fairly complete but poorly preserved (many bones and skeletal elements were broken and were converted in a crystalline matrix likely composed of calcium salts) skeleton of an infant with an estimated age of 18 months \pm 3 months.

Burial D7-7: is the complete and well preserved skeleton of a female with estimated age of 40 ± 5 years

Burial D7-8: is the complete skeleton of a male estimated to be 45 ± 5 years of age. This person suffered a major impact fracture of his left proximal humerus. The fracture was well healed and occurred long before his death.

Burial D7-9: is the complete skeleton of a male with an estimated age of 26 ± 3 years.

Burial D6-10: is the complete burial of a robust male with an estimated skeletal-dental age of 27 ± 3 years. Healed fractures occur in left ribs 2 and 3 and the lower margins of the nasal bones. Spina bifida occulta occurs in L5 and S1.

Burial D6-11: is the complete and well preserved skeleton of an infant with dental age estimate of 6 months \pm 3 months.

Burial D6 1/C/2-3: is the fairly complete but poorly preserved skeleton of an infant with an estimated age of 9 months \pm 3 months.

North Tomb 1, Room 1, Burial 8: is the skull of a female with an estimated age of 20 ± 2 years.

North Tomb 1, Room 2, Burial 3: is the complete and well preserved skeleton of an adolescent of unknown sex, with an estimated age of 15 ± 2 years.

North Tomb 1, Room 3, Burials 5a and 5b: two burials were commingled in the field number NT, R3, 5, their ages were similar, but could be sorted by size because of their separate sexes.

Burial NT1/3, 5A: is the incomplete skeleton (only hips and 1 fibula in lower appendicular skeleton, hands and right radius missing in upper appendicular skeleton) of a female with an estimated age of 22 ± 2 years. Of interest is the complete fusion of the sterno-manubrial joint and the extreme development of shovelling in the right lateral maxillary incisor which approximates a barrel shaped expression.

NT1/3- burial 5B: is the incomplete (missing the skull, most of the hands and feet, the right hip, most of the vertebrae, and most of the upper [the scapulae, humeri, left clavicle, and l. radius] and lower appendicular [all bones except the left patella and the tali]) skeleton of a male with an estimated skeletal age of 23.4 ± 3.6 years.

North Tomb 1, Room 3, Burial 12: is the complete skeleton of a male with an estimated age of 28 ± 3 years. This individual suffered from a number of pathological conditions. First, his skull is considerably asymmetrical in shape which suggests he suffered from long-standing torticollis. These changes may suggest a congenital condition, although wry-neck can also be acquired. Of interest is the fact that this individual has considerable degenerative joint changes in the upper limb, thoracic and lumbar spines. The reason for this degree of advanced arthritic change are the bilateral and long standing infections in his feet. The osteoporosis was also found in the leg bones, particularly the tibia.

This advanced bilateral osteoporosis is interpreted as a function of disuse atrophy. That this individual was severely compromised in terms of locomotion and may have come to rely entirely on his upper limbs for movement can be advanced by the advanced degenerative changes found in the upper appendicular skeleton of this young person. Moreover there was considerable osteoarthritis in the apophyseal joints throughout his spine, particularly in the lumbar region which may suggest a locomotory accommodation from a sitting position rather than benefitting from the use of crutches. In terms of differential diagnosis two possibilities can be advanced at this time: a Maduro foot infection (of fungal or bacterial origin) or paralysis from a disease such as poliomyelitis.

North Tomb 2, Room 5, Burial 7 is fragmentary skull and 1st 3 cervical vertebrae of a child estimated to be 3 ± 1 years old.

North Tomb 2, Room 5, Burial 8 is the cranium (no upper facial skeleton or mandible) of an adult of unknown age.

South Tomb, Room 4/2, Burial 2 is the skull (no maxillae) of female with an estimated age of 23 ± 3 years.

Summary

These burials possibly represent late Roman Period occupants of Kellis. Why they were interred in the Town tombs (reused) instead of outside in the Kellis 2 cemetery and what the biological relationships of these burials to the K2 population are questions to be investigated using morphology and DNA. The question of whether the burials in each of the town site locations represent succinct family groups needs to be addressed. The presence of precondylar tubercles, a rare highly heritable nonmetric trait, in three burials from D6 (10) and D7 (3,5) for a group relative frequency of 33% (3/9) is highly supportive of the familial hypothesis. Moreover, the presence of mylo-hyoid bridging in 3 of 4 burials in NT1 (the 4th burial has ossification into the ligament but the bridge is not complete) provides additional support for this hypothesis.

Demographically, the sample like Kellis 2, is not biased by selective screening of individuals. All age groups, including perinates and/or fetuses are present, and the sex ratio (7 females and 6 males) is balanced. This, with the concentration of morphogenetic traits, further supports the possibility that we are dealing with familial groups.

The most significant aspect of the bioarchaeological research is the pathology noted for burial NT1/R3/12. To assist in the differential diagnosis fragments from the feet of this individual will be

subjected to a multiplexed DNA research protocol. This burial also had the only case of torticollis (wry neck) identified in the Dakhleh burials thus far analysed.

Table 1. *Summary of Kellis Town Site Burials Analysed in 2001 Field Season.*

Burial	Age	Sex	Inventory	Comments
D7-3	60 ± 5	F	virtually complete	osteoporotic, unfused interochantric fx metopic suture, 9 teeth lost antemortem
D7-4	Perinate	?	complete (Wrapped in cloth)	could be last trimester fetus, no hyperost. traits present
D7-5	45 ± 5	F	complete	slight osteoporosis of ribs, 10 teeth lost premortem, patellar arthritis advanced, pterygospinous bridge, precondylar tub., trochlear spur, no fxs, no infection.
D7-6	16m ± 4m	?	near complete but poorly preserved encased calcium deposits	no osteo or dental pathology, complete pterygoid (basal?) bridge
D7-7	40 ± 5	F	complete	no osteoporosis, advanced patellar OA, fusion of costal cartilage (1st rib) 7 teeth lost AM, R. Os Japonicum, L. divided hypoglossal canal, no infection.
D7-8	45 ± 5	M	complete	healed Fx of left prox Humerus and L.rib, APellegrini syndrome@ l. tibia, spondylitis deformans of lower thoracic and lumbar no osteoporosis, slight OA of palletae, 11 teeth lost AM.
D7-9	25 ± 3	M	complete	S1-S2 already fused, no AM tooth loss, no infection or trauma, SBO of S1, anomalous temp. artery, bilateral cervical ribs, fused coccyx (?from trauma)
D6-1C2 B3	9m ± 3m	?	complete but badly broken	No osteopathology
D6-10	27 ± 5	M	complete	SBO L5 and S1, infection in posterior T12 cenetrum, cmp. Fx of L1, smorl nodes L2&3, no AM tooth loss, healed fxs L ribs 2 & 3
D6-11	b-6months	?	complete	symphysis menti already fused, no pathol., lamdic ossicle.

Burial	Age	Sex	Inventory	Comments
NT1,R1B3	15 ± 2	?	complete	no osteo or dental pathology, Os japonicum, R. divided jugular canal.
NT1,R3,5a	22 ± 3	F	incomplete, only L.fibula and hips in lower appendi., missing hands and r. radius	no dental or osteo pathology, manub-stern fused, L. Os Japonicum, trace of R. occip suture
NT1,R3,5b	23.4 ± 3.6		incomplete, no skull, many infracranial bones missing	no dental or osteopathology in bones present
NT1,R3, B8	20 ± 2	M	Skull only	slight attrition, no AM tooth loss, consider. Calculus buildup, healed depress. Fx. R.Fro.
NT1,R3,12	30 ± 5	M	Fairly complete, some foot and hand bones missing	Torticollis with skull symmetry, extensive OA in elbow and shoulder, fusion of lunate scaphoid bilaterally with these bones ankylosed to the radius on right side, osteoporosis of leg bones particularly tibia, infection, osteoporosis and fusion of foot bones
NT1,R3,B16	33 ± 5	M	virtually complete, some hand bones missing	no pathology, no AM tooth loss, bilateral post. Arch foramina, r. septal aperture, bil. Spurs of pterygo. Basal Lig., r. caroti clinoid bridge, bil.Inter. condy. Canals
NT1,R4,B8	23 ± 3	M?	incomplete, only mandible from the skull, no infracranial bones	no osteo or dental pathology, bil.Posterior arch foramina of atlas
NT2, R5, B7	3± 1yr	?	Skull only	Both orbits have active cribrorbitalia
NT2, R5, B8	Adult	F	Incomplete (missing most of the skeleton)	No vault pathology, devided occipital condyels bilaterally
ST, R4, B2	20-25	F	Skull only	No vault pathology, one tooth lost AM

ISLAMIC STUDIES

El-Qasr el-Dakhleh

Dr. Fred Leemhuis had a preliminary season in the House of a judge, *Bayt el-Gadi*, at el-Qasr and reports as follows:

Introduction

The first field season of the Qasr Dakhleh Project, the latest branch of the Dakhleh Oasis Project, started in January 2002. The QDP intends to study the small, historical town of al-Qasr (short for Qasr Dakhleh) in the western extreme of the Dakhleh oasis and to promote and execute the restoration of its endangered historical buildings. The beginnings of this first season were modest. Lack of administrative clarity and misunderstandings about competences were the cause of delays, especially with respect to the planned restoration of an early 18th century mudbrick house in the historical centre of al-Qasr. At the date of the redaction of this report these problems appear to have been solved.

Awareness of the historico-cultural significance of the architecture and layout of the old centre of al-Qasr has for quite some time been growing. Officially, this was recognised by the Supreme Council of Antiquities by putting it under monument protection. The rather large family houses of mostly four stories are built of sun dried mudbricks and are by the ingenious way they have been built adequately adapted to the, especially in summer, harsh and hot desert climate. Many of the narrow streets are covered and provided with ventilation shafts, which made the adaptation even more effective. Many of the main entrances of the often complex buildings have dated wooden lintels. The oldest lintels date from the beginning of the 10th AH/16th AD century. It may be assumed that at least part of the built-up substance of al-Qasr is older. Many of the preserved houses are damaged or suffer otherwise from overdue maintenance. Nevertheless, most of the still extant buildings probably can be restored. The QDP will try to play a role in supporting the study and restoration of al-Qasr.

The aims of the 2002 season were:

- a. To select a not too damaged building which could serve as a pilot model for the restoration of the mudbrick architecture of al-Qasr.
- b. To survey the selected house and prepare accurate plans of its floors and a cross-section.
- c. To prepare for the restoration of the selected house.

- d. To restore the selected house.
- e. To study the known historical, inscribed wooden lintels and prepare a sketch map of the historical centre of al-Qasr with localization of these lintels.

Selection of a building.

Assisted and advised by the SCA inspector of al-Qasr, Mr. Magdi Mohammed `Abdallah and the head of the SCA Restoration Unit in Dakhleh, Rizq `Abdalhay Ahmed, a number of buildings which looked like possible candidates for a pilot restoration were inspected. The house which is locally known as Bayt al-Qadi and which has lintel nr. 21 (according to Décobert and Gril's listing, fig. 1), was finally selected. Décobert and Gril (*Linteaux*, p. 13) mention that the house is in ruins



Fig. 1. Lintel of Bayt al-Qadi

and that it has a beautiful “façade de deux étages”, i.e. of three floors. Probably they confused Bayt al-Qadi with the adjacent building to the south, because we found it to be more or less intact structurally. Of this building which dates from 1113 AH/1702 AD the first two floors are well preserved, the third floor presents some problems because of structural damage and the top floor is for a large part ruined. The façade of all four floors, however, is largely intact (fig. 2). The surviving structure appears to be structurally sufficiently sound to make a restoration feasible. Also the surviving parts of the top floor appear to give enough clues for a reliable restoration. The structural damage is mainly due to the removal of ceiling beams. Especially on the first floor a thick layer of debris and rubbish would have to be cleared. The surface of the house at ground level measures approximately 105 meters square. The adjacent houses to the north and the south are very damaged; of the building to the south only the façade and the walls of the first floor are preserved. All in all, the building, which is not too large, appears to present many of the aspects that have to be taken into consideration in the execution of future restorations in al-Qasr.



Fig. 2. Façade of Bayt al-Qadi

Survey of Bayt al-Qadi.

After having been selected, Bayt al-Qadi was surveyed by J. Jakob Obrecht and Fred Leemhuis. The resulting plans and the cross-section (scale 1 : 50, see fig. 3 - 6) were drawn by J. Jakob Obrecht. Material and advisory support were again given by Magdi Mohammed `Abdallah and Rizq `Abdalhay Ahmed and their staff whose intimate local knowledge was invaluable

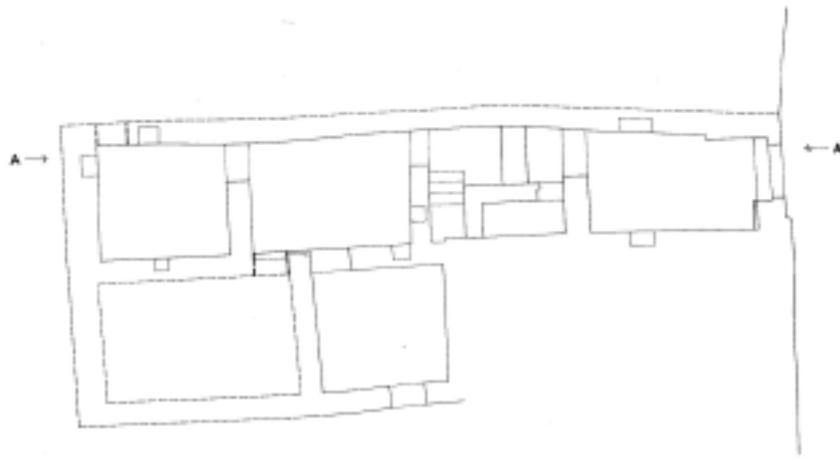


Fig. 3. Bayt al-Qadi, groundfloor (cross-section taken at A -A)



Fig. 4. Bayt al-Qadi, second floor



Fig. 5. Bayt al-Qadi, third floor



Fig. 6. Bayt al-Qadi, cross-section

Preparation of the restoration of Bayt al-Qadi.

In order to be able to restore Bayt al-Qadi the house was cleared of the debris and rubbish with the help of a local work force and under the supervision of Rizq `Abdalahy Ahmed. In a few cases some emergency reparation was made necessary in order to prevent further structural damage. Rubble from the adjacent parts of the building to the south, which mainly consisted of mudbricks of its collapsed walls, had also to be cleared. This was not entirely completed, because it appeared that the last layer of this could contain other material remnants. It was decided that this part should in the future be more carefully excavated. As a further preparation for the restoration a quantity of mudbrick was manufactured. For authenticity the measures for these were taken from the bricks which were used in Bayt al-Qadi and care was taken to compose these bricks from the same or similar materials as the historical bricks, mainly by recycling a large amount of existing broken bricks.

Restoration of Bayt al-Qadi.

Due to the above-mentioned lack of administrative clarity and misunderstandings about competences the actual restoration of Bayt al-Qadi was delayed and could not be started in the 2002 season. The preparations which could be executed, however, make a successful start in the next season very probable.

The inscribed lintels.

The texts of the extant lintels in al-Qasr's historical centre were re-examined and where necessary recorded again. The history of the scholarly study of these texts probably was started with the B. Moritz expedition which visited the Dakhleh oasis in the beginning of the last century. In the seventies Madame Su`ad Maher, then dean of the Faculty of Archaeology, started to register and number some of them and in 1981 Christian Décobert and Denis Gril (*Linteaux à épigraphes de l'oasis de Dakhla*, Cairo 1981) published the 92 inscribed lintels of the whole of the oasis which were known to them, the majority being from al-Qasr. In recent years the lintels of al-Qasr were registered, conserved and/or restored by the SCA. This task was executed by Magdi Mohammed `Abdallah and Rizq `Abdalahy Ahmed who also corrected some of the readings proposed by Décobert and Gril. Nine lintels which had not been registered by Décobert and Gril were also discovered. Seven of these are in the northwestern part of al-Qasr, one – exceptionally on the second floor - in the middle and one in the southeastern part. The legible dates on some of these newly discovered lintels range from the early 10th to the middle of the 11th century AH (early 17th – middle 18th AD). The restoration of the texts which had already been recorded by Décobert and Gril allowed also for more correct readings in some cases. The date on lintel 4 should probably be read as 906 AH/1500, thus preceding the Ottoman period. The date on lintel 13 (fig. 7) is not 1054 AH (1644 AD), but 1154 AH (1741 AD). The name

of the carpenter on lintel 19 can now be read as al-mu`allim Sa`id Salah an-najjar and on lintel 22 the name of al-mu`allim Salah b. an-najjar Yasin can now be established.



Fig. 7. Part of lintel nr. 13 with the date.



Fig. 8. Lintel N 8

Of the newly discovered lintels the following dates could be established: N 1: 1019 AH/1610 AH. N 2: 1016 AH/1608 AD. N 3: illegible. N 4: date illegible (only *alf* “thousand” is visible, but same carpenter as 22, thus circa 1115 AH/1703 AD. N 5: 1163 AH/1750 AD. N 6: date illegible, but same carpenter as 16 and same founder as nr. 8 at the cemetery of al-Qasr, thus probably circa 1190 AH/1776 AD. N 7: no date or names. N 8 (on second floor, fig. 8): 1119 AH/1107 AD. N 9: 1107 AH/1696.

A new sketch map of the historical centre of al-Qasr was drawn, in which the now known inscribed lintels were plotted; those of Décobert and Gril’s list with their numbers and the newly discovered ones with an N number (fig. 9). It should be remarked that Lintels nr.7 and 28 have disappeared since Décobert and Gril’s registration. On the basis of these new



Fig. 9. Sketch map of al-Qasr with location of inscribed lintels.

texts and correcter readings of known texts it may be tentatively concluded that the building history of al-Qasr in Ottoman times was more concentrical than was suggested by Décobert and Gril who concluded that the town moved slowly to the north and that later a nucleus was created to the south which grew in modern times. It is clear that the further study of these lintels is important for the history of al-Qasr.

Conclusion

Between the middle of January and the end of March 2002 important first steps were made for the continuing study of al-Qasr and the contribution of QDP in the restoration of its buildings which was begun by the SCA. After the conclusion of the 2002 season the

administrative problems appeared to have been solved and an auspicious 2003 season may be expected.

Gratefully the financial support from Groningen University and the Royal Netherlands Embassy in Cairo is acknowledged. They made the first season of the QDP possible.

LINGUISTICS

Professor M. Woidich continued his study of the Arabic dialect peculiar to Ezbet Bashendi. His sources developed additional rapport and were engaged in transferring songs of women and children, agricultural terminology and a broad spectrum of local words and phrases in the Bashendi dialect. This study is more or less complete now, and Prof. Woidich hopes to expand to el-Qasr when the logistics become established.

CONCLUSION

As usual in the Dakhleh Oasis Project, the season has been varied and quite successful. From the work of the prehistorians in ascertaining Pleistocene lakes and further elucidating the Sheikh Muftah late Neolithic culture in the Dakhleh Oasis. Old Kingdom studies moved forward with finding the Wadi el-Battikh unused at this period as a route into the Dakhleh Oasis. At 'Ain el-Gezzareen, excavation proceeded in the special Building C, which may be a temple structure. At Roman Ismant el-Kharab there were excavations in the outer chamber of the Mamissi of the Temple of Tutu, and there was further study of the human remains associated with the site. The temple enclosure of Mut el-Kharab produced the first hard evidence of Dyn XVIII activity in the oasis. Surveying at Amheida resulted in the production of a map of a large part of the northern part of the site. Finally, at el-Qasr, a beginning of the study of the town and its architecture, while a start at some restoration was made with the initial approach to *Bayt el-Gadi* in the old part of the town.

Always, the SCA officers and officials have been helpful and interested in the Dakhleh Oasis Project. I would particularly mention Mr. Imad el-Din, of the Minia Inspectorate, and Mr. Maher Bashendi and Mr. Sayed Yamani both of the Dakhleh Oasis Pharaonic & Roman Antiquities Office and Mr. Ahmed and Mr. Risq of the Dakhleh Oasis Coptic and Islamic Antiquities Office.