

Report to the Supreme Council of Antiquities on the Excavation activities in 2007 at the Old Kingdom Settlement at 'Ain Gazzareen, Dakhleh Oasis.

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The excavation at the Old Kingdom settlement site known as 'Ain el Gazzareen in 2007 is the subject of this report.

'Ain el Gazzareen is situated towards the western end of the Dakhleh Oasis, in the region of el Mushia. It lies on slightly high ground in area of sand, scrub vegetation, and bedrock. There is cultivation nearby. The site is characterized by the potsherds that lie thickly scattered over the surface, together with stones and animal bone fragments. In many places, mudbrick walls can be seen on or above the surface, giving a clue as to the nature of the site. During several short seasons in past years, the eastern part of an enclosure was revealed, and included a regular building of five or more rooms [Building C – in heavy outline on Fig 1], which may or may not be a temple.

The site currently is seen as an outpost of the Dakhleh Oasis caravan traffic, originating at 'Ain Aseel, and going westward towards Uweinat and perhaps even Kufra Oasis, along a route known as the 'Abu Ballas Trail'. At 'Ain el Gazzareen, quantities of bread were baked and many animals slaughtered for the feeding of the men engaged in the caravans. The evidence is the great quantities of animal bone, large areas of burnt material and ash, many bread moulds, grindstones, etc. The position of the site, towards the south-west part of the oasis is also an important aspect of this consideration.

In the 2007 season, the field work was accomplished by the writer, assisted by Mlle C. Beauchamp and Mrs L. Mills, with a small crew of ten local workmen.. Our inspector was Mr. Hani Awadalla Abdel Khalouq. The work began on November 27th and continued until December 13th, 2007. Our interests were chiefly concerned with the perimeter wall of the enclosure on the north and west sides. About 1/.3 of this wall, at the east end, had been cleared in past seasons and we now wished to see the remainder. It is interesting that no entrance into the enclosure had been ascertained as yet, although there seem to be no gaps in the structure. Of course, the southern wall should hold the entrance. In which case, we may discover it next season. The heavy external wall of the enclosure is generally five bricks, or 1.75 m, wide. It was doubled in thickness from place to place, although not regularly.

Most of the field work consisted in brushing the tops of walls and bricks, which is sufficient to enable planning. It still remains to ascertain the depth of the fill next to the walls. We did, however, excavate two short trenches adjacent to the north wall, which proved that there is over one metre of depth during which artifact materials are still recovered. A study of the potsherds will tell whether there is more than one dateable phase. The heavy wall in the west and much of the north of the enclosure is only preserved to one or two bricks in height.

The only structure of note is the half-round brick "tower" at the outside edge of the western wall and at its centre. This tower is some 4.40 metres wide along the wall and 3.0 m from E to W. It was restored at least once and was lined on the interior with a mudbrick secondary wall. Its purpose is unclear as no access, either internal or external, was found, but it most probably acted as a look-out point at the western side of the enclosure. This tower is preserved to a height of about 0.75 m.

In the end it was possible to plot the entire north wall, the entire west wall, and the corner of the south wall of the enclosure during this season.

There was also a short excavation in part of a room built against the south enclosure wall. This had already been partially excavated in a previous season. There was no time to complete the excavation to the bedrock and this will be continued in a future season.

Animal bone was recovered and Professor Churcher was asked to identify these. His report follows. Professor M. Kobusiewicz, a specialist in chipped stone artifacts, reports below on his analysis of the flints recovered this season. Mrs Amy Thomson is analyzing the ceramics materials from the site.

We hope for future seasons to reveal additional materials and architectural remains as this site is being most rewarding of information, both historical, architectural, and domestic.

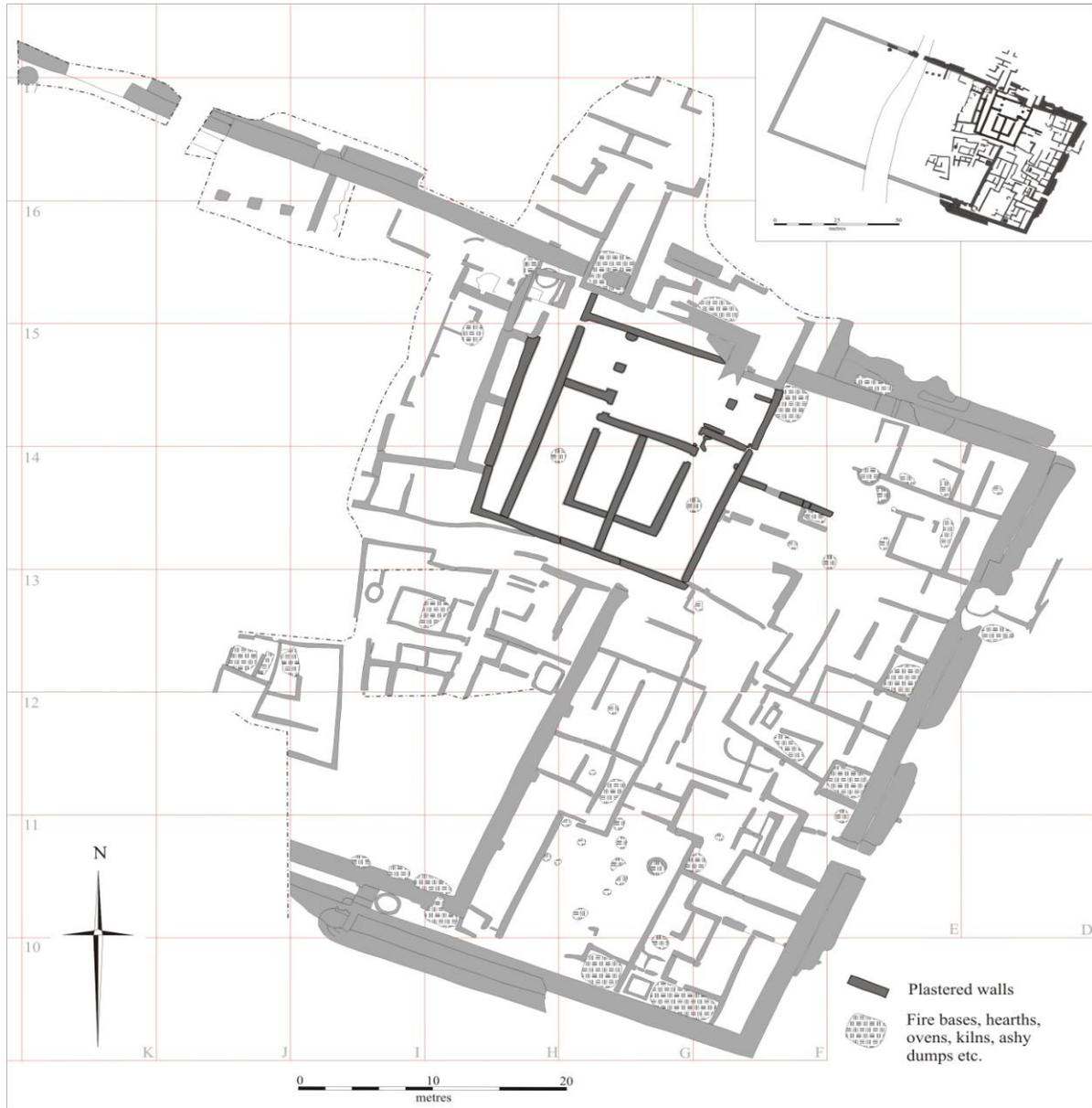


Fig.1, Plan of Ain el Gazzareen, end of 2005 Season



Fig.2 'Ain el Gazzareen, 2007, South Enclosure Wall.
The dark line at the right shows the complete height of the wall



Fig.3 'Ain el Gazareen 2007, West Enclosure Wall. 1/2-round "tower".

Mrs Amy Thomson has now begun an intensive study of the ceramics from Ain el-Gazzareen. Her initial report follows:

Preliminary remarks on the ceramic material from Ein el-Gazareen

A study of the ceramic material from Ain el-Gazzareen is currently being undertaken; work to this effect was performed during the course of this season. This examination focuses upon material from two areas of the site; one, known as Building C, the other known as the bakery area, or excavation squares H13 and I13. A full recording of this material has been performed, and some key information about the site as a whole is now evident.

The bakery area: excavation squares H13 and I13

The bakery occurs in the eastern part of the main enclosure, and seems likely to have been in use for a considerable period of time; the material from a test pit nearly three metres deep has yielded ceramic material from all levels. The earliest levels in each room are sealed by a packed mud floor, below which was found deposits of ceramic material. The material from below this floor in each room can be more effectively dated to a particular time period than other, unsealed contexts, due to its undisturbed nature. Within the bakery as a whole, there is a great variety of ceramics present, including bread moulds, red-slipped bowls, jars and basins. All of the shapes present are clearly of an Egyptian style, and can be dated to the Old Kingdom.

The material from these sealed contexts seems to indicate a date of the establishment of the occupation at Ain el-Gazzareen prior to the Sixth Dynasty. The Meidum bowls in particular from these sealed contents demonstrate characteristics that are widespread in the Fourth and Fifth Dynasties, including an orange, rather than red, highly polished slip, and a restricted shape with a sharp carination. Slips in a lighter orange colour are more prevalent than the darker plum slips of the later Old Kingdom on many vessel types, also indicating an earlier date. Until more work is done on the material, and other Old Kingdom sites are consulted for comparison in more detail, the exact date for the initial use of the bakery area is not certain. Despite this, a date of at least as early as the Fifth Dynasty is clear.

Other, unsealed material from above the floor also shows that the occupation continued through to the late 6th Dynasty. This is shown by vessel shapes which are more associated with the later part of the Old Kingdom, in particular the later styles of Meidum bowl and a higher occurrence of the dark plum-red slip. It is also clear from this material that this area was indeed used as a bakery. A large amount of bread moulds are present, as well as large, roughly made basins and necked jars, likely used for storage and preparation of foodstuffs. A

particular anomaly which occurs among this ceramic assemblage is the presence of several jars with handles. Handles are not well attested in the Old Kingdom, and as yet it is uncertain why they occur at Ain el-Gazzareen.

Continued contact with Egyptians living in the Nile Valley can also be confirmed through the ceramics. Several different vessel types have been found in the bakery, with multiple examples of each, that are formed of Nile Valley Silt or Marl. Most of these are the fine wares, namely Meidum bowls and simple bowls, and most show a higher level of craftsmanship than those which have been made in Dakhleh itself. This seems to show that there was regular flow of traffic between Dakhleh Oasis and the Nile Valley.

Building C

Building C seems to have been constructed much later than the bakery area, and thus does not assist in the refinement of the initial occupation date of Ain el-Gazzareen. However, a close examination of the ceramic vessels from this structure may aid in an understanding of Ain el-Gazzareen's function, within the context of the Old Kingdom presence in Dakhleh Oasis.

Very little of the ceramic material from this area seems to be associated with the original occupation of the building. A large proportion was found on the surface, and therefore may not be related to this part of Ain el-Gazzareen at all, or instead seems to have come from an occupation of this building which occurred after the building itself had already been abandoned and collapsed.

What ceramic material from Building C that does appear to be related to the original occupation and function of the site, consists of a few scattered finds on the floor of several rooms, below the collapse level, and an apparent pottery dump against the Eastern wall of Room 3. The majority of this material consists of finely made, red-slipped vessels. These are mostly simple bowls, also with many variations of Meidum bowl, and a few larger bowls and jars present. A vessel type which so far appears to be unique to Building C at Gazzareen is a spouted vessel, finely made with a red polished slip, and a high neck. The assemblage from Building C shows a different spread of vessel types to that found in the bakery, showing a far higher percentage of these finely made vessels, while the bread moulds which are so common in the bakery are virtually nonexistent here. There are also some examples of vessels which have been imported from the Nile Valley, though there appear to be fewer than in the bakery area. Nevertheless, their presence does indicate that inhabitants of Ain el-Gazzareen had fairly regular contact with people living in the Nile Valley, into the Sixth Dynasty.

The exact purpose of Building C is difficult to ascertain at this stage in the analysis, though the presence of so many well made vessels may perhaps indicate the presence of an important personage, or the performance of an important function, within this structure. Its date, given the large number of red and plum slipped vessels as well as the presence of many examples of the later style of Meidum bowl, is likely to be solely Sixth Dynasty.

Summary

This detailed analysis of the ceramic vessels found within two areas of Ain el-Gazzareen demonstrates that this site shows evidence of a long occupation period. Sealed contexts from below the floor of rooms within the bakery area have yielded vessels which show characteristics typical of Fourth or Fifth Dynasty; an exact date will hopefully be forthcoming upon closer examination. An Egyptian presence in the Dakhleh Oasis prior to the Sixth Dynasty, now evident from the ceramic material from Ain el-Gazzareen, is hitherto unattested at other sites of Old Kingdom date.

The proposal that excavation squares H13 and I13 may constitute a bakery area is borne out by the ceramics found there. The ceramic assemblage from Building C indicates that the occupation of Ain el-Gazzareen continued well into the Sixth Dynasty. While a function for this structure has not yet been determined, the assemblage of finely made vessels indicates that this was a building of some importance to the settlement. Both of these areas also demonstrate that Ain el-Gazzareen was not an isolated site, and did receive visitors from the Nile Valley, probably from the time of its initial establishment into the late Sixth Dynasty.

Professor Michal Kobusiewicz spent 2½ weeks studying the collected flints from this season's excavations. His report follows:

Concerning the examination of Old Kingdom chipped stone typology and technology from Dakhleh Oasis.
18th January – 5th February.

1. Analysis of chipped stones from Ain El Gazzareen (continuation). Season 2005. Bag 195 and two of three bags 220 were analysed. They contained numerous cores of nodular chert, flakes, chips and chunks mainly of nodular chert, but partially also of tabular chert and retouched tools almost all of tabular chert (flat scrapers, retouched flakes and lamellar sickle blades).
2. Dr Małgorzata Kabacinska carried out research for wear traces on retouched tools from Ain El Gazzareen. Representatives of all types of tools defined for this site was examined by microscope.

Many of them revealed traces of wear. Interesting observation is that the tool type named ‘chiesels’ were not chisels in sense of function but sickle inserts of trapezoidal shape.

3. Representation of all types of retouched tools and cores defined for the Ain El Gazzareen assemblage were photographed with scale for publication.

Professor C. S. Churcher, project zoologist, reports as follows:

‘**Ain el-Gezareen (32/390-K2-2)** is an Old Kingdom Site with a rich archaeofaunal record (Mills, 1999-2000: 3-4). Previous work in the years 1998-2006(Churcher, Faunal Reports for each year) revealed a diverse fauna of domestic cattle (*Bos taurus*)and goat (*Capra hircus*)with varied minor domesticated components as donkey (Equus/ *Asinus asinus*), rabbit (*Oryctolagus cuniculus*), goose (*Anser anser*), duck (*Anas platyrhynchos*), pigeon (*Columbia livia*), and wild fauna of Dorcas gazelle (*Gazella dorcas*), desert fox (*Fennecus zerda*), ostrich (*Struthio camelus*), mainly represented by egg-shell fragments, a Nile catfish (*Clarias* sp.), Nile oyster (*Etheria elliptica*), apple snail (*Pila ovata*) and turret snail (*Melanoides tuberculatus*). Small birds and rodents were also present. See Churcher (2000) for discussion of sources of error in the collection and analysis of the samples.

In the 1999/2001 report the 1999 and 2000 samples comprised a large proportion of surface or lag specimens in which intrusive specimens derived from later times are probably present. As the surface lag was collected in 1998 and 1999, it is less likely that intrusive or more recent surficial specimens would contaminate the 2001 to 2007 samples. In the 2000/2001 report (Churcher, 2001), mention is made of a ‘possible pig’(*Sus*) specimen. In 2007 two other probable pig specimens were recognised. The 2007 pig fragments derived from deeper levels and are therefore more certainly to date from Pharaonic times. However, contamination by specimens from other ages, e.g., older ostrich egg shell or younger later Pharaonic, Ptolomaic or Romano-Byzantine materials, remains a definite possibility.

This year’s report for 2007 identifies the materials recovered from lower levels and therefore probably represents more accurately the fauna present in Pharaonic times.

Table 1 presents census data for the faunal samples obtained from 1998 to 2007. The 2007 faunal identifications do not alter the spectrum of taxa recorded from 1998 to 2006. The perception that cattle and goat provided the main source of protein still obtains and Dorcas gazelle is still a constant but minor source of

protein (probably never providing as much as 5% of the protein, and only 3.5% here). Rabbits (*Oryctolagus cuniculus*) are another minor protein source (11 records in 1998, 7 in 1999, 1 each in 2000 & 2001, 2 in 2002, 5 in 2005, 3 in 2006, and 10 in 2007: Churcher 2005, 2005, 2007).

Butchery was usually effected by smashing the longbones with stone mauls, though some instances of axed vertebrae or joints, and a piece of rib with three parallel cut marks have been noted. Sturdy longbones of goat and gazelle provided the most often selected materials for fabrication of awls (1 in 2006, 2 in 2007). A more detailed discussion of the previous work and the sources for error in interpretation is provided by Churcher (1999, 'Archaeology', in Mills, 2000). The minor faunal elements may be ignored as they contribute little to cultural information about the settlement or its activities, although they add to environmental information.

Highlights of the 2001, 2002, 2005 - 2006 samples are:

2001 – The first noted evidence of bubal hartebeest (*Alcelaphus buselaphus*) - a molar which can be definitively recognised. No awls in this sample.

2002 – Evidence of a juvenile small cat, probably the domestic *Felis catus*, and an additional freshwater snail (*Planorbis planorbis*). No awls were present in this year's sample.

2005 – A small (30 mm long x 1.5 mm diameter) copper awl was recovered. Interesting specimens include the remains of an owl's roost with bones and teeth from many owl pellets that yielded two sorts of gerbil, a seven shrew mandibles (*Crocidura religiosa*), and an insectivorous bat's dentary (?*Myotis?*). The presence of this shrew, the Egyptian dwarf shrew, suggests a wetter environment than at present, where today it is known from the Delta and near Cairo, and Mersa Matruh on the west coast (see Churcher, 2008). Two solid and one flat-sided awls were recovered.

2006 – fox or small dog (*Vulpes* or *Canis* sp.) and 3 fish vertebrae indicative of a trade in dried fish with the Nile Valley.

Fauna identified in the 2007 sample with number of occurrences in samples in brackets.

Cow (*Bos taurus*)[20 adult, 1 subadult, 1 juvenile]; goat (*Capra hircus*)[41, 1 subad., 15 juv.; 7 adult & 1 juv. horncores; & dung]; Dorcas gazelle (*Gazella dorcas*)[19, 1 female horncore]; donkey (*Equus asinus*)[3]; dogs (*Canis*) – 1 large (\pm 35 kg), 1 medium (\pm 20 kg) and one small (\pm 8 kg), rabbit (*Oryctolagus cuniculus*)[10]; human (*Homo sapiens*) [2, 1 robust adult scaphoid – wrist bone & 1 iliac fragment of a child], ostrich (*Struthio camelus*)[2 bones; 13 eggshell occurrences]; duck (?*Anas* sp.)[2]; pigeon (*Columba livia*) [5], small birds [4 occurrences]; apple snail (*Pila ovata*)[2]; turret snail (*Melanoides tuberculata*)[30] and Nile oyster [1] shell fragment.

TABLE 1.

Taxon	cattle	goats	gazelle	Aves	Other	Waste	Total					
Year	<i>Bos taurus</i>	<i>Capra hircus</i>	<i>Gazella dorcas</i>									
	MNI	Wt	MNI	Wt	MNI	Wt	MNI	Wt	MNI	Wt	Wt	WT
1998	82	13,120 37.95%	197	14,190 41.04%	24	560 1.62%	6,705	33,815 19.4%				100%
1999	38	4,495 31.72%	124	8,230 58.08%	18	255 1.80%	1	25 0.002%	1,190	14,170 8.4%		100%
2000	13	695 21.79%	35	1,990 62.38%	9	60 1.88%	446	3,190 13.95%				100%
2001	13	2,955 31.74%	27	1,810 19.44%	9	120 1.3%	1	100 1.07%	4,325	9,310 46.45%		100%
2002	29	5,760 40.50%	36	1,425 10.01%	10	155+ shell 1.09%		50 0.0004%	6,835	14,245 48.05%		100%
(No samples obtained or analysed for 2003 or 2004)												
2004-5	11	9,065 82.18%	21	1,360 12.33%	17	280 shell 2.54%		35 0.0003%	290	11,030 2.63%		100%
2006	13	1,465 31.17%	25	1,590 33.83%	9	80 1.70%	1540	4,700 32.77%				100%
2007	22	1,360 28.88%	25	1,950 40.93%	19	165 3.50%	1,260	4,715 26.72%				100%

Table 1. Proportions of the three main taxa from the Old Kingdom Site of Ein el-Gezareen: cattle (*Bos taurus*), goat (*Capra hircus*) and Dorcas gazelle (*Gazella dorcas*).

Taxa are presented as Minimum Numbers of Individuals (MNI) within samples, weights of the samples (Wt in grams to nearest 5 g), and percentages (%) of the weight of bone per taxon in relation to the total weight of bone collected in any one year. The MNI's only count the number of times a taxon occurs in samples: adult fragments all count as single occurrences unless two individuals, or juvenile stages, can be recognised. The figures for years 1998, 1999, and 2000 maybe revised from those presented in Table 1 (Churcher, 2000:3).

Comments

There is still no evidence for sheep in the Old Kingdom economy of Dakhleh while the certain evidence for goat (based on horncores) is accumulating. Some taxa are consistently present but always sparse, e.g., rabbit or duck, possibly because their bones are more fragile than those of cow or donkey. Pig appears to have been present but could not have been kept in any numbers. Dorcas gazelle was consistently hunted as it appears in so many samples, but its dietary contribution was small, and perhaps its longbones were also prized for the making of awls. Fragments of ostrich egg shell occur without any areal concentration which suggests that the eggs were neither used for food nor their shells for beads. The few bones of ostrich recovered indicate that it was not a major protein source. Bone refuse from cattle and goats is not consistently more from one animal than the other (Table 1) and suggest that these animals provided equal sources of protein and possibly also milk.

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Respectfully submitted

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