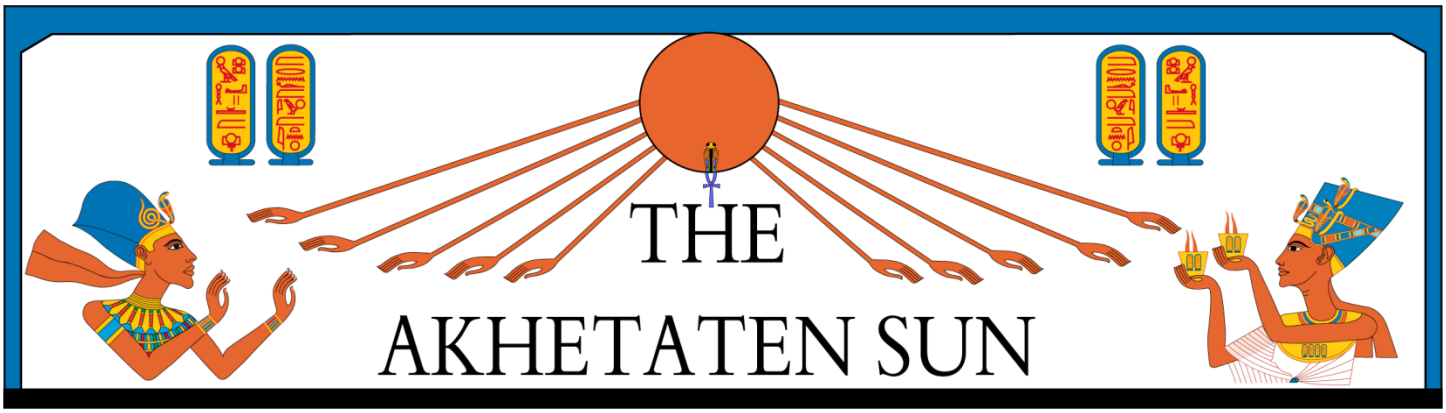

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Officers and Directors

The President's Papyrus

Greeting fellow Amarnaphiles,

Happy New Year to you all! I hope that 2015 will prove to be a very prosperous year for everyone, as well as a year for great developments in Egyptology.

In this edition of the Sun we have two interesting articles. One is by Anna Hodgkinson about her analysis of the excavation finds from a home that was devoted to glass and glazing during the Amarna period. The second article continues to tell about the excavation of the Great Aten Temple, which had been remolded in a short period of time after its original construction. A discovery that causes one to ask what was happing at Amarna and Egypt at the time which necessitated such a development.

In closing, I want to thank everyone for their continued support of the Foundation and its work. Our annual financial grant is a very important part of Barry Kemp's yearly budget, for which he is very grateful.

Please enjoy the current edition of the Sun. Wishing you all the very best in 2015,

Floyd

The excavation of a glass- and glazing- workshop at Tell el-Amarna site M50.14-16

Anna K. Hodgkinson

Between October 18th and November 13th 2014, new excavations were undertaken in the Main City South at Tell el-Amarna. The team of archaeologists consisted of the following members: Field director, Anna K. Hodgkinson, Susan Kelly, Ashley Bryant, and Kimberley Watt, and our inspector from the Ministry of State for Antiquities, Mohamed Khalil.

The work focused on the area of a building complex denominated M50.14-16 by C.L. Woolley, who initially excavated these buildings in 1922 on behalf of the Egypt Exploration Fund.[1] The publication describes the "remains of a glaze kiln: pit cut in sand 1.00m diam. by 0.50m deep, full of burnt brick, glass and glaze slag, and fragments of the pots used in the kiln for standing the vessels on: the bottoms and sides of these are covered with tricklings of glaze."

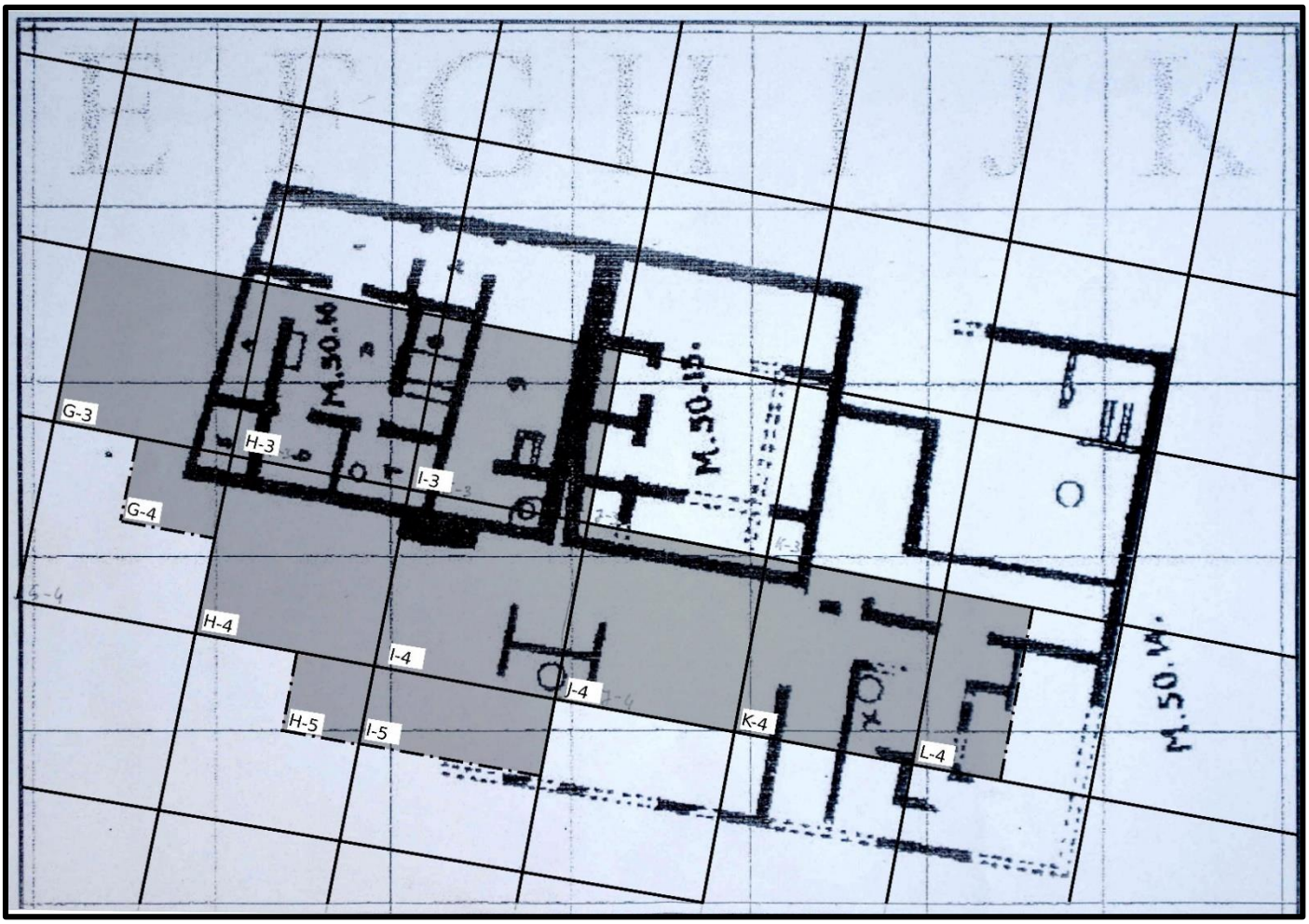


Fig. 1: The original plan of the site as published in 1923. The diagonal lines are the actual gridlines as revised, running N-S. The shaded squares are those excavated in 2014. After Peet and Woolley 1923. The City of Akhenaten. Part I.

1 Peet, Thomas E. and Woolley, C.I., 1923. *The City of Akhenaten. Part I: excavations of 1921 and 1922 at el-Amarna*, EES Memoirs 38, London: Egypt Exploration Society.

The area around this feature, marked with an "X" on the originally published site plan, formed the easternmost extent of the excavation, while the westernmost edge encompasses the western boundary wall of the main house, M50.16 and some of the adjacent walls, which do not appear on the original plan and have not been previously excavated.

The building complex, as originally published, encompasses a domestic house, M50.16, a secondary building to the east of this house, M50.15 and the surrounding courtyard, which describes the overall area of the building complex, M50.14. The main house, M50.16, was excavated in order to establish the connection between the courtyard and the domestic complex, and to understand the spatial relationship between the industries taking place in the courtyard and the inhabitants of the house. We have been able to revise the location of the house within the overall plan of Amarna. As the plan of the house was quickly revealed during excavation it became apparent that the location and orientation of the house were offset according to the 1922 plan, placing the house c. 10m further east and re-orientating it east-west.

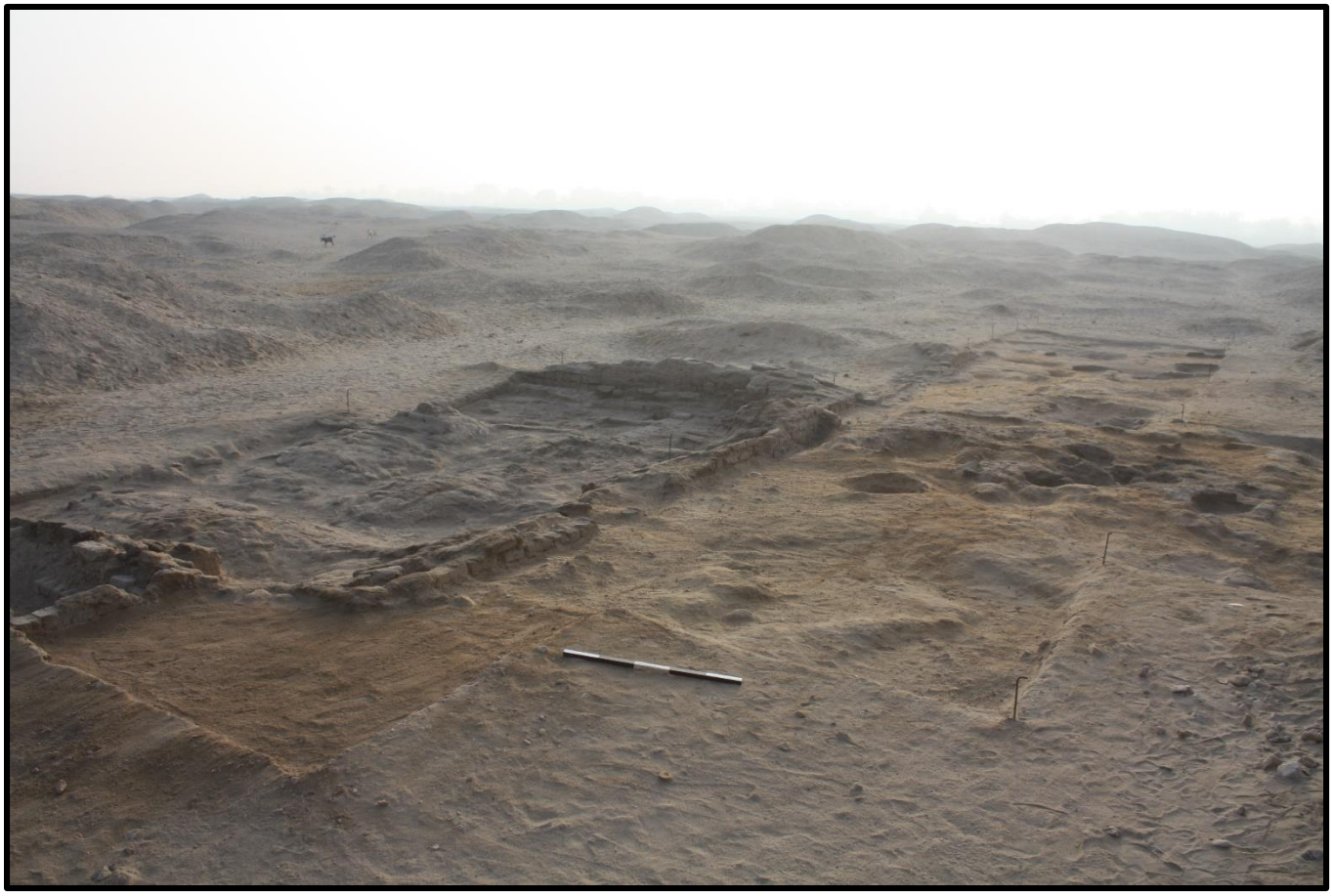


Fig. 2: An overview over the site, looking east, showing the interior of the main house and the southern courtyard. Photo: A. Hodgkinson.

The modern surface of the southern courtyard of the house, was found covered with vitrified material, i.e. molten mud-brick and sandstone. This was interpreted as evidence of high-temperature technologies, in particular glass, since this phenomenon is known from other glass-working kilns in ancient Egypt, most notably from Amarna itself: site O45.1 in the Main City North, which was excavated in the 1990s by Paul Nicholson, contains a series of kilns used for glass-working and faience manufacture, which all display a high level of vitrification.

Unfortunately, we did not locate such a structure, neither in the southern central portion of the courtyard, nor in its eastern sections, at aforementioned point "X". However, the concentration of dumped vitrified material indicates that firing took place in cave-like structures or small pits that had been destroyed or cleaned out:

The pieces of vitrified, sub-angular sandstone fragments were frequently found glued together in a matrix, suggesting that they were heaped into the small kilns around the cylindrical vessels containing the glass, possibly for stabilisation and insulation. Some of the pieces of vitrified mud-brick have a double lining of vitrification, indicating multiple firings. Drops of vitrified material sloping off the brick indicate that a cave-like structure was used for firing.

Approximately 60m² of the main house, M50.16, were excavated, the preservation of the walls being poor. In the south-eastern part of the house, which was initially published as a small, open courtyard, a round oven with ceramic lining has been excavated.

This oven was most likely used for the preparation of food, indicated by the presence of animal bones together with a concentration of discarded pottery. An adjacent box oven mentioned in the original publication has not been located. A mud-brick casing in the centre of the house indicates the presence of a staircase, leading to an upper storey that partially covered the house.

Fig. 3: A selection of glass-, faience- and metal finds from our excavations: Beads, a vessel fragment, copper-alloy rods and tools, amulets and pendants. Photo: A. Hodgkinson

The southern courtyard yielded much evidence of industrial activity, including glass-working, faience manufacture, chalcedony or agate working, alongside some tools.

Overall, the finds are indicative of a bead workshop, although there is evidence of the decorating of glass vessels taking place in this area as well: 329 fragments of glass have been excavated, most of which are chippings of glass ingots, indicating that the processing of glass took place at this site. In addition to these fragments, we have found 116 glass-rods, bars and strips, together with multiple fragments of cylindrical vessels, used as moulds for glass ingots and for the re-melting of glass. In order to produce beads, glass-rods would have been wound around copper-alloy rods, of which 15 were found.

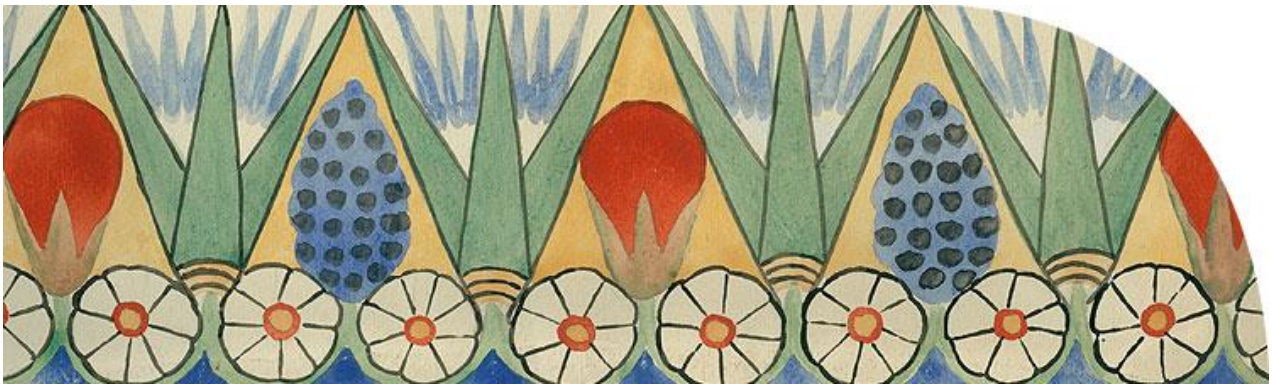
More than 400 faience and glass beads of a variety of types have also been found, and this includes manufacturing errors, where beads have fused together and were thus discarded. Glass beads were found showing trails of glass yet to be polished off. A concentration of unpolished glass beads was found in the south-east outer courtyard and adjacent to a series of small fireplaces, indicating a working area. Two undecorated, cobalt blue glass vessel fragments were registered, demonstrating that the decoration of such vessels took place at the site.

The colour of the glass ranges from dark cobalt blue and turquoise blue/green, the two most common colours for ancient Egyptian glass, over purple, yellow, translucent, almost colourless glass to opaque white glass. Five faience moulds have been found, representing a variety of amulet shapes, indicating that faience amulet production took place at the site; we found over 100 faience amulets, tiles and other fragments.

A large quantity of red-banded pebbles, known as chalcedony or agate, were discovered within the courtyard. We came across a large amount of debitage from working of this material, i.e. flakes and chips. A carved amulet, one finished and one unfinished chalcedony bead highlight the fact that this material was worked into small beads and pendants at the site.

We can infer from the large numbers of glass and the numerous cylindrical vessels found at the site that the excavated workshop must have processed relatively large quantities of glass. These finds are similar to those discovered during the recent excavations in the early 2000s at the nearby house of Ranefer, and concur to the hypothesis that this area of the Main City South at Amarna was somewhat specialised in this activity.

Overall, it can be stated that the excavated complex represents a typical Amarna household, encompassing a main, domestic building, some secondary buildings and some outside working areas. The general layout of this complex fits well into the greater picture of Amarna, in particular that of the Main City, where it is believed that areas of small, industrial houses developed amongst the larger, elite houses, to which they reported.



An unexpected burial in the Great Aten Temple

Barry Kemp

The earliest maps of Amarna show that the cemetery serving the present-day village of El-Tell had already spread across the northern part of the enclosure of the temple by the early 19th century AD. The expedition of the Egypt Exploration Society of 1932 (directed by John Pendlebury) found burials inside the area of foundations of the stone temple itself. In 2012 we ourselves uncovered the upper half of an adult burial, laid on its side to face towards Mecca, not far inside the front entrance to the temple (the lower half had probably been removed by Pendlebury's workmen). During the excavations of last spring a further burial came to light, but in a very different context, one that is demonstrably of the Amarna period.

So far, most of the work at the temple has consisted of methodically removing heaps of dust and rubble from the 1932 excavations as well as sand that has subsequently blown in. Over quite large areas this has exposed the flat top of a layer of rubble which had been deliberately laid down to raise the level of the ground by around 85 cm (33 inches). This had buried the original mud floor of the open space at the front of the temple, at the same time creating a higher ground level serving the second temple when it was rebuilt during the latter part of Akhenaten's reign. Where sections of this material had been exposed by trenches dug in 1932, it appeared to be composed of broken mud bricks and dust. In the spring of last year a modest area was marked out and excavated down to the earlier and buried mud floor.

It quickly became apparent that the rubble had here incorporated many broken pieces of stone, some of them having belonged to the first temple building. Amongst them was the torso of a fine statue of Nefertiti described in the last issue of the Sun. The pieces lay in a mass of loose sand and rubble which lacked a clear boundary and thus a definite shape. There was no sense that they were lying in a pit which had been cut into the rubble layer. When the excavation had finished, a limestone block remained in the side of the excavation pit (Figure 1).

This provided an opportunity to look for the edge of a pit if one had ever been cut, but there was no sign. The deposit of stones seems, therefore, to have been an integral part of the rubble and not something which had been subsequently thrown into a pit dug into it. The matter is of some importance for the history of the temple. If the stones belong with the rubble then they belong to the earlier temple, and the breaking up of carved stonework, including the statue of Nefertiti, had taken place well within the Amarna period.

Once the rubble had been removed from the excavation area the mud floor which had been exposed was carefully brushed clean. This revealed an oval hole filled with sand. Coincidentally it was situated beneath where the Nefertiti torso had lain. The next stage of the excavation was to remove the sand from within the hole. This uncovered a shallow pit cut to a depth of 30 cm (11.7 inches) and with a maximum dimension of 72 cm (28 inches) across. As the sand was taken out some small fragments of bone appeared, lying loose within the sand. Careful brushing followed, and gradually the remains of the skeleton of a child emerged, lying on its back (Figure 2).

The skeleton had been disturbed leaving relatively few bones in their original position. It lay close against one side of the pit. A slight overlap of the mud floor at the head end suggested that the floor might originally have covered the burial completely. Whoever disturbed the burial had known of its existence but not its exact location since the pit had, in part, been created by digging down to one side of the body.

Figure 1. Section of the rubble layer which covered the child's grave, viewed to the west. The mud floor at the bottom extends forwards, and the side of the grave pit can be seen cut into it. The rubble includes a limestone building block on the top surface of which is a layer of gypsum mortar, showing that it had been used in building and was not an unused block left by the builders. There is no sign of a pit cut into the rubble layer into which the stones might have been cast.

Figure 2. Photograph of the child's grave with remaining bones still in place.

Part of the original pit side remained, as protrusions of hardened alluvial mud which must have been packed around the sides of the body (Figure 3). These retained the impressions of a sheet of reeds or sticks in which the child had been wrapped in the place of a more solid coffin. This was the normal burial style for the main cemetery of Amarna's people which we have excavated over several years, out by the South Tombs. The width of the original pit was perhaps no more than 25 cm (9.8 inches).

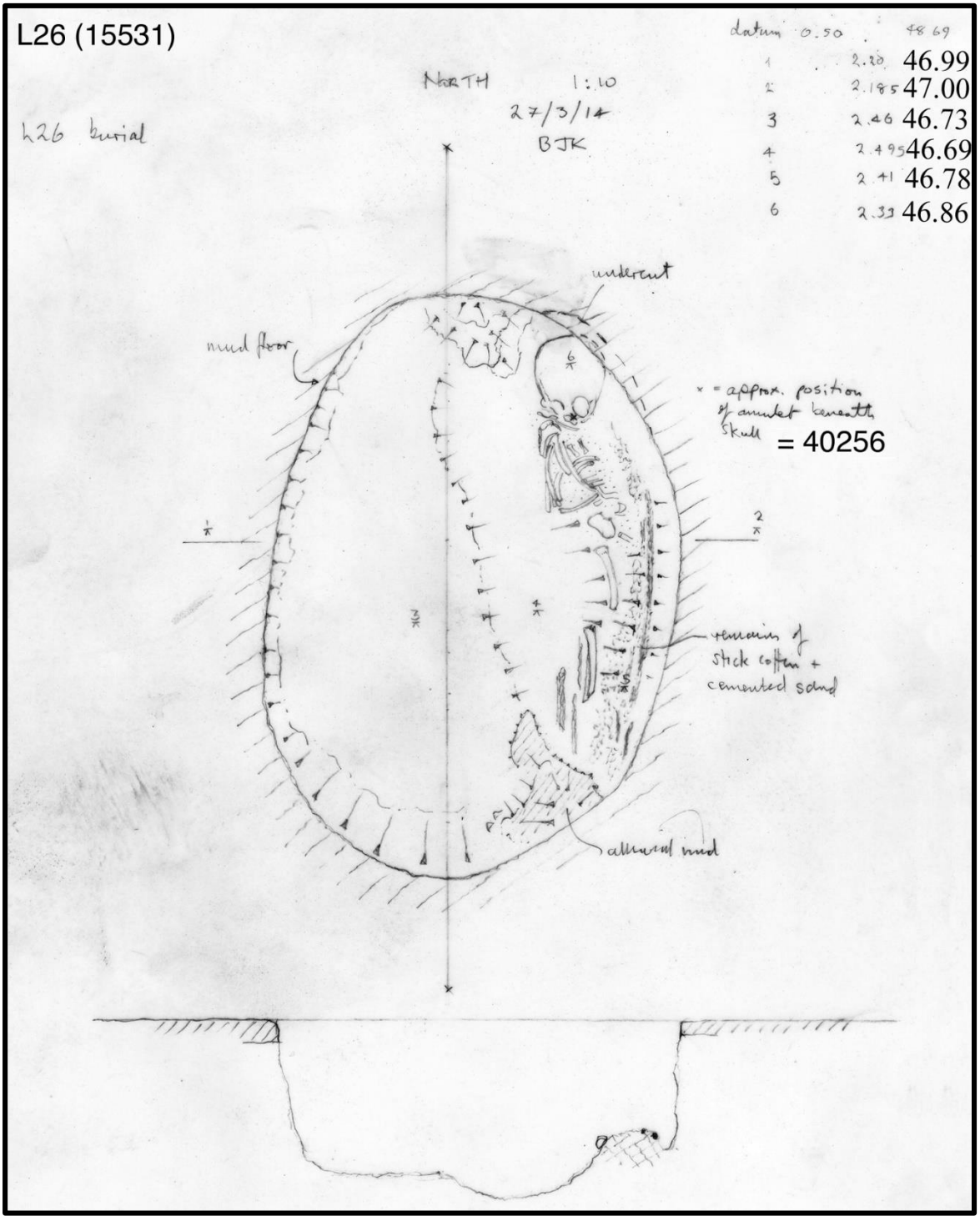


Figure 3. Field plan of the child's grave, L26 (15531).

When the loose bones were added to those that had been found still in position, around 98% of the skeleton was present. The bones were in good condition, apart from some salt-encrustation. In June, a member of the anthropology team (Ashley Shidner) examined them. The sex and height of the child could not be determined, but its age was estimated to be around 18 months. There were no signs of injury or abnormality.

At first sight the burial contained no objects. But in lifting the fragile jaw bone, a small figurine was located underneath (Figures 4, 5). (It was given the registration number 40256.) Slight traces of powder, dark brown to black in colour, might have been the remains of a piece of cloth wrapped around it. The figurine had been very roughly made from blue-green faience, perhaps in a mould made from sand. My first reaction was that it represents a standing male figure, seemingly holding a vertical staff in front of the body with both hands and wearing a crown. It could be the god Ptah. It is so misshapen, however, that other interpretations are possible.

Figure 4. Photograph of the faience pendant, 40256.

Marsha Hill of the Metropolitan Museum of Art sees it as a seated goddess. On the proper right side you can see her throne, the proper left being broken away. Frontally one can see her long wig, a peaked sort of head that is odd; but above that what seems like a uraeus modius topped by disk and horns. The way the hands are held suggests that the centre element might be a child. Thus a figure of Isis is suggested.

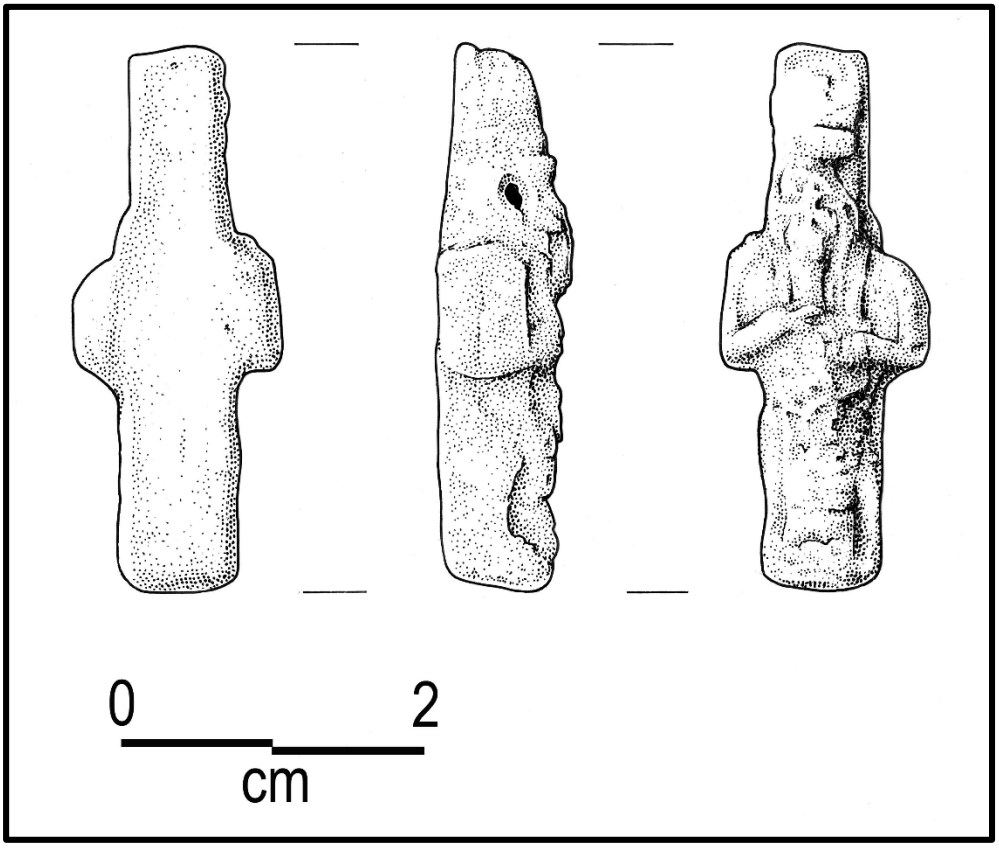


Figure 5. Drawing of the faience pendant, 40256, by Andy Boyce.

The figurine had a suspension hole so that the child was probably wearing it around its neck. Normally at Amarna suspension was by means of a tiny glass ring bead stuck to the top of a pendant. In this case, however, it was pierced through the body of the figurine. This style of suspension is not entirely unknown at Amarna, however.

If I had examined the figurine without knowing its context I would have dated it to after the end of the New Kingdom. This is why it is important to consider carefully the nature of the layer which covered it. The archaeologist responsible for the excavation of the layer (Anna Hodgkinson) and myself (who took over and excavated the burial) are agreed that the layer had not been disturbed by later digging and that the grave could not have been inserted after the Amarna period; indeed, after the demolition of the earlier temple.

Thus we have the unexpected occurrence of a burial in the forecourt of the House of the Aten in its first phase, a burial which was accompanied by an amulet of one of the traditional deities of Egypt. What should we make of it? More evidence might yet come to light. I write this at the expedition house before the resumption of work at the temple on February 8th. Once we start we will be examining the adjacent ground to see if more light can be shed on the circumstances.

The work at the Great Aten Temple in 2014 was partly funded by a grant from the Amarna Research Foundation.

Objects found in excavations sometimes require considerable treatment afterwards, both to clean them and to preserve them for the future. The long-running excavation of graves of the people of Amarna has left us with the remains of several decorated wooden coffins, which are unique survivals of funerary beliefs of the time. The wood had very largely decayed, often leaving little more than areas of fragile painted surfaces.

January 2015 brought a team of 7 conservators to Amarna, together with a botanist to identify the wood and a conservation scientist armed with a machine which can analyse the composition of pigments. The team is led by Lucy Skinner. The work is funded by a grant from the American Research Center in Egypt. The work on the coffins helps to reveal hidden elements in the decoration and so adds to the store of information needed for paper reconstructions. The general results of the conservation programme will form part of a major publication the preparation of which is well underway.

For the coming year the Amarna Research Foundation has made a substantial grant to aid the final pulling together of all of the material needed.

Conservator Nicole Peters makes protective mounts for fragments from one of the coffins

Botanist Rainer Gerisch identifies species of wood used in the making of the coffins

Conservator Ahmed Tarek consolidates the fragile painted surface of a coffin fragment

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