Rebuilding the outline of the rear of the Long Temple within the enclosure of the Great Aten Temple. When the work is finished, only the top row of stone blocks, from the quarries at El-Tura, will be visible. The small square constructions are offering-tables. View to the south.

Barry Kemp, Miriam Bertram, Anna Hodgkinson, Sue Kelly, Juan Friedrichs, Julia Vilaró, Andreas Mesli, Catherina Kalmykova, Stephanie Boonstra and Katrin Glosauer

April 17th, 2022
The British Mission to Tell el-Amarna began on 1 February and ended on 31 March, 2022. The members of the mission were Barry Kemp, Miriam Bertram, Anna Hodgkinson, Sue Kelly, Juan Friedrichs, Andreas Mesli, Julia Vilaró, Catherina Kalmykova, Stephanie Boonstra and Katrin Glosauer. The work at the site of the Great Aten Temple (Figure 1) started on 15 February. The inspectors of antiquities were successively Mazen Osman Niazi and Mohamed el-Said. The recording and study of antiquities stored in the antiquities magazine attached to the expedition house continued simultaneously, under the supervision of inspectors Mohamed Abd el-Mohsen and Tharwat Shawki Damian. The mission wishes to express thanks to the Permanent Committee of the Ministry of Tourism and Antiquities for permission to work at Amarna during 2022, and to the officials of Middle Egypt for assistance in the successful completion of the Spring 2022 programme: Gamal Abu Bakr (general manager for Middle Egypt), Mahmoud Salah (general manager for South Minia), Fathy Awad (manager of the Mallawi sector) and Hamada Kellawy (chief inspector of Tell el-Amarna).

The rebuilding of the Long Temple

Some time after the end of the Amarna Period, workmen removed all of the stones which comprised the walls, columns and offering-tables from the main stone temple within the enclosure of the Great Aten Temple. What remained was a huge, continuous layer of gypsum concrete on which the outlines of the building were preserved. Last year (Autumn 2021), the workmen employed by the expedition removed the thin layer of sand which covered this foundation layer at the back of the temple and brushed it clean. Juan Friedrichs then made a detailed plan of the markings on it at a scale of 1:25. Following this, the foundation layer was covered again with clean sand. Over this, the team of builders from the village of El-Till (Shahata Fahmy, Mohamed Shahata and Ahab Shahata) laid one course of small, local limestone blocks along the lines of the ancient walls and over the locations of the offering-tables which filled the rear part of the temple which forms the temple’s sixth court (Figures 2, 11, 12).

When the work began again in February of this year, the builders worked in two teams. At first they both worked with small limestone blocks from quarries near El-Minia, laying them over the foundation course completed last year (Figures 2, 3). One team concentrated on the thick enclosure wall, completing the rear, east wall and the part of the south wall excavated so far, and moving on to the wall which enclosed three long narrow rooms at the back of the building. As these parts were finished, they added the final course of larger limestone blocks brought from quarries at El-Tura near Cairo which had been cut to the ancient block size, with a length of 1 ancient cubit (52 cm, Figure 4). Once finished, each of the three long, narrow rooms at the back of the temple was provided with three offering-tables made from six Tura blocks cut to half thickness (Figure 8). Before making them, the rooms were filled with rubble covered with a layer of clean sand. For each group of three offering-tables a shallow, continuous trench was dug and filled with concrete reinforced with iron rods (Figure 7). The offering-tables were built on these, the concrete bed being buried beneath sand. The part where the lower foundations had been built with small blocks and which formed the east end of the south outer wall was, however, left without the final course of Tura blocks. The reason is that it marks the beginning of a continuous length of straight, uninterrupted wall running to the first pylon at the front of the temple. There is a better chance of avoiding slight irregularities in alignment if such a long wall is built in a single operation.

Meanwhile, the other team devoted itself to building up two sets of 21 offering-tables located in the northern and southern parts of the exposed temple area. Unlike the nine offering-tables in the long narrow rooms at the back,
Figure 1. Plan of the enclosure of the Great Aten Temple. It shows the main features within the enclosure and the area of the Spring 2022 season which is outlined in red (see Figures 11, 12).
Figure 2. View, to the north, of the back part of the Great Aten Temple before the beginning of the work of the spring season, 2022.

Figure 3. Building the foundations for the reconstructed walls of the Great Aten Temple, using small local limestone blocks. View to the west.
Figure 4. Receiving a delivery of blocks of limestone from the El-Tura quarries, cut to the ancient talatat-size.

Figure 5. At the halfway point in the season: the wall on the left has been capped with Tura limestone blocks. The ground to the right is partly covered with the foundations for offering-tables. They will finally be capped with Tura blocks and the foundations buried. View to the south-west.
Figure 6. View to the south across the built supports for individual offering-tables. The rooms and offering-tables in the foreground were completed in 2021.

Figure 7. The rear part of the temple includes several rooms which contained an individual offering-table or, in the case of a group of three rooms built against the rear wall of the temple, groups of three offering-tables. In the case of the latter, foundations were created of cement reinforced with iron rods and covered with a layer of sand in which the Tura blocks were laid.
Figure 8. View, to the south, of the group of three long rooms built against the back wall of the temple, each room being provided with three offering-tables. The new foundations are hidden, leaving only the final masonry of Tura limestone blocks visible.

Figure 9. View to the north of the area of rebuilding immediately after the end of the season, 28 March, 2022.
Figure 10. Two excavation squares (BA28, AZ28) close to the south-east corner of the temple nearing completion. The ground being excavated consists of excavation spoil from 1932, now being used to fill the temple foundations. It contains pieces of sculpture. View to the south-east.

Figure 11. Plan of the rear part of the Long Temple within the enclosure of the Great Aten Temple. It shows the location of the work of the spring season, 2022. The coloured areas map the progress of the rebuilding and the location of the excavation squares BA28, AZ28, BA27, AZ27. The underlying plan is that of R. Lavers based on the 1932 excavations of the Egypt Exploration Society.
each offering-table of the two free-standing groups needed its own rectangular support built from small blocks to ensure a firm foundation for the final Tura slabs laid on top (Figure 5). The two groups of 21 offering-tables were flanked on the north and south by a pair of offering-tables contained within a pair of separate rooms. The northern pair had been completed in the previous year. The southern pair of rooms was built and the offering-tables laid on a concrete foundation over a fill of rubble.

The sixth court was defined on the west by a wall which crossed from side to side. For much of its length it had a greater thickness than most of the temple walls, except for two end sections, suggesting that it had risen in the form of twin pylon towers flanking a central gateway. Against both sides, the eastern and western, groups of three rooms had been built, each room containing an offering-table. It was possible, close to the end of the season, to build the six tables on the east side without building the surrounding walls which have been left for the next season.
As a way of financing the purchase of the stone blocks, members of the public were invited to sponsor individual blocks in return for receiving a certificate showing their block (or blocks) on which their name and/or message was written. For the offering-tables, a glass tube was buried within the masonry in which was contained the donor’s certificate recording their donation in aid of their particular offering-table.

On 27 February, an excavation was begun over an area close to the south-east corner of the temple but outside the temple walls (Figure 10). The whole temple site had been excavated in 1932 by the mission of the Egypt Exploration Society of the UK, directed by John Pendlebury. His workmen cleared all of the sand and rubble from the gypsum-concrete foundation layer and heaped it around the edges of the temple. This material also contained large quantities of broken pieces of carved stone, from wall blocks and from statues and slabs carved in granite, quartzite, indurated limestone and alabaster. The purpose of the new excavation was to recover more of the carved stone fragments and also to supply rubble to fill spaces between the newly built stone walls and offering-tables inside the temple. At first, two 5 x 5 m excavation squares were laid out over the old spoil heaps. They had the square designations AZ28 and BA28. On 10 March the workmen reached the base of the Pendlebury spoil and the excavation was stopped. Two new 5 x 5 m squares (AZ27, BA27) were laid out immediately to the south and excavation resumed to about half the depth of the material. At this point it became urgent to increase the rate by which the filling of the new chambers and spaces was accomplished. Accordingly, the excavation was stopped and the workmen transferred to moving sand from a delivered load and, separately, dust and broken stones from a nearby recent dump.

The recording of material found

From the beginning of the season, members of the mission worked in the expedition house and magazine. Sue Kelly transcribed to an Excel database the object cards from the Great Aten Temple excavations since 2012, a task which will advance the preparation of a full report on this material. Miriam Bertram and Catherina Kalmykova cleaned, labelled and registered stone fragments from the Pendlebury spoil heaps, numbering approximately 500 pieces. Juan Friedrichs then drew the most important of them, numbering around 120, and Andreas Mesli photographed them.

Stone fragments (reliefs and statues)

The most significant pieces were two stone blocks, one from an internal corner (S-16545), where two walls joined (Figures 13–16), the other with a single decorated face (S-16694, Figures 18–19). In both cases, decoration on the surfaces of the blocks had been scraped away, largely or partly obliterating the details. In the case of the internal corner (S-16545), the left face had borne a near-vertical sun ray ending in a hand where there was no sign of alteration to the surface (Figures 14, 16). Traces of red paint remained along the deep edge to the cut. The left side of the block almost coincides with the beginning a second sun ray which is almost vertical and can be identified by a tiny band of red paint which picks out the beginning of the deep vertical cut of the sun ray. This part of the temple, with its many small rooms, seems to have been a place where the theme of rays descending from the disc of the sun was modified so that the rays descended in a near-vertical group (as in the fragment S-16631, Figure 19), implying that the disc itself was located close to the side of the wall (as in Figure 18). The other decorated surface, at right angles to the group of sun rays, had depicted a princess wearing her hair as a sidelock (Figures 15–17). Above her figure had been one or more vertical columns of hieroglyphs. Traces of paint survive at the bottom of some of the cuts: red at the back of the princesses’ head, blue in some of the hieroglyphs. An attempt has been made to obliterate both the princess and the hieroglyphs by scraping away the surface of the stone. In the case of the princess, the lowering of the stone surface still left the outline of her head and body but this was then rendered invisible by filling with a plaster that, in its colour and texture, closely resembled the surface of the limestone. Over the rear of the head and body, however, the plaster had fallen out revealing the original outlines.
This is the first time that it has been possible to place a decorated block approximately in its original location in the temple. It was found in a Pendlebury spoil heap (in excavation squares AZ/BA27/28) close to the eastern end of the south wall of the temple (Figure 11). Its home, therefore, is likely to have been one of the many small rooms containing offering-tables which filled the sixth court of the temple. As a building block it has an unusual shape. It seems to have been an irregular piece from a block which had been fitted into a space in a corner where blocks from both walls failed to meet. In Figure 17 it has been placed in a reconstruction of one of the rooms where a height of the outside wall of the temple has been estimated at 6 m (see pp. 16–19 in the report for spring 2021, https://www.amarnaproject.com/documents/pdf/Great-Aten-Temple-Spring-2021-HI.pdf). Alongside the reconstruction is a copy of the scene carved on one side of the quartzite balustrade block from Hermopolis (Figure 18; Roeder 1969, Taf. 1). Despite the huge difference in scale, the design (which include a princess) offers a guide to the general character of the decoration in one of the rooms.

The other block which had been subject to similar treatment (S-16694, Figures 20, 21) was decorated on only one face, the other face being rough. The design was of vertical columns of hieroglyphs containing a formal text which included the title ‘king’s wife’. The hieroglyphs had also been filled originally with blue paint. The scraping of the surface was done with a tool which left diagonal, parallel tool marks. It is possible that some plaster was also used to obliterate signs. The remaining traces of the hieroglyphs suggest that the words $p\, ltn$ (the Aten) headed the column and that, after a group that is not yet deciphered, it continued with the words $n\, hmt\, nsw$ ‘for the
Figure 14. Left side of limestone block S-16545. A single near-vertical sun ray descends which had ended in a hand, of which only the top part remains. The original left edge of the block survives and preserves a narrow strip of a second sun ray, marked by a very narrow band of red paint. Photo by Andreas Mesli.

Figure 15. Right side of limestone block S-16545. It preserves the back of the outline of a princess, facing to the right, which has been partly erased and partly covered with plaster. She stands beneath a vertical column of hieroglyphs, containing traces of blue paint, which has been treated in the same way as the figure of the princess. Photo by Andreas Mesli.
Figure 16. Both faces of limestone block S-16545. Drawing by Juan Friedrichs.

Figure 17. Reconstruction of the design on block S-16545 (Figure 16).
Figure 18. Reconstruction of the likely placement of block S-16545. The scene from the Hermopolis balustrade on the left is after Roeder 1969, Taf. 1.

Figure 19. Limestone fragment S-16631. It shows part of a group of almost vertical and parallel Aten rays, originally painted red. Photo by Andreas Mesli.
Figure 20. Limestone block S-16694. Two vertical columns of hieroglyphs have been scraped down with the intention of removing them, probably helped by the application of some plaster. Traces remain of blue pigment in the signs. Photo by Andreas Mesli.

Figure 21. Drawing of limestone block S-16694, showing the traces of two vertical columns of hieroglyphs. At the bottom of the right column is the partially preserved word ‘royal wife’. Drawing by Juan Friedrichs.
royal wife’. At least two blocks from the Hildesheim excavations at Hermopolis show a similar scheme of careful removal of columns of hieroglyphs by rubbing or scraping the surface (Roeder 1969, Taf. 17, 500-VIIIC; Taf. 163, 1092-VIII). Is this a sign that they, too, derive from the Great Aten Temple?

Figure 22. Alabaster fragment S-13148 from the 2019 season. It appears to show upright royal figures facing left. The limbs have had their surfaces removed leaving most of the garments recognisable. Width of baseline 7.8 cm. Photo by B. Kemp.

One interpretation of both altered blocks is that the alterations were intended to remove references to the royal family and their images whilst leaving images of the Aten untouched. We know, from finds from previous excavations, that the Great Aten Temple remained in use into the reign of Horemheb. They comprise a block (now in the Ashmolean Museum, Oxford 1893.1-41 (132)), from Petrie’s excavations towards the front of the temple (Petrie 1894, 11, 43, Pl. XI.5; Nicholson 2009, 312) and pieces from a small limestone sphinx and probably at least one other object (now in the British Museum, https://www.britishmuseum.org/collection/object/Y_EA58468, also 58468_1–58468_4, 58469) from the Egypt Exploration Society excavations at the Sanctuary (Pendlebury 1951, 12, Pl. LX.3). Presumably the alterations, which removed texts and pictures that gave offence, allowed the temple to continue in use. An alabaster relief fragment (S-13148, Figure 22) from an earlier season (2019) and from
towards the front of the temple (square T25, a Pendlebury spoil heap) appears to show something similar, where
someone has tried rather carelessly to remove the limbs of a royal figure whilst leaving the garments to some
extent untouched. Comparable material has also been found at the Small Aten Temple, in the form of large
sandstone blocks where royal names and figures have had their surfaces reduced and plastered over in preparation
for new carving which never took place. The community which the Great Aten Temple served and (was served
by) continued at least into the reign of Sety I (Newton 1924, 293; a more detailed account of the inscribed pot
which is the source of this information is in the process of publication).

Report on the study of material from workshop site M50.14–16 (Anna K. Hodgkinson)

During the 2022 spring season at Amarna, Anna Hodgkinson and Katrin Glosauer continued the documentation
of the faience objects found at workshop site M50.14–16 in the Main City South of Amarna. The site was re-
excavated in 2014 and 2017, after it had been cursorily excavated and documented in 1922 by a team directed by
Charles Leonard Woolley on behalf of the Egypt Exploration Society. The new excavations brought to light a
variety of objects indicative of industrial activity, including glass working, faience manufacture, and metal- and
stone (agate) working. This season, the work focussed primarily on the study of the objects from faience and
glass.

Almost 600 faience beads and bead wasters, as well as close to 50 pendants were excavated during the 2014 and
2017 season, and the database entries for these objects were refined with regard to measurements, descriptions and
colour codes (Figure 23). The beads and pendants have furthermore been assigned a corpus reference according
to the corpora established by Andrew Boyce (1995a, 76–8; 1995b, 345–65), and drawings were made of a selection
of objects.

![Figure 23. A selection of faience beads, by type (clockwise, from the top left): multiple cylinder (spacer) beads, sphere beads, segmented beads and disc beads. Photo by Katrin Glosauer.](image-url)
Furthermore, the assemblage of almost 200 blue and turquoise/green tiles and inlays from faience were studied by Katrin Glosauer, who updated the database entries for these objects and photographed and illustrated a large selection of them (Figure 24). The focus of this study lay in the manufacturing technique of faience inlays that had been cut from a master tile in order to identify bevel cuts and smoothed edges as well as textile imprints on the reverse side of the pieces. In addition, finished inlays were separated into groups of finished inlays and waste fragments from faience tiles.

With regard to the glass industry found at site M50.14–16, the database entries of c. 470 fragments from glass ingots, and of c. 240 rods, bars and other working pieces from glass were updated and photographs were made of a selection of these items. In addition, technological ceramics that had been used in combination with the glass industry were studied with regard to their function: glass-working or glass production. These data can provide information on the extent and intensity of industrial activity at the site during the Amarna Period. Finally, the archive from the 2014 and 2017 excavation was checked, in order to ensure the correct alignment of the excavation plans and to add missing unit sheets.

The contents of the following trays were studied:

<table>
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<tr>
<th>MoTA tray number</th>
<th>Project tray number</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>109/1</td>
<td>2 TA-MC 14 #12</td>
<td>Limestone table and mortar</td>
</tr>
<tr>
<td>109/2</td>
<td>3 TA-MC 14 #12</td>
<td>Other worked stone objects and stone tools</td>
</tr>
<tr>
<td>106/1</td>
<td>17 TA-MC 14 #12</td>
<td>Fired bricks / oven fragments</td>
</tr>
<tr>
<td>110/1</td>
<td>18 TA-MC 14 #12</td>
<td>Cylindrical vessels and other technological ceramics</td>
</tr>
<tr>
<td>112/2</td>
<td>19 TA-MC 14 #12</td>
<td>Glass: beads, ingot fragments, working pieces</td>
</tr>
<tr>
<td>112/3</td>
<td>20 TA-MC 14 #12</td>
<td>Small finds: faience, metal, worked agate, worked bone</td>
</tr>
<tr>
<td>99/6</td>
<td>21 TA-MC 17 #12</td>
<td>Other worked stone objects and stone tools</td>
</tr>
<tr>
<td>112/1</td>
<td>22 TA-MC 17 #12</td>
<td>Small Finds: metal, faience, glass, industrial, textile, modern, worked bone</td>
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<tr>
<td>111/111; 110/3</td>
<td>24 TA-MC 17 #12</td>
<td>Cylindrical vessels and other technological ceramics</td>
</tr>
</tbody>
</table>

*Table 1. Numbers of trays and object categories studied.*

*Figure 24. Two inlays in the shape of ox hides. Photo by Katrin Glosauer.*
Report on the study of faience tiles and inlays from excavations at the Great Aten Temple, 2012–2015 (Stephanie Boonstra)

During the 2022 spring season of the Amarna Project, Stephanie Boonstra examined the faience tiles and inlays that have been excavated at the Great Aten Temple between 2012 and 2015. A total of 247 faience tiles and inlays from trays 39 (MoTA tray no. 159/16) and 460 (MoTA tray no. 571) were catalogued from 1–15 February 2022. The fragments were measured (length, width, and thickness), their Pantone colour was recorded, and a detailed description of the body material, shape, glaze, and decoration was documented. The inlays and tiles were photographed, both as individual fragments but also in respect of any suspected joins or parallels.

For the purpose of this study, faience tiles are characterised as largely round or rectangular in shape bearing multiple elements of a decorative image or scene. In contrast, inlays were created in the shape of a specific object, such as a water-lily, duck, or fish, and inserted into a larger decorative design. Both inlays and tiles can be polychromatic.

The majority (118, 48%) of the faience tile and inlay fragments studied were small and monochromatic. These fragments range from a yellowy-green to a turquoise blue to a deep cobalt blue. A further twenty fragments are from faience inlaid hieroglyphic signs. These fragments are nearly all of a deep cobalt blue faience glaze with a grey body material. Thirteen of the inlaid signs appear to be fragments of cartouche borders. There were four signs, however, that may instead be fragments of djed-pillars. The remaining fragments were each of an akhet-sign, a neb-sign and a li-sign.

The rest of the study corpus comprised 56 (23%) decorated faience tiles and 53 (21%) decorated faience inlays. The most common decorative scheme on the tiles was of flora scenes, particularly of water-lilies (Figure 25), papyrus plants and cornflowers. A notable depiction of a calf’s tail amongst marsh reeds was also examined (object nos 40252, 40253; Figure 26). The decorated inlays contained elements from marsh flora scenes as well as fauna, specifically fish and birds (Figure 27). The fish and bird inlays are fragmentary, and it is hoped that more joins may be found in future seasons. The decoration on the studied tiles and inlays largely comprises flora and fauna consistent with those found in the marsh scenes painted on plaster in the Amarna Great Palace (Petrie 1894, 12), and the faience inlays found in early excavations and distributed to various international museums.

![Image](https://via.placeholder.com/150)

*Figure 25. Faience tile fragments of water-lilies. These fragments do not necessarily join but are organised to represent how the scene may have looked. Left to right, top to bottom: nos 41317, 40246, 40024, 40203, 40255. Photo by Stephanie Boonstra.*
The next steps in this research will be a return to Amarna to study further faience inlays and tiles from trays 373, 374, 392, and 460 and any more recently excavated from the 1930s spoil heaps of the Great Aten Temple. Once this is complete, a thorough examination of the findspots of all of the studied inlays will be made using QGIS software in an attempt to determine if certain inlay scenes may have come from specific parts of the Great Aten Temple enclosure. Research trips to museums such as the Egyptian Museum in Cairo, the Petrie Museum of Egyptian Archaeology, the Manchester Museum, and the Ashmolean, all of which hold collections of Amarna faience tiles and inlays from excavations at the site, will also be conducted in a search for parallels to the tiles and inlays studied.

**Figure 26.** Faience tile fragments 40252 and 40253 depicting the tail of a calf. A common motif in Amarna faience tiles and painted plaster. Photo by Stephanie Boonstra.

**Figure 27.** Faience inlay fragments of a yellow bird. These fragments do not necessarily join but are organised to represent how the scene may have looked. Left to right: wing no. 40005; beak no. 41318 (which is joined to) head no. 40026; body no. 40034. Photo by Stephanie Boonstra.
References


Addendum

Marc Gabolde has kindly sent his restoration of the largely erased text on block S-16694 (Figure 21). It is the name of the princess Ankhsenpa-aten, ‘born to the great royal wife’.