

# **THE TEMPLE OF TAUSRET**

**The University of Arizona Egyptian Expedition  
Tausret Temple Project, 2004-2011**

**Edited by Richard H. Wilkinson**

**University of Arizona Egyptian Expedition**

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Library of Congress Cataloguing-in-Publication Data

THE TEMPLE OF TAUSRET: The University of Arizona Egyptian Expedition

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ISBN 978-0-9649958-2-6 (pbk)

1. Temple of Tausret (Egypt). 2. Excavations (Archaeology) – Egypt. 3. Tausret (Pharaoh).

I. Wilkinson, Richard H., 1951-

Designed and produced by *Document* and set in Palatino Linotype.

Printed in the United States of America.

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## INTRODUCTION

Richard H. Wilkinson

This volume constitutes a summary of the results from the nine seasons of research conducted by the University of Arizona Egyptian Expedition from 2004 to 2011 at the site of the temple of the female pharaoh Tausret in western Thebes (modern Luxor).

Like many of her royal predecessors, Pharaoh Tausret constructed not only a tomb to receive her body in the Valley of the Kings, in western Thebes, but also a temple nearby to honor and sustain her spirit both during her reign and throughout time. Egyptian pharaohs of the New Kingdom era built such temples - known as “temples of millions of years”<sup>1</sup> - on the flat desert edge between the mountainous ridges that circle the royal valley and the cultivated fields that flanked the Nile. These temples often began to function during the kings’ lifetimes but also functioned after their deaths as a part of the afterlife machinery of the pharaohs – the other half, as it were, of the royal burial complex, though these New Kingdom royal temples were not simply funerary monuments. While earlier kings had constructed pyramids with directly adjoining temples, New Kingdom monarchs built their “temples of millions of years” at a distance from their tombs. The monuments were constructed adjacent to the cultivated fields and canals connected to the Nile to give them easy access for the delivery of produce and other goods which would be offered to the spirit of the pharaoh during the monarch’s lifetime and, theoretically, throughout eternity. All of the New Kingdom’s greatest kings constructed such a temple; and Tausret, probably the last ruling descendent of Ramesses the Great and one of the very few women who ruled ancient Egypt as a pharaoh, made herself a part of this illustrious group by constructing her own temple in that area.

The temple site was explored and, it has been presumed, excavated by the great English archaeologist William Matthew Flinders Petrie (1853-1942) along with a number of other nearby monuments during 1896. In 1897 Petrie’s report on his work at the temple was published, and the little that Petrie reported has essentially been all that has been known of the site and its role in the reign of Tausret till the beginning of the twenty-first century. The work completed by the University of Arizona Egyptian Expedition at this site has led to a much greater understanding of the history of that temple, and of the reign of Tausret herself, than was previously possible based on Petrie’s report. It also has helped us to better understand aspects of the earlier investigations of the site and the inevitable effects of their shortcomings.

The present volume thus summarizes and updates previous reports on the UAEE's seasons of excavation at the site of Tausret's temple and also adds further information and analysis not included in previous publications. For the sake of completeness, the various chapters cover the background to the site and its previous exploration as well as results of our own investigations, while the appendices represent summaries of how some aspects of the work were accomplished. The CD which accompanies the book allows all of the illustrations to be studied on-screen in full color and at a much larger scale than would be possible in a printed book of average size.

Because our work on the core area of the Tausret temple complex is essentially complete, it seems appropriate to release the present "preliminary final" study of the monument at this time. Further remote sensing may be conducted in peripheral areas of the temple, and excavation is planned for one or more of the intrusive tombs at the temple's western end; but this future work is not expected to affect the conclusions which can now be drawn regarding the history of the monument. In addition to their inclusion in any future editions of this book, the results of further archaeological work at the site will be made available online on the University of Arizona Egyptian Expedition website (<http://egypt.arizona.edu/>).

- <sup>1</sup> These temples are often called "mortuary" or "memorial" temples in books on ancient Egypt, though they are not really either. The term "Temples of Millions of Years" reflects the Egyptians' own name for these monuments. For the most recent study of these temples, see Christian Leblanc, ed., *The Temples of Millions of Years: Science and New Technologies Applied to Archaeology*, Acts of the International Symposium, Luxor, January 2010 (Cairo: Supreme Council of Antiquities, 2011).

## ACKNOWLEDGMENTS

The editor would like to thank the writers who contributed to this volume and also the many other people who made its publication possible. Thanks go especially to the team members of the University of Arizona Egyptian Expedition who have worked on the Tausret Temple Project, and this includes not only those who participated in field excavation seasons (and who are listed, by season, in Appendix 1), but also those team members and other colleagues who participated in non-field research, analysis, discussion, and in other areas. Among our colleagues from other missions, we especially thank Dr. Horst Jaritz.

The editor would also like to thank the Director General and the members of the Permanent Committee of Egypt's Supreme Council of Antiquities for granting us permission to initiate and to continue the Tausret Temple project, and Dr. Mohamed Ismael, Director of Foreign Missions, for his continued help in arranging our work in Egypt. In Luxor, the Director of Upper Egyptian Antiquities, our colleague Mr. Mansour Boraik, has always been a great help and we thank him particularly. We also thank Mr. Ali El-Asfar, who was Director of West Bank Antiquities during our 2004-2009 seasons, and Mr. Mustafa El-Waziry who took over that office in 2009 as well as Mr. Mohamed Hamdan, Director of the West Bank Missions Office. We also thank our assigned inspectors who have frequently been a great help. Reis Ali Farouk Sayed El-Quftawi, Reis Omar Farouk Sayed El-Quftawi and Assistant Reis Kamal Helmy have all been of inestimable help to us. Our thanks are also due to the American Research Center in Egypt which has facilitated our Expedition during the course of this project -- and most especially to Mme. Amira Khattab, whose constantly kind and able help we greatly appreciate. Mr. Mahmoud Khodeir kindly and patiently worked with us throughout the project in preparing reports to be presented to the Supreme Council of Antiquities.

The field excavation seasons undertaken for the project would not have been possible without the generous help of the individuals and institutions who have supported our work. We especially thank Stephanie Denkowicz, Mahmut Dogan, Donald and Edith Kunz, Kathryn Michel, Dr. Bonnie Sampsel, and Ted Snook, as well as the Amarna Research Foundation and the American Research Center in Egypt. Mahmut Dogan kindly provided an additional gift to help enable publication of this volume.

Acknowledgements made by the individual contributors to this volume appear in their respective chapters, but our combined appreciation is also stressed here regarding those who have helped in the book's production. We are particularly grateful to *Dokument* for the design and layout of the book, and for overseeing its production. Aaryn Brewer is thanked for her help with a number of the graphics appearing in the book in addition to the background cover image. Special thanks also go to Lyla Pinch-Brock for the chapter heading logo -- a drawing of a plaque with the cartouche of Tausret found in our excavations -- which is used throughout this book, and for the computer-assisted drawing of the Blue Ware vessel which graces the volume's back cover.

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# 1 : THE TAUSRET TEMPLE SITE

Richard H. Wilkinson



**Figure 1-1: The site of the Temple of Tausret from the north**

The site on which the Temple of Tausret was built (Figure 1-1) lies between that of the Temple of Merenptah, to the south, and the small Late Period Temple of Khonsuirdis, to the north, on the west bank of the Nile at Luxor. The approximate GPS UTM coordinates for the corners of the temple core area<sup>1</sup> are:

SE corner:	0460626	2845394
SW corner:	0460563	2845431
NE corner:	0460658	2845437
NW corner:	0460603	2845472

These coordinates are approximate in that only the southwest corner of the temple is presently uncovered. The northwest corner lies under the present roadway, and the south and northeast corners lie under an unexcavated area with modern housing. The approximate size of the temple core is 4,624 square



## The Tausret Temple Site

meters or almost 50,000 square feet. The larger area of the Tausret temple site between those of the two adjacent temples<sup>2</sup> is 20,213 square meters (just over 2 hectares) or 217,571 square feet (just over 4 acres). This last area is the area of the concession granted to the University of Arizona Egyptian Expedition for the exploration of the Tausret temple (see Chapter 4).

### TOPOGRAPHY OF THE SITE

Tausret's temple is situated on the raised bench of ground which runs parallel to the Nile between the low lying cultivated fields and the steep hill slopes of the Theban massif. The temple was constructed on a large open area that was apparently cut down and leveled in the time of Amenhotep III as part of the preparations for that king's massive temple and its surrounding features. The area in which Tausret's temple was constructed is thus bounded by steep scarps to the northwest and northeast which represent the furthest extent to which the area was cut down for Amenhotep. The near vertical scarp had to be cut into by the builders of Tausret's monument in order to accommodate one corner of the temple (see Chapter 11).

To the southwest of the temple site the terrain extends smoothly toward Medinet Habu, to the northeast it extends more unevenly toward the Ramesseum at the original height of the bench. Neither area drains onto the Tausret site. However, the hill slopes to the northwest of the temple rise quickly and have flooded the site over time with a large amount of debris washed from higher ground during rains. This debris is especially deep across the rear of the site (to the northwest) and has long impeded attempts to excavate this area.

### GEOLOGY OF THE SITE

The geology of the site is of particular interest to the history of the temple as a great deal of the remaining evidence for the monument consists of the network of foundation trenches that were cut by the ancient Egyptians into the underlying rock. The site was examined in 2009 by the geologist Dr. James A. Harrell, who summarized his analysis as follows:

"The [foundation] trenches are cut into two types of Nile sediments. The stratigraphically lower unit, which is exposed only on the north side, is a brownish sandy silt with fine layer-

ing and common root casts. Overlying this unit along a sloping contact is a light gray gravel with mainly pebble- and cobble-size chert clasts, a calcite-cemented sand matrix, and either coarse or no layering. The latter unit, which is what the trenches are mostly cut into, has the hardness and appearance of concrete.... The layering in both the silt and gravel units is inclined to the east and south. The silt is definitely a Nile floodplain deposit whereas the gravel is either a Nile channel deposit or, less likely, a slope-wash deposit from the limestone outcrops just to the west. The most likely scenario ... is that the entire site was originally covered with floodplain silts and these were then eroded by either the main Nile channel (when this flowed along the foot of the western hills) or a secondary flood channel, which then filled with sand and gravel."<sup>3</sup>

While the floor level of many Egyptian temples rose toward the west for symbolic reasons, this is not common in royal temples. The geological nature of the site's substrate described above may explain why the foundation level of the Tausret temple (like that of the Merenptah temple directly to the south) is higher in the west, as the bedrock area had to be sought at a deeper level to the east. The geology of the site also explains why, for the most part, the temple's foundation trenches were well defined and preserved, while in some areas—particularly on the eastern side of the temple—the trenches were not so well preserved. Probably due to the fact that some of the trench areas were left uncovered from the time of W. M. F. Petrie's 1896 investigation of the site (see Chapter 2), these areas exhibit a great deal of weathering—the effects of which have been exacerbated in the weaker geological unit present in those same areas.

Despite the relative unevenness of the substrate levels of the site, it is clear that the ancient Egyptians leveled and packed stronger and weaker localized areas of the site and were able to use the area successfully for building Tausret's temple.

The surface soil across the site is predominantly sand and dirt with few inclusions and little biotic material. The soil is well drained, and this has led to excellent preservation of the artifactual and biofactual material associated with the temple.

## The Tausret Temple Site

### SETTING AND ORIENTATION OF THE SITE

Although the temple was constructed on the desert edge, in ancient Egyptian times the site would have been relatively close to the Nile in times of flooding, and the flood waters may have reached to the base of the rock platform on which the temple stood. There is no evidence, however, that groundwater was a problem for building on the elevated surface several meters above the floodplain. Outside the flood season the temple may well have been connected to the Nile by way of a canal – either directly or as part of a network that probably connected the various temples on the Theban west bank. Analysis of phyto samples<sup>4</sup> from New Kingdom levels in the temple area confirms the presence of sedges and other plants which would indicate the close proximity of water to the desert edge where the temple was situated. Whether a canal connected the temple with the Nile or not, certainly a roadway parallel to the Nile ran through the cultivated area along the eastern side of the temple linking the temples in this area.

Like its neighboring memorial temples in western Thebes, Tausret's monument was oriented approximately E-W (with its sanctuary at the west), according to local north as determined by the Nile. Each of these temples has a slightly different orientation, however, and while the significance of the specific orientation of many of these temples is not known, the Temple of Tausret seems to have been given the same orientation (and design)<sup>5</sup> as the core of the memorial temple of Ramesses II, the Ramesseum,<sup>6</sup> thus linking the queen's monument with that of her great ancestor.

### MODERN ENCROACHMENT ON THE SITE

During the twentieth century a paved road was built on the western side of the site, and the angle at which this road was built intersected the northwest corner of the temple, rendering investigation of this corner of the site impossible as long as the road remains in its current location.<sup>7</sup> Houses were also built on the eastern perimeter of the temple site, and the gardens and yards of these buildings eventually encroached onto the eastern end of the temple. Trees were also planted in this area with the result that the easternmost part of the temple—part of the pylon and the whole temple approach—were covered over and became inaccessible for investigation. At some point in the last decades of the twentieth century, the southeastern corner of the site was also cut through with heavy machinery to lay in an

underground electricity cable to these houses, and this involved a good deal of destruction to this part of the temple remains. In recent times the local people inhabiting the houses frequently cross the temple site and have used the area for various other human activities such as dumping and burning waste, and as a children's play area, though most of this activity has been limited to the surface level of the site. Fortunately, it has been possible to complete most aspects of the UAEE's investigation of Tausret's Temple before the eastern side of the site suffers more extensive damage.

## NOTES

- <sup>1</sup> The temple core is here understood as the area defined by the foundation trenches for the main temple walls connected to the entrance pylon. Other architectural features, such as storage magazines, were evidently constructed outside this area (see Chapter 11).
- <sup>2</sup> The GPS coordinates for this larger area – the concession awarded to the UAEE Tausret Temple Project—are: SW corner: 0460488 2845349, SE corner: 0460607 2845301, NE corner: 0460701 2845449, NW corner: 0460639 2845510.
- <sup>3</sup> James A. Harrell, personal communications, August 19, 20, 2009. Dr. Harrell is sincerely thanked for kindly appraising the geology of the site.
- <sup>4</sup> Samples of phyto-remains were analyzed by our team's archaeobotanist, Professor Ahmed Fahmy of Helwan University. Professor Fahmy is thanked for his kind help with this material.
- <sup>5</sup> This aspect of the temple is covered in Chapters 4 and 11.
- <sup>6</sup> The azimuth of the Temple of Tausret is 132.5 degrees compared to 131.5 for the Ramesseum and 122.5, for example, for the Temple of Merenptah. Mosalem Shaltout and Juan Belmonte, "On the Orientation of Ancient Egyptian Temples: Upper Egypt and Lower Nubia," *Journal of the History of Astronomy* xxxvi (2005): 273-97.
- <sup>7</sup> As of 2011 there has been considerable discussion among the local authorities regarding moving this road down to the level of the cultivation to recover presently covered areas of a number of the memorial temples. This proposal has been discussed for some time, however, and the current political situation in Egypt makes the movement of the road in the near future unsure at the least.



## 2 : PETRIE'S EXCAVATION

Teresa Moore

### A SEASON WITH FLINDERS PETRIE 1895-1896

In December of 1895, Flinders Petrie arrived on the Theban West Bank, planning a new season's work among the temple sites and reasoning that temples, embracing relatively large areas and yielding only a few portable objects, might—in sharp contradistinction to necropolis sites—have been somewhat neglected by plunderers through the ages.<sup>1</sup> Petrie's field of endeavor for the upcoming season comprised the ground from "behind the Kom el-Hettan to near of the temple of Tahutmes III."<sup>2</sup> Here three temples were already identified: first and foremost the Ramesseum; the mortuary temple of Thutmose IV; and a small chapel dedicated to the memory of Prince Wadjmose, prematurely deceased son of Thutmose I. The area Petrie intended to investigate—measuring around half a mile from local north to local south, and about an eighth of a mile from east to west-- lay in the region known to classical authors as "the Memnonia."<sup>3</sup>

The Ramesseum, then being cleared under the direction of James Quibell, was chosen to provide a base for Petrie and his staff during the excavations.<sup>4</sup> Behind the temple proper lay a complex of brick storage magazines in various degrees of preservation; Petrie selected some of these spacious galleries, still intact enough to offer shelter from the elements, to be adapted for a dig house. Construction materials were conveniently at hand. Loose bricks lying on the ground were gathered for interior walls, enabling the team to partition the galleries, some of which were around eighty feet long. For himself, Petrie chose one of the shorter galleries to serve as living space and a storeroom for finds; the long gallery immediately adjacent to it was divided into rooms for Quibell and his sister, temporary accommodations for two of Petrie's students from University College, the artists Miss Paget and Miss Pirie (the future Mrs. Quibell), a dining room, and a kitchen.<sup>5</sup> The next gallery became a residence for about sixty workmen and boys from Qift, who sometimes shared their quarters with donkeys and a camel. Petrie's "best man," Ali Suefi (originally from el-Lahun), chose a shorter, "much broken" gallery as housing for

himself and his family; they were joined by the mother of one of the other men.<sup>6</sup> Before much time had passed, the growing inventory of pottery, sculpture, and shabtis required the construction of a further enclosure in front of the galleries. To discourage trespassing, Petrie dug a deep trench around the perimeter of his headquarters.<sup>7</sup>

The archaeologist's concern about outsiders getting into his camp and climbing on the roofs was well founded. His precautions may have secured the base itself, but when the temples began to yield artifacts, it became clear that many of the local workmen whom Petrie had hired to augment his skilled crew of Quftis were supplying the antiquities dealers of Luxor. Even though, as Petrie says, the light-fingered Qurnawis were not making a financial profit from their pilfering—it was Petrie's custom to pay his excavators the local price for any objects they found—they were maintaining important business relationships.<sup>8</sup> The only way to put a stop to the theft was to fire almost all the local crew. In the first notebook (109)<sup>9</sup> Petrie kept for the season, he listed the names of his workmen, sometimes with a note of some distinguishing characteristic (such as "thin" or "rt eye wt") that might assist his memory; in later rosters from the same season, some names are missing, presumably those of men who had been dismissed.<sup>10</sup> They were replaced with men of Koptos and the "villages around," apparently villages near the dig, as a number of men came from Beirat, close by the temples of Medinet Habu.<sup>11</sup> Perhaps the latter were outside the antiquities dealers' network. Furthermore, Petrie intended to keep his crew under constant supervision and to forbid any fraternizing with the locals.<sup>12</sup> In this he was ably seconded by Ali Suefi, who was completely impervious to any suggestions that might be put forward by the entrepreneurs of Qurna, including members of the notorious Abd el-Rassul family.<sup>13</sup> Moreover, Ali kept an eye on his co-workers and interfered with any attempts at subversion. According to Petrie, Ali's watchfulness saved a "large part" of the season's results. Although Petrie felt obliged to dismiss a trusted reis in 1889 for extorting baksheesh from the workmen, and thenceforward dealt directly with his excavators, his reliance on Ali Suefi is clear; and he repaid him by allotting him the most likely spots for finds in the temples being investigated, thus enabling Ali to earn "about half of all the bakhshish of the season."<sup>14</sup>

## TAUSRET'S TEMPLE

Queen Tausret had begun the construction of her temple on a leveled area just north of the temple of Merneptah, identified by Petrie during the same season. To the north of Tausret's temple site lay the temple of Thutmose IV, the chapel of Wadjmose, and beyond the latter the Ramesseum. The scarp at the rear of the temple had proven itself attractive to later inhabitants of Thebes searching for promising funerary real estate; here the thick Nile gravels overlay Nile mud, and a slump had left gaps between the strata. Busy tomb builders had removed much of the mud and cut chambers in the scarp behind the temple; the excavated dirt and limestone chips had covered the rear of Tausret's sanctuary (the "cella") to such a depth that Petrie did not take the trouble to clear the area.<sup>15</sup>

What remained of the Queen's temple, as far as Petrie could determine in the single season he worked there, were a few "foundation stones" and the foundation trenches, cut about five feet deep into the gravel and marl substrate and then filled with clean sand. These trenches Petrie claims to have cleared in search of foundation deposits; the first three (I, II, and III on the plan—located along the main transverse wall and the side walls) were those that were robbed by the workmen before being recorded. Looking at the plan and the numbering of these deposits, one can imagine Petrie's crew working in the trench areas that they did clear in the method of the day as described by Barry Kemp, advancing "along a moving front, removing all the fill at once, as if quarrying."<sup>16</sup> It may be that the deposits were not numbered in the order of their discovery, for on Petrie's plan of Tausret's temple (Figure 2-1), a deposit IX is indicated—yet that deposit appears neither in the main text nor in the table of finds provided with it.<sup>17</sup>

Although Petrie had lost some information with the objects taken away to the antiquities dealers of Luxor, he had enough to determine a general picture of how the foundation deposits were designed and what they contained. At the bottom of a pit, the builders laid a mat; they may have then introduced model tools made of copper, and above these, a large block of stone inscribed with the Queen's cartouches. Then they added a variety of small glazed objects, such as amulets of bulls' heads and haunches, bound oxen, birds, scarabs, flowers, and plaques. Other items were also present, including animal offerings and an array of pottery jars, bowls, pans, and cups. In Petrie's view, these deposits were "the most valuable result attained here."<sup>18</sup>

Petrie's ambitions to clear six mortuary temples in one season certainly ran far ahead of the time allotted, his own recording ability, and the relatively large workforce he employed (dozens of names are listed in Petrie's notebooks for the season, and during that time he employed some two hundred).<sup>19</sup> In fact, Petrie notebook 109 preserves the draft, in transliterated Arabic, of a note to Ali Suefi, directing him to take twenty Quftis and supplies to Naqada on a Tuesday.<sup>20</sup> Was Petrie already looking past the temples to another project? Despite the significant discoveries made in the Memnonia during this season, the limited scope of the work actually undertaken at the Temple of Tausret is underscored by the limited quantity and nature of the finds made at that site by Petrie.

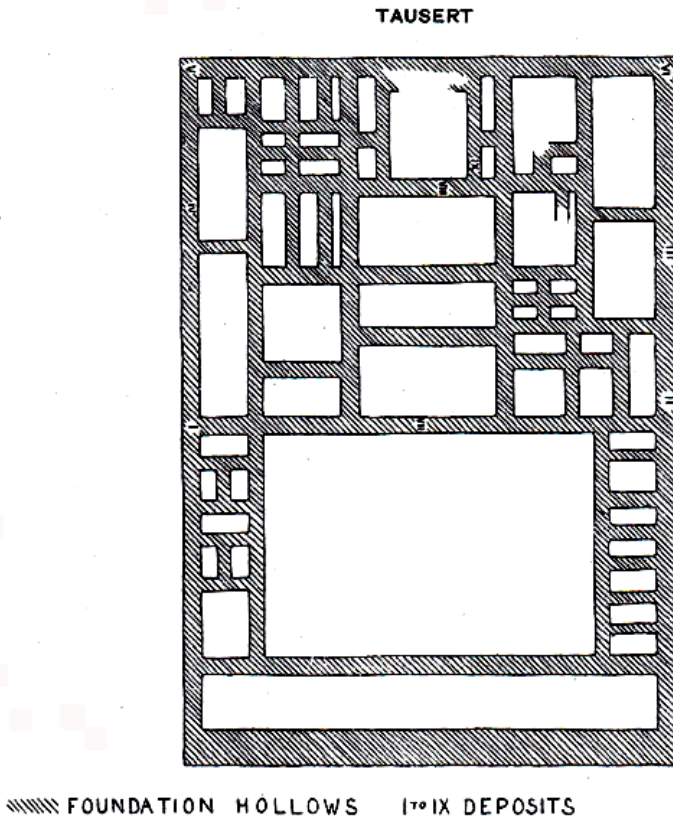


Figure 2-1: Petrie's 1897 plan of the Tausret temple



NOTES

- <sup>1</sup> W.M. Flinders Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897), 1.
- <sup>2</sup> Petrie, *Six Temples*, 1.
- <sup>3</sup> André Bataille, *Les Memnonia* (Cairo: Institut français d'archéologie orientale, 1952), 24.
- <sup>4</sup> While these preparations were going forward, young Howard Carter invited Petrie to stay at his house in Qurna. Margaret S. Drower, *Flinders Petrie: A Life in Archaeology*, ACLS Humanities E-Book (Madison: University of Wisconsin Press, 1995), 219.
- <sup>5</sup> Petrie, *Six Temples*, 1; Drower, *Flinders Petrie*, 219.
- <sup>6</sup> Petrie, *Six Temples*, 1; Stephen Quirke, *Hidden Hands: Egyptian Workforces in Petrie Excavation Archives, 1880-1924* (London: Duckworth, 2010), 77. For more on Ali Suefi's long career in archaeology, see Quirke, *Hidden Hands*, 75-79, 282-290.
- <sup>7</sup> Petrie, *Six Temples*, 1.
- <sup>8</sup> Petrie, *Six Temples*, 2; Quirke, *Hidden Hands*, 34.
- <sup>9</sup> Petrie's field notebooks are preserved in the Petrie Museum of Egyptian Archaeology, University College London.
- <sup>10</sup> Quirke, *Hidden Hands*, 252-256.
- <sup>11</sup> Petrie, *Six Temples*, 2; Quirke, *Hidden Hands*, 252-255.
- <sup>12</sup> The archaeologist's precautions may have included armed guards; he recommends "free use of fireams at night—nothing short of this will suffice for excavations at Thebes." Petrie, *Six Temples*, 2. One wonders whether he meant to fire into the air, or just made the neighbors aware that he possessed firearms and was ready to use them.
- <sup>13</sup> Petrie, *Six Temples*, 2.
- <sup>14</sup> Patricia Spencer, ed. *The Egypt Exploration Society: the Early Years*, EES Occasional Publication, 16 (London: Egypt Exploration Society, 2007), 64; Petrie, *Six Temples*, 2.
- <sup>15</sup> Petrie, *Six Temples*, 18, 13, and plate XXVI.
- <sup>16</sup> Barry Kemp in *The Egypt Exploration Society: the Early Years*, ed. Patricia Spencer, EES Occasional Publication, 16 (London: Egypt Exploration Society, 2007), 156.
- <sup>17</sup> Petrie, *Six Temples*, 14. See plan above from *Six Temples*, pl. XXVI. It should be noted that there are also discrepancies between the plans of the temple found in Petrie's field notebooks and between these plans and the one published in *Six Temples* – see Petrie's notebook 108, p. 17 and 107, p. 11.
- <sup>18</sup> Petrie, *Six Temples*, 14-15.
- <sup>19</sup> Quirke, *Hidden Hands*, 252-256; Drower, *Flinders Petrie*, 220.
- <sup>20</sup> Quoted in Quirke, *Hidden Hands*, 150.



### 3 : THE ARTIFACTS FROM PETRIE'S EXCAVATION

Karin R. Kroenke

Two results of Petrie's excavation of the Temple of Tausret were the location and the clearing of the foundation deposits. He excavated eight pits, which had been sunk into trenches below walls and doorways at various locations throughout the temple. In his final publication, Petrie provided a table of the majority of types and quantities of offerings found in these pits in conjunction with four plates that illustrated the temple plan, demarcating the positions of the foundation deposits, and line drawings of key objects.<sup>1</sup> Petrie noted patterns in the types, quantities and deposition of the excavated material in his accompanying discussion. Unfortunately, the rather haphazard efforts of his workmen negatively affected Petrie's conclusions in two significant ways. First, they did not recover all the temple foundation deposit material. The recent excavations of the UAEE recovered additional objects from areas where Petrie's workmen had dug previously, as well as undisturbed artifacts that had been scattered or clustered in trenches between pits during the temple foundation ceremonies.<sup>2</sup> Second, Petrie noted that his results were incomplete because his local workmen had plundered three of the eight foundation deposits and sold the contents to antiquities dealers in Luxor.<sup>3</sup> The work of the UAEE has revealed further that Petrie's men robbed five additional foundation deposit pits, of which Petrie apparently was unaware.<sup>4</sup>

While other chapters in this volume introduce Tausret foundation deposit material from the UAEE excavations -- including artifacts both identical to and dissimilar from those unearthed in 1895-96 -- and present new evidence that refines Petrie's proposed depositional patterns, the aim of this chapter is to establish the quantity and types of foundation deposit objects from Petrie's excavations. To achieve this goal it is necessary to locate both the quantified amount of material that Petrie's workmen excavated from eight foundation deposit pits and -- to the extent possible -- the myriad artifacts they ransacked from the temple. At present, Tausret's foundation deposit objects are dispersed widely throughout Egypt, England, Switzerland and the United States.<sup>5</sup> Petrie's published foundation deposit material from the Tausret

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temple provides a basis of comparison for both the provenanced and the unprovenanced model offerings attributed to Tausret that are currently housed in museums and private collections. In examining the different types of foundation deposit objects, there are some discernable inconsistencies between Petrie's excavated finds and what appeared in his temple publication. Shared stylistic attributes also strongly suggest that the unprovenanced model offerings discussed in this chapter originate from the robbed foundation deposits of the Tausret temple.

### PETRIE'S EXCAVATED MATERIAL

Petrie published 1,942 objects from the eight excavated Tausret temple foundation deposits in his final report, summarized here in the left column of Table 3-1.

Object Type	Petrie's Total, Six Temples	Provenanced Total	Unprovenanced Total	Total Located in Museums/ Collections
Faience offering plaques	1320	838	120	958
Faience scarabs	246	65	22	87
Faience Tausret name plaques	239	112	42	154
Faience rings	43	16	1	17
Faience beads	Multiple	Multiple	Multiple	Multiple
Copper implements (tools, dishes, ingots)	71	67		67
Stone blocks with Tausret cartouches	5	3	4	7

Table 3-1 continues on next page.

Object Type	Petrie's Total, <i>Six Temples</i>	Provenanced Total	Unprovenanced Total	Total Located in Museums/ Collections
Mud-brick with cartouche	1	1	--	1
Quartzite grinder	2	2	--	2
Quartz(?), pear- shaped amulet	3	1	--	1
Travertine hemispherical disc with Ramesses II cartouche	--	1	--	1
Ebony Clamp	1	--	--	--
Wooden jar lid, fragment	--	1	--	1
Pottery	Quantity not recorded	6+	--	6+
Inscribed sherds	4	--	--	--
Animal remains	7	--	--	--
Floral wreaths	Multiple	Multiple	--	Multiple
<b>Total</b>	<b>1942+</b>	<b>1113+</b>	<b>189+</b>	<b>1302+</b>

**Table 3-1: Tausret foundation deposit objects from Petrie's excavations**

Most are faience model offerings, comprised of offering plaques, scarabs, name plaques and finger rings, together with unrecorded quantities of beads.<sup>6</sup> The offering plaques primarily depict meat, specifically beef, fowl and fish. Individual types include calf or ox heads, ox forelegs, decapitated and bound oxen, trussed ducks and fish. Within some categories there are stylistic variations of both rounded and flat forms, the latter with details represented with incised lines. For example, there are three versions each of the calf or ox heads<sup>7</sup> and the haunches, and two of the bound oxen. The ducks occur either

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in single form or in sets of three. Thirty-nine fish and ox haunch plaques are incised with Tausret's cartouches, while the rest of the meat offering plaques are plain. Other plaques depict plant offerings, including lotus flowers, a teardrop-shaped pendant, possibly representing a date,<sup>8</sup> and another unknown plant, perhaps symbolizing a head of lettuce or a fig.<sup>9</sup> The offering plaques represented most frequently are beef (the calf or ox heads, the ox haunches, and the decapitated, trussed oxen), followed by vegetables/fruits (heads of lettuce or figs, and dates), and then ducks, lotuses and fish.

Tausret's foundation deposits also contained large quantities of faience scarabs and name plaques inscribed with either her nomen, combined with the epithet *stp.n.Mwt*, or her prenomen, *s3t-R<sup>c</sup> mry-Imn*. Tausret's nomen or prenomen also appears on one side of the elongated plaques, while on the small square plaques the two names are inscribed on the obverse and reverse. Finger rings are rather poorly represented, and are decorated with one of Tausret's cartouches or other mottos, emblems or figures of deities.<sup>10</sup>

The faience model offerings are all mold-made. While most are single-sided, the scarabs and square name plaques were manufactured from two grooved pieces of faience pressed together, creating a central hole for stringing. The rings also were constructed from two pieces of faience, with the bezel and shank then joined together. The colors used in faience production were white and shades of blue, ranging from a light blue-green to a deep, purple-blue.<sup>11</sup>

In addition to faience plaques, amulets and rings, Petrie's workmen excavated model tools, sandstone blocks inscribed with Tausret's two cartouches, animal offerings and pottery from the foundation deposits. Six of the eight published pits contained model copper implements, with the majority recovered from pit 7. The copper objects include socketed hoes, axe heads, adze blades, chisels, knives, crow-bars, two-handled dishes and oxhide ingots, all made of thin sheets of metal.<sup>12</sup> Five pits also held rectangular stone blocks inscribed with the titles *nb h<sup>c</sup>w* and *nb t3.wy* in association with Tausret's prenomen and nomen. Petrie concluded that each pit originally contained an inscribed stone block on a mat -- in some cases with metal tools buried beneath -- surrounded by a large quantity of the faience model plaques, amulets and beads. Petrie also found plant leaves, presumably from a wreath, interspersed with the faience objects and copper tools in pit 7. He further documented actual meat offerings of pigeon and calves excavated from three pits. While the temple foundation deposits contained pottery, with one exception, Petrie did not record the specific amounts. Instead, he noted

that the pottery included “many” offering jars, “some” bowls, a “large number” of small cups, and a “few” jar handles of wine amphorae, of which four bore hieratic docket names that named Sety II (translated by Wilhelm Spiegelberg).

Small quantities of miscellaneous finds also derive from Tausret’s excavated foundation deposits. Three pits had pendant-shaped objects of unknown function likely made of quartz, although Petrie identified them as decomposed glass. One pit contained an ebony cramp inscribed with Tausret’s prenomen in conjunction with the title *nb t3.wy*, in addition to two quartzite model grinders with *nfr* signs painted on them and a mud-brick with the remnant of an impressed cartouche. Another votive object possibly from Tausret’s temple is a semicircular travertine plaque with the nomen of Ramesses II painted on it, which, although his workmen reportedly discovered it in a foundation trench between foundation deposit pits 3 and 6, Petrie believed may have come from the debris of a nearby tomb.

#### CURRENT LOCATIONS OF THE ARTIFACTS: FINDS DISTRIBUTED IN 1896

The widespread occurrence of the foundation deposit material Petrie excavated from Tausret’s temple is primarily the result of policies concerning the excavation of Egyptian antiquities in the late 19<sup>th</sup> century. Petrie, like other excavators of this era, was financially responsible for his own Egyptian expeditions. Archaeologists typically procured financial support through societies that raised money for archaeological work in Egypt. As the first Edwards Professor of Egyptian Archaeology and Philology at University College London, in 1893 Petrie had the means to form the Egyptian Research Account to subsidize excavations in Egypt.<sup>13</sup> In the final decades of the 19<sup>th</sup> century, the standard policy of the Egyptian Antiquities Service was to retain unique or exceptional objects for the national museum, while all other finds were to be halved.<sup>14</sup> Today, the Egyptian Museum, Cairo houses 117 objects from Petrie’s excavations, including a stamped mud-brick, a stone block inscribed with Tausret’s cartouches, a minimum of 18 faience models and 11 copper tools, and unknown quantities of pottery and animal remains.<sup>15</sup> The excavated artifacts that the Service allowed Petrie to retain were distributed to six museums in England and in the United States in return for their sponsorship: the Edwards Department of Egyptology at University College London (now the Petrie Museum of Egyptian Archaeology); the Manchester

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Museum, University of Manchester; the Ashmolean Museum of Art and Archaeology, Oxford; the Fitzwilliam Museum, the University of Pennsylvania Museum of Archaeology and Anthropology; and the Haskell Oriental Museum (now the Oriental Institute Museum, Chicago).<sup>16</sup>

Of the six museums that backed the Tausret excavations, currently the Petrie Museum houses the majority of the finds, which consist of 600 faience model offering plaques, name plaques, scarabs and rings,<sup>17</sup> a large quantity of strung faience beads,<sup>18</sup> 25 copper tools and other implements,<sup>19</sup> the two model quartzite grinders,<sup>20</sup> the hemispherical disc with the nomen of Ramesses II,<sup>21</sup> one quartzite block inscribed with Tausret's two cartouches,<sup>22</sup> perhaps two pottery jars,<sup>23</sup> and a wooden cosmetic jar fragment.<sup>24</sup> Interestingly, one faience scarab differs from Petrie's published examples in *Six Temples*. Instead of Tausret's nomen or prenomen, the base of the scarab depicts a seated Amun with a figure in an attitude of supplication standing before him, and *Imn* inscribed between them.<sup>25</sup> It is difficult to determine the amount of material the Edwards Department received from its official sponsorship because Petrie also was granted Tausret foundation deposit objects for his financial support (discussed further below), and undoubtedly allocated a share to the department's Egyptian collection -- his standard practice at the end of each excavation season.<sup>26</sup>

The second largest set of excavated Tausret material is housed in the Manchester Museum which, in 1896, accepted 306 faience model plaques, scarabs and rings,<sup>27</sup> a minimum of 120 strung faience beads,<sup>28</sup> plant leaves from deposit 7,<sup>29</sup> and at least 24 model copper tools and an oxhide ingot.<sup>30</sup> One ring is a type that Petrie did not illustrate in *Six Temples*. Rather than Tausret's prenomen or nomen, the bezel is inscribed with two lizards (representing *šꜥ.wy*, or "many").<sup>31</sup> Additionally, two right ox forelegs are stylistically similar to others from Siptah's, rather than Tausret's, temple.<sup>32</sup>

Four other museums -- two British and two American -- were awarded small amounts of Tausret material in 1896. Today, the Ashmolean Museum has one faience scarab and 10 faience model food offering plaques.<sup>33</sup> The Fitzwilliam Museum owns one pottery bowl and one faience scarab that likely derive from Petrie's excavations of the Tausret temple.<sup>34</sup> The University of Pennsylvania Museum received 24 faience offering plaques, eight Tausret name plaques and three scarabs,<sup>35</sup> in addition to two pottery offering bowls.<sup>36</sup> Finally, the Oriental Institute Museum, Chicago accepted nine faience offering plaques, four Tausret name plaques and one faience ring,<sup>37</sup> along with five copper tools and a copper oxide ingot,<sup>38</sup> and one pear-shaped quartz

amulet.<sup>39</sup> The ring is inscribed with Siptah's cartouche.<sup>40</sup>

While museum sponsorship partially financed Petrie's 1895-96 Theban excavations, Petrie and his two long-time wealthy benefactors, Jesse Haworth and Martyn Kennard, supplied the core funding. All three men received a share of the excavated finds in exchange for their support.<sup>41</sup> Petrie recorded the (projected) allocation of Tausret's foundation deposit material in his 1895-96 field notebook: Petrie, 128 objects from deposits 3, 4 and 5; Kennard, 140 artifacts from deposits 2, 6 and 8; and Haworth, 145 items from deposits 1 and 7.<sup>42</sup> Additionally, both Petrie and Kennard were to be granted 10 "Tausret stones", presumably quartzite blocks bearing her dual cartouches. In addition to donating some of his own Tausret material to the Edwards Department in 1896, Petrie also likely retained pieces for his own collection, which he sold in its entirety to the College in 1913.<sup>43</sup> The bulk of Kennard's Egyptian collection, including an unknown quantity of Tausret material, was sold at auction in 1912<sup>44</sup> and its present location(s) is unknown. Although both Kennard and Haworth were wealthy businessmen with a keen interest in Egyptian antiquities, unlike Kennard, Haworth was not an avid collector and gave most of his Tausret objects immediately to the Manchester Museum in 1896.<sup>45</sup> He bequeathed the small remainder of his Tausret collection to the Manchester Museum. Haworth died in 1920, and his widow later donated a Tausret faience name plaque and scarab in 1923, and a few faience beads in 1936.<sup>46</sup>

Although not mentioned in Petrie's Tausret temple field notebook, another possible recipient of Tausret foundation deposit material was Petrie's long-time patron, Lord William Tyssen-Amherst.<sup>47</sup> The Lord Amherst collection was sold through a Sotheby's auction in 1921.<sup>48</sup> Representatives for the Metropolitan Museum of Art purchased several items from the Tausret temple in the sale, including one quartzite block with Tausret's cartouches in association with the titles *nb h<sup>c</sup>w* and *nb t.wy*, two faience name plaques and nine faience offering plaques depicting trussed ducks, oxen, ox heads and forelegs, a lotus and a head of lettuce or fig.<sup>49</sup>

During or shortly after the 1895-96 Theban excavation season, Petrie may have given, sold or exchanged some of the Tausret foundation deposit scarabs and plaques (presumably) from his own set to several friends, colleagues and former students, many of whom also were devoted collectors of Egyptian antiquities. It is also possible that, like Lord Tyssen-Amherst, some of these men received Tausret artifacts in return for their financial support without being named as beneficiaries.<sup>50</sup> At least five men possessed Tausret material



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around this time: F. G. Hilton Price, Henry Wallis, John Ward, George Fraser and Percy Newberry. Hilton Price was a wealthy banker and antiquarian who served as treasurer of the Egyptian Research Account at the time of the Tausret temple excavations.<sup>51</sup> He owned a set of 22 faience foundation deposit objects from the Tausret temple, including 16 offering plaques, two scarabs and two name plaques, which he published in the first of a two-volume catalogue of his Egyptian collection in 1897.<sup>52</sup> The current locations of the Hilton Price plaques are unknown, as they were sold at a Sotheby's auction in 1911.<sup>53</sup> In 1902, British artist and traveler John Ward published two Tausret faience name plaques in his own scarab catalogue.<sup>54</sup> American entrepreneur J. Pierpont Morgan purchased the Ward collection -- including the two plaques -- for the Metropolitan Museum of Art in 1905.<sup>55</sup> Henry Wallis was a British artist and writer, who, like Petrie, partially funded his annual trips to Egypt by purchasing antiquities, which he sold to museums and collectors. Wallis was also a long-time friend of Petrie's, and visited him on site during the winter of 1895-96, where he painted a scene of the Ramesseum excavations.<sup>56</sup> The number of Tausret foundation deposit objects originally in the Wallis Egyptian collection, dispersed after his death in 1916, is unknown.<sup>57</sup> Currently, British scholar and author Glenn Janes owns four faience plaques from the ex-Wallis collection that he purchased from a London dealer in 2007. This set consists of a model ox or calf head, a fish inscribed with Tausret's cartouche, a single trussed duck and three ducks bound together. According to Janes, the dealer had three other plaques for sale, of which at least one (a single duck) likely also came from the Tausret foundation deposits.<sup>58</sup> George Fraser was a British civil engineer who, as a young man in 1889, assisted Petrie in the Fayum.<sup>59</sup> Fraser also owned a large collection of scarabs that he published in a catalogue in 1900. One scarab with Tausret's prenomen appeared in this volume.<sup>60</sup> German Egyptologist Friedrich Wilhelm von Bissing acquired the Fraser collection around 1905, which the Antikenmuseum und Sammlung Ludwig in Basel, Switzerland purchased, in turn, at an auction in Stuttgart in 1954.<sup>61</sup> Tausret's nomen appears on another scarab in the ex-Fraser, ex-von Bissing collection, now in the Basel museum.<sup>62</sup> Finally, British Egyptologist Percy Newberry, another of Petrie's former students, worked in close proximity to Petrie in the winter of 1895-96, cataloguing tombs in the Theban necropolis.<sup>63</sup> Newberry included two Tausret scarabs -- current locations unknown -- from his collection in his 1905 historical survey of Egyptian scarabs and cylinder seals.<sup>64</sup>

Petrie also ostensibly gave away pottery from the Tausret temple

excavations to at least one individual. Today, the Oriental Institute Museum houses several pot sherds from the ex-Schweinfurth collection, which Henry Breasted acquired for the museum from the German Egyptologist Ludwig Keimer in 1926.<sup>65</sup> German botanist and explorer Georg Schweinfurth was an acquaintance of Petrie's who visited him in 1888 while the latter was working at Hawara.<sup>66</sup> Since Schweinfurth had an interest in ceramics, it is likely Petrie later gave him the pottery jars and bowls from the Tausret foundation deposits now in the Oriental Institute Museum.

### CURRENT LOCATIONS OF THE ARTIFACTS: OBJECTS PLUNDERED FROM DEPOSITS

In addition to the Tausret foundation deposit material bestowed to museums and select individuals in 1896, a small quantity of artifacts from the temple arrived in European and American museums through more indirect means, undoubtedly originating from the eight pits robbed by Petrie's workmen. Luxor dealers sold these ransacked artifacts to various travelers, collectors and other archaeologists in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Some of the Tausret material later wound up in Cairo, where dealers sold it to collectors in the early-mid 20<sup>th</sup> century. The faience plaques and scarabs and, to a lesser extent, the stone blocks bearing Tausret's cartouches apparently were the most desired objects. American archaeologist George Reisner purchased the largest quantity of Tausret foundation deposit material in Luxor in 1899. Reisner bought 124 faience objects while working for the Hearst Egyptian Expedition, to fill in gaps in the chronological sequence represented by Mrs. Hearst's sponsored excavations. Presently, the Tausret material is housed in the Phoebe A. Hearst Museum of Anthropology. Reisner retained the pieces in Egypt until 1902, photographing them four times while excavating at Deir el-Ballas and Naga ed-Deir and documenting the date and location of the acquisition, along with the name of the dealer -- Abd-el-Megid -- in his photograph register.<sup>67</sup> One photograph is shown here in Figure 3-1.

Identified by the late Cathleen Keller in 2005, the set of Tausret foundation deposit objects in the Hearst Museum includes one ring bezel, 12 Tausret name plaques, 16 scarabs and 95 amuletic plaques of animal and plant offerings.<sup>68</sup> Interestingly, several objects differ from others of Tausret's in *Six Temples*: one falcon head plaque, one model *swrt* bead and six scarabs inscribed with mottos, emblems and images of deities, rather than Tausret's cartouches.<sup>69</sup> The broken ring bezel also resembles an example from Siptah's



**Figure 3-1: Reisner's purchased set of Tausret foundation deposit objects (Reisner negative B9870, photograph courtesy of the Phoebe A. Hearst Museum of Anthropology)**

temple.<sup>70</sup> Three straight, right ox forelegs vary from those Petrie attributed to Tausret's temple, and instead look like others from Siptah's temple.<sup>71</sup> One left-facing calf or ox head is less rounded than other published examples from Tausret's temple, the flatter style more closely resembling others belonging to Siptah.<sup>72</sup>

Several other collectors purchased small quantities of Tausret foundation deposit plaques shortly after Petrie's Theban excavations ended. British officer William Myers was an enthusiastic collector of Egyptian antiquities, particularly small decorative faience objects. Major Myers made his final two trips to Egypt March-April 1896 and December 1896-March 1897. It is during one of these two visits that he undoubtedly purchased the Tausret material.<sup>73</sup> The Eton College Myers Museum received five Tausret name plaques and 11 model offering plaques as part of Myers' bequest upon his untimely death in 1899.<sup>74</sup> American businessman Edward Ayer was a principal founder and first president of the Columbian (now Field) Museum, Chicago from 1893-98,

and acquired numerous Egyptian antiquities for the museum in 1896 and 1898.<sup>75</sup> In 1896 Ayer bought three Tausret name plaques for the museum's Egyptian collection.<sup>76</sup> Robert Johnston Moss, a purchasing agent for Wallis Budge, obtained two quartzite foundation deposit blocks inscribed with Tausret's cartouches in 1898 for the British Museum.<sup>77</sup> The Reverend George Denis Nash formed his own large collection of Egyptian antiquities around the turn of the 20<sup>th</sup> century. He passed away in 1943 and, after the death of his widow, his Egyptian collection was sold at auctions through Spink & Son in 1959 and 1960.<sup>78</sup> In 1960 the British Museum purchased a Tausret scarab inscribed with her nomen that may originate from her temple.<sup>79</sup> The Reverend Chauncy Murch was an American missionary, collector and dealer of Egyptian Antiquities who lived in Luxor in the 1880's and 1890's. During the latter decade, Murch acquired five foundation deposit plaques that likely derive from the plundered deposits of the Tausret temple. The Metropolitan Museum of Art purchased his collection from the Murch family in 1910.<sup>80</sup> Although none of the plaques now in the museum are inscribed, stylistically they are identical to others Petrie excavated from the Tausret temple.<sup>81</sup>

Cairo dealers sold some of the Tausret foundation deposit material to museum representatives and private collectors in the early decades of the 20<sup>th</sup> century. The Metropolitan Museum of Art acquired two stone blocks with Tausret's cartouches during this era. Edward Harkness, an American philanthropist and major benefactor to the museum, donated a limestone block in 1928.<sup>82</sup> The block had been purchased originally in Cairo from Nicolas Tano, a Greek art/antiquities dealer who died in 1924.<sup>83</sup> The second Cairo acquisition, another limestone block, was financed through the Rogers Fund and accessioned in 1932.<sup>84</sup> Ralph Blanchard was an American antiquities broker who lived and worked in Cairo between 1910 and 1936.<sup>85</sup> Blanchard's scarab collection, which may have included examples from the Tausret Temple, was dispersed after his death in 1936. Syrian/Lebanese collector Fouad Matouk acquired part of the ex-Blanchard collection in 1956. After Matouk's own death in 1978, his son sold his father's vast collection of scarabs, seals and amulets to the Biblisches Institut der Universität Freiburg in Switzerland.<sup>86</sup> At present, the Freiburg museum houses at least 13 objects that likely originate from the Tausret foundation deposits because they share stylistic similarities with other Tausret material published in *Six Temples*: three name plaques and five scarabs with Tausret's nomen and/or prenomen, and five animal offering plaques.<sup>87</sup> One cartouche-shaped plaque with Tausret's prenomen and nomen on the obverse and reverse is unlike any

published example from her temple.<sup>88</sup> Georges Michaelides, a Greek collector, also acquired objects from the ex-Blanchard collection at an unknown time. Part of the Michaelides Egyptian collection wound up in public collections on the American West Coast after two Sotheby's auctions in 1975 and 1976.<sup>89</sup> Five faience model food offering plaques and 18 name plaques with Tausret's cartouches, presumably acquired at one or both auctions, were donated to the Los Angeles County Museum of Art in 1980.<sup>90</sup>

## CONCLUSION

As demonstrated in this chapter, there are some inconsistencies between Petrie's excavated finds and the material he provided in *Six Temples*. For example, although he recorded 20 stone blocks with Tausret's cartouches in his unpublished field notebook (now in the Petrie Museum), he published only five examples. An examination of the provenanced scarabs and rings in the Petrie, Manchester and Oriental Institute Museums showed that Petrie did not describe everything from the excavation in his final publication. There are also some discrepancies between the quantities of excavated finds in museum collections and his published totals. For instance, while Petrie listed eight uninscribed faience ox haunch plaques (illustrated in *Six Temples*, Pl. XVI, no. 13), there are 31 examples in the Petrie and Manchester Museums. Additionally, he recorded two copper ingots, seven hoes and six axes (in *Six Temples*, Pl. XVI, nos. 23, 28, 29, 30, 31, respectively); however, there are three ingots, 22 hoes and eight axes in the Petrie, Manchester, Cairo and Oriental Institute Museums, combined. A wooden jar lid now in the Petrie Museum also was left out of the final publication. Unprovenanced faience objects in the Hearst and Freiburg museums – including the model *swrt* bead, the falcon head plaque, and the cartouche-shaped name plaque -- may derive from the Tausret temple, even though they differ typologically from Petrie's published examples. These museum collections also contain scarabs and rings inscribed with mottos, emblems and deities; i.e., categories of inscriptions not specifically illustrated. Without inscriptions naming Tausret, it is difficult to verify the origins of all the unprovenanced faience plaques and jewelry. Even when stylistically similar, it is still possible that some of these scarabs and plaques inscribed with Tausret's cartouches do not originate from her temple, because similar examples are known (albeit in small quantities) from other sites. Examples include UC 12842, a scarab with Tausret's nomen from the

town of Gurob,<sup>91</sup> and UC 35439, an oval plaque with her prenomen from the Hathor Temple at Serabit el-Khadim in the Sinai.<sup>92</sup>

All together 1,302 artifacts in museums and private collections are tentatively sourced from Petrie's 1895-96 excavation of the Tausret temple. This total, including both provenanced and unprovenanced objects, is supplied in Table 3-1. The discrepancy between the provenanced material that Petrie published and what actually was located is explained partly by the unknown quantities of foundation deposit objects Martyn Kennard and Henry Wallis received, in addition to 88 unidentified items now in the Egyptian Museum, Cairo that had to be excluded from the list. Petrie also likely gave away, sold or exchanged more faience plaques and scarabs, whose present locations are unknown. Potential additions to the current inventory also include not only artifacts pillaged by Petrie's workmen, but Tausret plaques and scarabs that have been misidentified as Ramesses II's because of similarities in the writing of her nomen and his prenomen. Given all these considerations, therefore, it is quite likely that further objects from the Tausret temple deposits are housed in museums<sup>93</sup> and private collections, still awaiting classification.

## NOTES

- 1 W.M.F. Petrie, *Six Temples at Thebes* (London: B. Quaritch, 1897), 13-16, 29 and Plates XVI (nos. 1-40), XVII (nos. 1-10), XIX (nos. 1-4) and XXVI (lower right). As observed by James Weinstein, "Foundation Deposits in Ancient Egypt" (Ph.D. thesis, University of Pennsylvania, 1973), 269, note 120, Petrie indicated nine foundation deposit pits on the temple plan but only discussed eight. Petrie also later cited nine foundation deposit pits in *A History of Egypt. Vol. III. From the XIXth to the XXXth Dynasties* (London: Methuen & Co., 1905), 128.
- 2 See Richard H. Wilkinson, "The Tausret Temple Project: 2004 and 2005 Seasons," *The Ostrakon* 16:2 (2005): 9, Figures 6 and 7; and Richard H. Wilkinson, "Tausret Temple Project: 2006 Season," *The Ostrakon* 17:2 (2006): 9, 10 and Figures 4.
- 3 Petrie, *Six Temples*, 2 and 14.
- 4 Wilkinson, "Tausret Temple Project, 2004 and 2005 Season," 9 and Figure 5; Richard H. Wilkinson, "Tausret Temple Project: 2007 Season," *The Ostrakon* 18:1 (2007): 4-5, and Figures 3, 4; Richard H. Wilkinson, "Tausret Temple Project: 2008 Season," *The Ostrakon* 19:1 (2008): 7; and Richard H. Wilkinson, "Tausret Temple Project: 2009 Season," *The Ostrakon* 20 (2009): 5 and Figure 3.

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- <sup>5</sup> I am greatly indebted to a number of individuals who provided invaluable assistance in locating this material: Joan Knudsen (the Phoebe A. Hearst Museum of Anthropology), Carl Graves and Martin Bommas (the University of Birmingham Institute of Archaeology and Antiquity Museum), Sally-Ann Ashton (the Fitzwilliam Museum), Jamie Kelly (the Field Museum, Chicago), Susan Allison (the Oriental Institute Museum, Chicago), Nancy Thomas (the Los Angeles County Museum of Art), Karen Exell (The Manchester Museum, University of Manchester), Catharine Roehrig and Nicholas Reeves (the Metropolitan Museum of Art, New York), Helen Hovey (the Ashmolean Museum of Art and Archaeology, Oxford), Stephen Quirke (the Petrie Museum of Egyptian Archaeology), Chrisso Boulis and Jennifer House Wegner (the University of Pennsylvania Museum of Archaeology and Anthropology), and Glenn Janes (private collection).
- <sup>6</sup> Petrie also listed the combined totals of scarabs, name plaques, offering plaques, rings and copper model tools in his *History of Egypt*, 128. In this later publication, however, he calculated 1214 offering plaques, while in his earlier report there were 1320 plaques. There are similar discrepancies in his published scarab totals. In *Scarabs and Cylinders with Names* (London: British School of Archaeology in Egypt, 1917), 38, Petrie recorded 551 scarabs and name plaques from the Tausret temple foundation deposits; however, this amount also apparently included 39 animal offering plaques and 27 rings inscribed with Tausret's cartouches.
- <sup>7</sup> There are two variations of the plaque illustrated in *Six Temples*, Pl. XVI, no. 11, which Petrie did not distinguish. In addition to the rounded form of ox head illustrated here there is a flat version, with the anatomical details rendered with incised lines.
- <sup>8</sup> Suggested by Weinstein, "Foundation Deposits," 136 and 137, Figure 12.
- <sup>9</sup> Petrie, in *Six Temples*, 14, identified this model plaque as a flower. For alternate suggestions see William Hayes, *The Scepter of Egypt, Vol. 2, The Hyksos Period and the New Kingdom, 1675-1080 B.C.* (New York: Metropolitan Museum of Art, 1959), 358, a "head of romaine lettuce", and Weinstein, "Foundation Deposits," 136 and 137, Figure 11, either a head of lettuce or a fig.
- <sup>10</sup> Petrie did not provide any examples of the inscriptions other than those that named Tausret.
- <sup>11</sup> Four Tausret plaques from Petrie's excavations and now in the University of Pennsylvania Museum of Anthropology and Archaeology were analyzed in 1993 to determine chemical composition, demonstrating a variety of colorants used in the manufacturing process. The results are published in Patrick McGovern, Stuart Fleming and Charles Swan, "The Late Bronze Egyptian Garrison at Beth Shan: Glass and Faience

- Production and Importation in the Late New Kingdom," *Bulletin of the American Schools of Oriental Research* 290/291 (May-August, 1993): 16, Figures a-d, and 17, Figure 8a-d.
- <sup>12</sup> A copper chisel underwent PIXE analysis in 1979 to determine elemental composition. These results appeared in Stuart Fleming and Joan Crowfoot-Payne, "PIXE analyses of Some Egyptian Bronzes of the Late Period," *MASCA Journal* 1:2 (1979): 46-7.
- <sup>13</sup> Margaret Drower, *Flinders Petrie. A Life in Archaeology* (Madison Wisconsin: The University of Washington Press, 1995), 201, 202.
- <sup>14</sup> Drower, *A Life in Archaeology*, 176-177, and 218.
- <sup>15</sup> CG 16004 - CG 16121. The exact amount of each object type is unknown; however, 29 artifacts from the Tausret temple are illustrated in Mohamed Saleh and Hourig Sourouzian, *The Egyptian Museum Cairo: Official Catalogue* (Mainz: Philipp von Zabern, 1987), cat. no. 224.
- <sup>16</sup> See W.M.F. Petrie, "Thebes, Six Temples," 1896, MSS, the Petrie Museum of Egyptian Archaeology, page 2 for the list of various museums that provided official sponsorship for the 1895-96 Theban excavations, including the Tausret temple. References to proposed Tausret foundation deposit material to be awarded to cities or specific museums are found on pages 7 (Philadelphia), 8 (Chicago) and 25 (the Fitzwilliam).
- <sup>17</sup> UC 12839-12840, UC 12843 - 12844, UC 29381- 29408, UC 29439, UC 61665, and UC 61683. For four faience Tausret name plaques formerly in Petrie's private collection and now in the Petrie Museum, see Petrie, *History of Egypt*, 129, Figure 53. Petrie also published one name plaque and three scarabs from the temple and (formerly) in the Edwards Department, University College London collection in *Scarabs and Cylinders*, 28, 38 and Pl. XLIV, nos. 19.7, 1-2, 5-6.
- <sup>18</sup> UC 29409a-b, and UC 73834 - 73836.
- <sup>19</sup> UC 29410 - 29419.
- <sup>20</sup> UC 29436 and UC 29437.
- <sup>21</sup> UC 29442.
- <sup>22</sup> UC 14377, also formerly in Petrie's collection and published in Petrie, *A History of Egypt*, 127, Figure 51.
- <sup>23</sup> UC 29440 and UC 29441. These two jars also may derive from Siptah's temple (Stephen Quirke, personal communication). Petrie published identical jars from both temples (compare Petrie, *Six Temples*, Pl. XVII, nos. 5 and 18.)
- <sup>24</sup> UC 29438. The wooden lid fragment did not appear in *Six Temples*.
- <sup>25</sup> UC 29439. For a similar example from Gurob see W.M.F. Petrie, *Kahun, Gurob and Hawara* (London: K. Paul, Trench, Trübner and Co., 1890), Pl. 23, no. 110.
- <sup>26</sup> Drower, *A Life in Archaeology*, 330. Although in "Thebes, Six Temples,"



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1896, MSS, 2, Petrie proposed that a few items be given to the Edwards Department at University College – including scarabs and shabtis – the university apparently received a large share of Tausret foundation deposit material.

- <sup>27</sup> Man. 1555 – 1574, Man. 1577 – 1581, Man. 1585 – 1592, and Man. 1594.
- <sup>28</sup> Man. 5935 – 5937.
- <sup>29</sup> Man. 5938.
- <sup>30</sup> Man. 1595 – 1604, and Man. 4041 – 4047. Four additional model copper tools in the museum include a knife (Man. 5939), an axe (Man. 5940), and two mortise chisels (Man. 5941a-b), which derive either from Tausret's or Siptah's temples (compare Petrie, *Six Temples*, Pls. XVI and XVIII, nos. 33 and 57, nos. 31 and 53, and nos. 35 and 51, respectively).
- <sup>31</sup> Man. 1592, probably the type illustrated in Petrie, *Six Temples*, Pl. XVI, no. 20.
- <sup>32</sup> Man. 1591. Compare this example with Man. 1612, straight right forelegs from Siptah's temple now in the Manchester Museum. This style of plaque is illustrated in Petrie, *Six Temples*, Pl. XVIII, no. 36.
- <sup>33</sup> AN 1896-1908 E.3379 – E.3382, and AN 1896-1908 E.3384 - E.3385.
- <sup>34</sup> The Fitzwilliam Museum catalogue number for the bowl is unknown, but records in the Petrie Museum identify it as the type published in Petrie, *Six Temples*, Pl. XVI, no. 10, according to Stephen Quirke, personal communication. The scarab catalogue number is E.SC.263a. Although no provenance is provided in the Fitzwilliam Museum records, the scarab is the same type and brilliant blue-green color as others from the Tausret temple now in the Petrie Museum (compare UC 12839), and bears Tausret's prenomen. Furthermore, according to Petrie, the Fitzwilliam Museum was to receive two scarabs from the Tausret excavations, as recorded in "Thebes, Six Temples," 1896, MSS, 25.
- <sup>35</sup> U. Penn. E.2118 – E. 2127.
- <sup>36</sup> U. Penn. E.2128.
- <sup>37</sup> OIM E.1177, E.1194 – E.1202, and E.1204 – E.1207. For an account of the arrival of the material from Petrie's 1895-96 Theban excavations in the (then named) Haskell Oriental Museum, see Henry Breasted, "Professor Petrie's Research Account," *The Biblical World*. 9:2 (1897): 138-142 and Figures 1-4. Tausret's foundation deposits likely are illustrated in Figure 1, along with the other received material, although their small-scale makes them virtually impossible to see. Siptah's foundation deposit material is illustrated in Figures 3 and 4.
- <sup>38</sup> OIM E.1162, and E.1164 – E.1168.
- <sup>39</sup> OIM E.1169.
- <sup>40</sup> OIM E.1177, again, probably the type illustrated in Petrie, *Six Temples*, Pl. XVI, no. 30.

- <sup>41</sup> Petrie, *Six Temples*, 1, 2; and Drower, *A Life in Archaeology*, 142.
- <sup>42</sup> Petrie, "Thebes, Six Temples," 1896, MSS, 9. Because on page 10 of his field journal Petrie also wrote, "Six Temples, Kennard 196," Martyn Kennard may have received an additional 56 foundation deposit objects.
- <sup>43</sup> Drower, *A Life in Archaeology*, 332.
- <sup>44</sup> Sotheby, Wilkinson and Hodge, *Catalogue of the Important Collection of Egyptian Antiquities Formed by the late H. Martyn Kennard, Which Will Be Sold at Auction by Messrs. Sotheby, Wilkinson & Hodge on Tuesday the 16<sup>th</sup> of July 1912 and Three Following Days* (London: Sotheby, Wilkinson and Hodge, 1912), lots 313, 314, 315 and 316.
- <sup>45</sup> It is likely that some of the Tausret foundation deposit material identified in the museum accession records as "Haworth donation, 1895-96" (see above, notes 27-30) were not awarded to the museum for their sponsorship, but instead derive from Haworth's set personally given to the museum.
- <sup>46</sup> Man. 6424 - 6425 and Man. 9442, respectively.
- <sup>47</sup> Warren Dawson and Eric Uphill, 3<sup>rd</sup> rev. edition by Morris L. Bierbrier, *Who was Who in Egyptology* (London: Egypt Exploration Society, 1995), 14. The Metropolitan Museum of Art accession records attribute the Tausret material to Petrie's 1896 excavations; i.e., acquired by Petrie in the distribution of finds and awarded to Lord Amherst through subscription.
- <sup>48</sup> Sotheby, Wilkinson and Hodge, *Catalogue of the Amherst Collection of Egyptian and Oriental Antiquities, Which Will Be Sold at Auction by Messrs. Sotheby, Wilkinson & Hodge on June 13, 1921 and Four Following Days* (London: Sotheby, Wilkinson and Hodge, 1912), lot 888.
- <sup>49</sup> MMA 21.2.89 - 21.2.94, MMA 21.2.98 - 21.2.99, and MMA 21.2.104 - 21.2.107. Eight additional faience foundation deposit plaques from the ex-Amherst Collection are attributed to Tausret in the Metropolitan Museum of Art accession records: MMA 21.2.95 - 21.2.97, 21.2.100 - 21.2.103, and MMA 21.2.108. However, based on stylistic criteria these plaques more likely derive from a different site and date to the late 18<sup>th</sup> or early 19<sup>th</sup> Dynasty. Compare the rather naturalistic anatomical rendering of faience ox head MMA 21.2.97 and UC 2140 from Tell el-Amarna, in W.M.F. Petrie, *Tell el Amarna* (Warminster, England: Aris & Phillips, LTD., 1894), Pl. XVII, no. 308. Since Howard Carter assisted Petrie at Amarna in 1892 on behalf of Lord Amherst, it is likely that the latter acquired some of the plaques now in the museum from Amarna at this time. Additionally, faience ox foreleg MMA 21.2.108 has a V-shaped impression at the top of the joint, similar to examples from the Ramesseum, as illustrated in James Quibell, *The Ramesseum and The Tomb of Ptah-Hetep* (London : B. Quaritch, 1898), 6 and Pl. XV, no. 9. Compare MMA 21.2.108 with plaques Man. 1847 and AN 1896-1908 E.3368 from the Ramesseum, now in the Manchester

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and Ashmolean Museums, respectively.

- <sup>50</sup> In W.M.F. Petrie, "Thebes, Six Temples," 1896, MSS 108, the Petrie Museum of Egyptian Archaeology, he recorded 137 faience plaques and scarabs from the eight excavated Tausret foundation deposit pits as "gone from Tausret" on page 16. It is unclear for whom these plaques were intended, but at the bottom of the page Petrie appears to have written "given to (Émile) Brugsch, 12."
- <sup>51</sup> Dawson and Uphill, *Who was Who*, 343; and Drower, *A Life in Archaeology*, 211.
- <sup>52</sup> F. G. Hilton Price, *A Catalogue of the Egyptian Antiquities in the Possession of F. G. Hilton Price, Dir.S.A. With Illustrations* (London: B. Quaritch, 1897), 456[3833]. It is unclear exactly how Hilton Price acquired his Tausret plaques. In this entry he wrote that the Tausret objects were "found by Prof. Flinders Petrie, near the Ramesseum, Thebes," while for other items in his catalogue he specifically stated that Petrie gave them to him (for example, the canopic jar cited on page 456[3835]).
- <sup>53</sup> Sotheby, Wilkinson and Hodge, *Catalogue of the Important and Extensive Collection of Egyptian Antiquities of Frederick George Hilton Price, Which Will Be Sold at Auction by Messrs. Sotheby, Wilkinson & Hodge on July 12 and Three Following Days* (London: Sotheby, Wilkinson and Hodge, 1911), lot 627.
- <sup>54</sup> John Ward, *The Sacred Beetle: A Popular Treatise on Egyptian Scarabs in Art and History Five Hundred Examples of Scarabs and Cylinders* (London: John Murray, 1902), 82 and Pl. VI, nos. 28 and 29. In his preface on page x Ward acknowledged friends who assisted him in acquiring scarabs. Although he did not name Petrie specifically, in his discussion of the Tausret plaques on page 82, Ward noted that they came from the "foundation deposits of her temple at Thebes, discovered by Dr. Petrie."
- <sup>55</sup> The catalogue number of both plaques is MMA 05.3.389.
- <sup>56</sup> Drower, *A Life in Archaeology*, 219.
- <sup>57</sup> Dawson and Uphill, *Who was Who*, 431.
- <sup>58</sup> Glenn Janes, personal communication.
- <sup>59</sup> Dawson and Uphill, *Who was Who*, 157; and Drower, *A Life in Archaeology*, 150, 151 and 154.
- <sup>60</sup> George Fraser, *A Catalogue of the Scarabs belonging to George Fraser* (London: B. Quaritch, 1900), 41, and Pl. XII, no. 330. He describes the scarab as "probably of Siptah of the XIXth Dynasty, but may belong to this period" (i.e., Dynasty XXI). However, the inscription is clearly Tausret's prenomen. For comparison, see Petrie, *Six Temples*, Pl. XVI, no. 5.
- <sup>61</sup> Friedrich von Bissing and Hans Wolfgang Mueller, 20. *Kunst-Auktion. 3. Teil, Skarabäen- Sammlung des Freiherrn von Bissing: Skarabäen und andere Siegel, Perlen mit Inschriften und ägyptische Siegelzylinder* (Stuttgart: Stuttgart kunstkabinett, 1954).

- <sup>62</sup> Eric Hornung and Elisabeth Staehelin, *Skarabäen und andere Siegelamulette aus Basler Sammlungen* (Mainz am Rhein: Philip von Zabern, 1976), 72 and 273, and Pl. 44, no. 408.
- <sup>63</sup> Dawson and Uphill, *Who was Who*, 310; and Drower, *A Life in Archaeology*, 219.
- <sup>64</sup> Percy Newberry, *Ancient Egyptian Scarabs. An Introduction to Egyptian Seals and Signet Rings* (London: A. Constable and Co., 1906), 183 and Pls. XXXVI, no. 10, and XXXVI, no. 13.
- <sup>65</sup> OIM E.13562 – E.13563 (one pot), E.13584, E.13586, E.13588-E.13589, E. 13593 and E.13624. According to the Petrie Museum accession records, one (broken) bowl now in the Oriental Institute is the same form as Petrie's *Six Temples*, Pl. XVII, no. 10 (Stephen Quirke, personal communication).
- <sup>66</sup> Dawson and Uphill, *Who was Who*, 381; and Drower, *A Life in Archaeology*, 137-138.
- <sup>67</sup> George Reisner and Arthur Mace, "Hearst Expedition Old Series Photograph Register," 1901-1906, MSS, the Phoebe A. Hearst Museum of Anthropology, negatives A1472, B9870, B9871 and B9878.
- <sup>68</sup> PAHMA 6-19967 – PAHMA 6-20092.
- <sup>69</sup> While most of the hieroglyphic signs on the scarabs are indistinct, a few are identifiable. Examples include *R*<sup>c</sup> (PAHMA 6-19969); *R*<sup>c</sup>, a reed leaf and a *M3<sup>c</sup>t* feather (PAHMA 6-19970); and *Imn*, *h<sub>3</sub>tp* and *ntr* signs (PAHMA 6-19978). On PAHMA 6-19973 *i<sup>c</sup>rt*, *M3<sup>c</sup>t* and *nb* together appear to form a cryptogram for *Imn*. For a parallel example from Gurob, see Petrie, *Kahun, Gurob and Hawara*, Pl. 23, no. 79; and from Western Thebes, see Quibell, *Ramesseum*, 20 and Pl. XXX, no. 18. PAHMA 6-19975 depicts a standing *R<sup>c</sup>-Hr-3<sub>h</sub>t.ty* and a uraeus. Similar examples are illustrated in W.M.F. Petrie, *Illahun, Kahun and Gurob 1889-90* (London: Nutt, 1891), Pl.23, nos. 70, 105 and 106. Finally, on PAHMA 6-19982 *Pth* stands in front of two altars. For an identical scarab, see Newberry, *Ancient Egyptian Scarabs*, 191 and Pl. XLI, no. 13.
- <sup>70</sup> The hieroglyphic signs on ring bezel PAHMA 6-20036 are vague, but appear somewhat similar to those on a ring published in Petrie, *Six Temples*, 16 and Pl. XVIII, no. 7 that read "established for all years."
- <sup>71</sup> PAHMA 6-19992, 6-19997 and 6-20004. For examples from Tausret's temple in the Manchester Museum, see note 32. In Figure 3-1, the three haunch plaques are in the fifth row down from the top, and the last three on the right.
- <sup>72</sup> Compare PAHMA 6-20050 with Man. 1611, one of Siptah's plaques now in the Manchester Museum, and the example illustrated in Petrie, *Six Temples*, Pl. XVIII, no. 38, with the more rounded plaques from Tausret's temple in Petrie, *Six Temples*, Pl. XVII, no. 12. In Figure 3-1, the ox head

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plaque is in the seventh row down from the top, sixth from the left.

- <sup>73</sup> Stephen Spurr, Nicholas Reeves and Stephen Quirke, *Egyptian Art at Eton College. Selections from the Myers Museum* (New York: The Metropolitan Museum of Art, 1999), 3. Myers acquired artifacts from various dealers in Egypt, primarily with the assistance of Émile Brugsch.
- <sup>74</sup> ECMM 1065- ECMM 1066, and ECMM 1071 – ECMM 1084. Some of the plaques are currently on extended loan to two other museums. Two trussed oxen plaques (ECMM 1076 and ECMM 1077) are in the University of Birmingham Institute of Archaeology and Antiquity Museum in England. While not verified, the 14 remaining plaques may be at the Johns Hopkins University Archaeological Museum in Baltimore.
- <sup>75</sup> Dawson and Uphill, *Who was Who*, 22.
- <sup>76</sup> FM 31146, FM 31147 and FM 31157.
- <sup>77</sup> Dawson and Uphill, *Who was Who*, 299. The museum catalogue numbers are BM 29951 and BM 29952, published in E.A. Wallis Budge, *A Guide to the Fourth, Fifth and Sixth Egyptian Rooms, and the Coptic Room* (London, Printed by order of the Trustees, 1922), 136, no. 7; Martin Bierbrier, *Hieroglyphic texts from Egyptian stelae, etc., in the British Museum, Part 12* (London: British Museum Press, 1993), Pls. 14-15; and Florence Doyen, *Le roman de la momie: les amours d'une princesse égyptienne: exposition à l'abbaye Saint-Gérard de Brogne du 3 mai au 31 octobre 1997* (Saint-Gérard : Abbaye Saint- Gérard de Brogne, 1997), 114, no. 50.
- <sup>78</sup> Dawson and Uphill, *Who was Who*, 306.
- <sup>79</sup> BM 66199.
- <sup>80</sup> Dawson and Uphill, *Who was Who*, 302.
- <sup>81</sup> MMA 10.30.1726 – MMA 10.30.1728. Compare with examples illustrated in Petrie, *Six Temples*, Pl. XVI, nos. 8, 12 and 19.
- <sup>82</sup> MMA 28.9.3.
- <sup>83</sup> Dawson and Uphill, *Who was Who*, 284.
- <sup>84</sup> MMA 32.2.44. Although the museum accession records give Qantir as the provenance, it more likely originates from Tausret's Theban temple. Both MMA 32.2.44 and MMA 28.9.3 are inscribed with the name of the temple from which they came: "The House of Millions of Years of the King of Upper and Lower Egypt, *Sjt-Rꜥ Mry(t) Imm* and *T-wsrt Spt-n-Mwt*, in the domain/estate of Amun." Because Tausret's temple is named "The House of Millions of Years on the West of Thebes", both blocks undoubtedly derive from this temple, as discussed by Weinstein, "Foundation Deposits," 243-244.
- <sup>85</sup> Dawson and Uphill, *Who was Who*, 50.
- <sup>86</sup> Dawson and Uphill, *Who was Who*, 280.
- <sup>87</sup> I have not yet identified the museum inventory numbers of the Tausret name plaques and scarabs; however, they are published in Fouad Matouk,

*Corpus du scarabée égyptien, vol. I: Les scarabées royaux* (Beirut: Liban, 1971), 115 and 218, nos. 709 – 716. Five unprovenanced meat offering plaques probably from the Tausret temple foundation deposits are ÄA 1983.714, ÄA 1983.2200, ÄA 1983.2267, ÄA 1983.2196 and ÄA 1983.2197. All five examples are published in Christian Herrmann, *Die Ägyptischen Amulette der Sammlungen BIBEL+ORIENT der Universität Freiburg Schweiz: Anthropomorphe Gestalten und Tier* (Fribourg: Academic Press, 2003), 137, 138, 148, cat. nos. 848, 777, 778, 753 and 754, and illustrated in Pls. CII, CIV and CXI. Two other calf or ox heads and five right ox haunches are similar to plaques from both Tausret and Siptah's temples: ÄA 1983.779, ÄA 1983.2186, ÄA 1983.2187, ÄA 1983.2188, ÄA 1983.2190, ÄA 1983.2202, ÄA 1983.2237, also published in Herrmann, *Ägyptischen Amulette*, 137, cat. nos. 755 and 756, and 139, cat. nos. 779, 780, 781, 782 and 783, with five examples illustrated in Pls. CII and CIV. Six faience ox haunch plaques with cartouches also may derive from the Tausret temple: ÄA 1983. 2175, ÄA 1983. 2178, ÄA 1983. 2185, ÄA 1983. 2177, ÄA 1983. 2176 and ÄA 1983. 2178a, in Herrmann, *Ägyptischen Amulette*, 139, cat. nos. 784 –789, and illustrated in Pls. CIV and CV. Although Hermann identified the cartouches as Ramesses II's prenomen, it is possible that Tausret's nomen was written instead. The writings of the two names are very similar, and are virtually difficult to distinguish when the hieroglyphs are indistinct, as they are on these small mold-made plaques.

<sup>88</sup> Matouk, *Corpus du scarabée*, 218, no. 712.

<sup>89</sup> Dawson and Uphill, *Who was Who*, 286. For the auctions, see Sotheby Parke Bernet, Inc. *Egyptian, Middle Eastern, Greek, Etruscan and Roman antiquities, also Islamic and Isnik Pottery and metalwork. Sold Monday 8<sup>th</sup> of December* (London: Sotheby Parke Bernet, 1975), lots 123-126; and Sotheby Parke Bernet, Inc. *Egyptian, Middle Eastern, Greek, Etruscan and Roman antiquities, Islamic Pottery, metalwork, and glass, Tibetan, Nepalese, Indian, South-east Asian art Oceanic, American Indian, and pre-Columbian art. Sold 23<sup>rd</sup> of February 23* (London: Sotheby Parke Bernet, 1976), lot 210.

<sup>90</sup> LACMA M.80.198.125, M.80.198.191 – M.80.198.194, M.80.198.198, M.80.198.199 – M.80.198.214 and M.80.198.216. LACMA M.80.202.309, a terracotta mold with Tausret's prenomen also may originate from her temple foundation deposits, although similar examples now in the Egyptian Museum, Cairo came from Qantir. For one of these latter examples with Tausret's nomen, see Roger Khawam, "Un ensemble de moules en terre cuite de la 19<sup>e</sup> dynastie," *Bulletin de l'Institut français d'archéologie orientale* 70 (1971): 136 and Pl. XXXII, no. 5.

<sup>91</sup> Petrie, *Kahun, Gurob and Hawara*, 36 and Pl. 23, no. 50.

<sup>92</sup> Although the faience name plaque is not published, for other faience objects-- including vases, menats, bracelets, and ring stands-- dedicated by

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Tausret, see W.M.F. Petrie, *Researches in Sinai* (London: J. Murray, 1906), 140, Figure 146, no. 13; 142, Figure 148, no. 14; 144, Figure 149, nos. 8, 9, 15, 16, 17; 145-146, Figure 151, no. 3; and 149.

- <sup>93</sup> After the completion of this article, Isabel Stünkell supplied the author with information regarding a faience tile bearing Tausret's cartouches now in the Ägyptisches Museum, Universität Bonn, inventory number BoS 552. See Silke Grallert and Isabel Stünkell, eds., *Ägyptisches Museum – Bonner Sammlung von Aegyptiaca* (Bonn: Ägyptisches Museum, 2004), 30, Cat. 10. The circumstances surrounding the museum's acquisition of the tile are, as yet, unknown to the present author.



## 4 : THE UAEE EXCAVATIONS

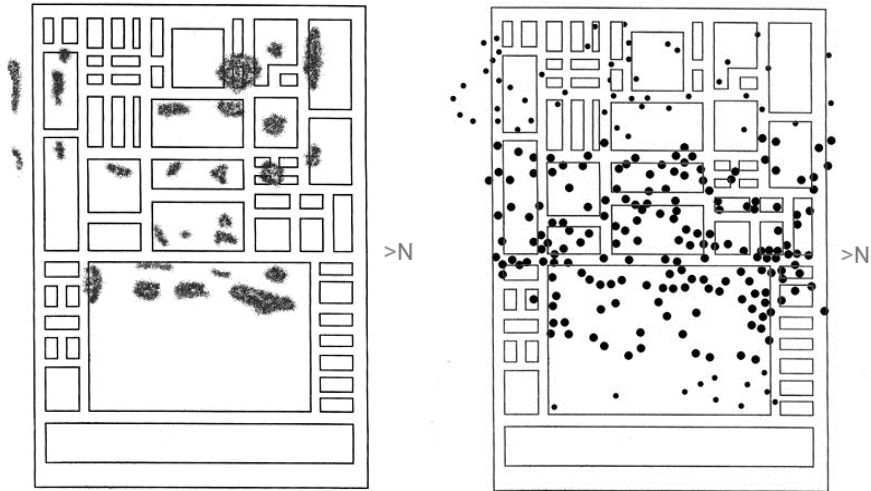
Richard H. Wilkinson

Beginning in 2004, Egypt's Supreme Council of Antiquities granted the University of Arizona Egyptian Expedition (UAEE) permission to examine the site of Tausret's temple and to carefully clean, record, and publish any remains that might exist of this monument. The site was chosen as a result of a study of historical data coupled with satellite imagery analysis which indicated that the temple remains may have been more extensive than had been previously suspected. With the first of what would be eight field seasons of excavation, from 2004 – 2011,<sup>1</sup> the UAEE set out to try to determine the extent of previous investigation of the site<sup>2</sup> (see also Chapter 2) and to recover the actual history and nature of the temple.

### EXCAVATION PREPARATION AND METHODOLOGY

Before excavation was initiated, the area of the concession was mapped (see Appendix 2) and a surface survey was conducted across the entire central area of the site – an area covering and extending some five meters in every direction beyond the discernible temple remains as they were indicated by the faint outlines of foundation trenches and mounds of debris. The survey revealed wide and dense distribution of both mud brick and pieces of worked stone showing clear chisel marks and smoothing. Distribution of both the mud brick (Figure 4-1a) and worked stone (Figure 4-1b) was found to follow distinct patterns and to be far from random. The surface mud brick remains were often concentrated in and around areas where the remains of brick walls were later found to be present, and worked stone pieces, although more numerous in certain areas, were distributed across most of the area - indicating that building may indeed have been widespread on the site. The surface survey also confirmed the presence of brick or stone concentrations in areas where satellite images seemed to indicate the remains of constructed features, even when these were not visible at ground level.





Figures 4-1a and 4-1b: Uncorrected plan (based on Petrie's publication of 1897) of the Tausret temple site showing the distribution of surface remains of mud brick masses (at left) and worked stone fragments (at right). Small circles represent 5-10 pieces of stone, large circles 11-20 pieces. Note that the eastern area of the temple site was scraped by heavy machinery in modern times which removed surface evidence in that area. North arrows align to local north.

After the surface survey was completed, we developed a system of designation for the foundation trenches cut for the temple walls and for the surface areas (the court/s and rooms) of the temple that would allow the optimum analysis of the distribution of artifacts and features found at the site.<sup>3</sup> Surface units were simply assigned numbers – S1 through S56 - as they were excavated, and divided into sub-units as necessary, but the network of foundation trenches needed more specific designators. The trenches are cut into the rocky conglomerate lying beneath the surface soil and run (local) east-west (named “A” trenches by us) and north-south (named “B” trenches by us). They vary in width and depth, but are on average about 1.5 meters wide and about 1.5 meters deep - though generally the trenches deepen toward the front (east) of the temple in preparation for larger walls and the pylon. Each trench was thus assigned a number TA1 through TA14 (the east-west trenches) and TB1 through TB19 (the north-south trenches) and divided

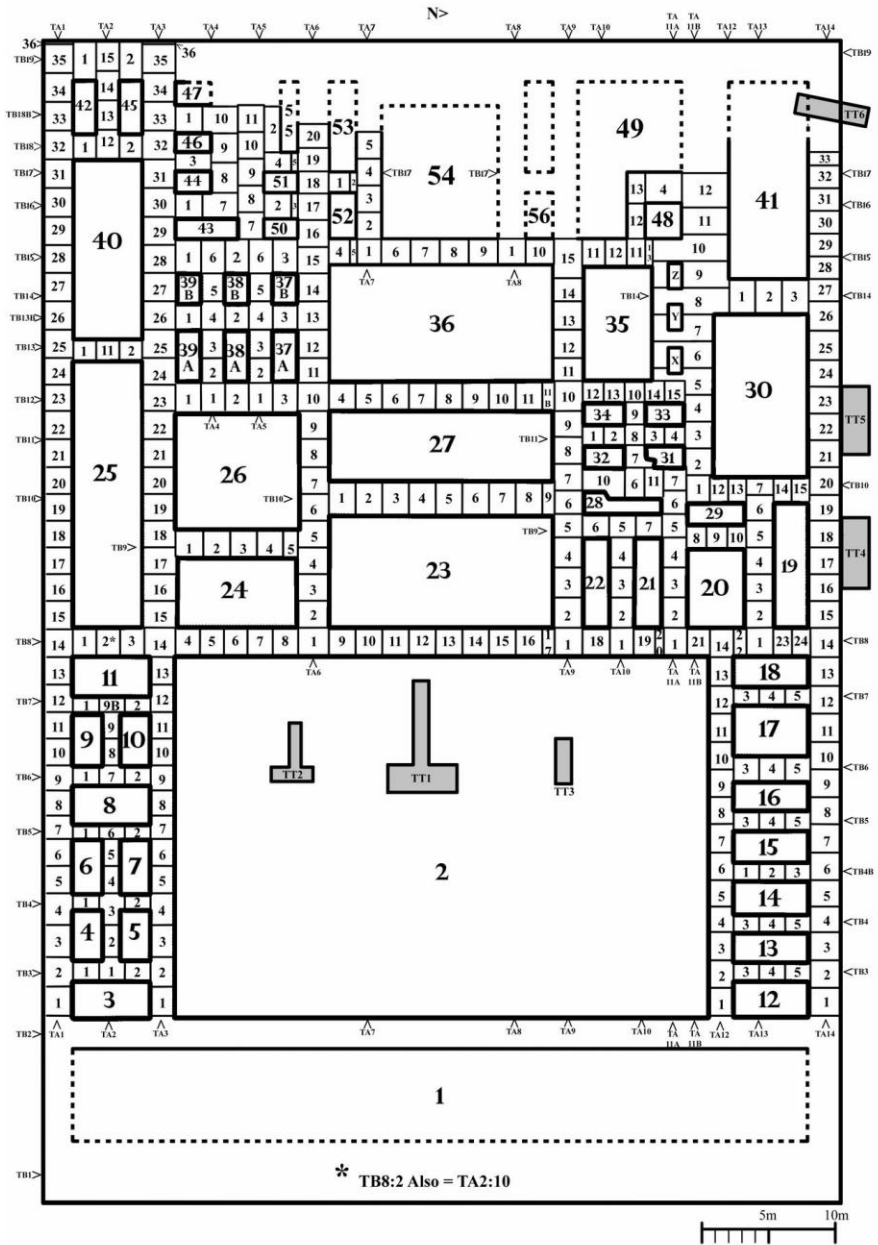


Figure 4-2: Corrected plan of the Temple of Tausret produced by the UAEE showing designation codes assigned to the various surface areas and foundation trenches. Right side of plan faces local north.

## The UAEE Excavations

into 2 meter units or further divided as necessary.<sup>4</sup> The designators of the various surface areas and trenches are shown in Figure 4-2.

Excavation was initiated in the south-east corner of the temple, as some of the foundation trenches in this area were only partially filled and had obviously been worked to some extent by Petrie's men. This allowed us to establish a comparative frame of reference for the observation and recording of previously worked and unworked areas as it quickly became apparent that the site had not, in fact, been examined to any great degree (see Chapter 3 and below).

At least one season of excavation was conducted by the UAEE annually between 2004 and 2011 (see Figure 4-3), and a great deal of the site was cleared in that time. Foundation trenches were cleared to the *gebel* bedrock in some cases, though only taken down to the New Kingdom level (as determined by the foundation sand stratum) in other areas where it was felt that the trenches needed only to be defined for the purposes of mapping and the foundation level investigated. Likewise some surface areas were cleared to bedrock, but others were excavated to specific levels or simply mapped once their sides were defined. This differential clearance was done systematically so that selected parts of all areas of the temple received full clearance. Completely and partially cleared areas are differentiated in our excavation logs and maps of the site (as seen in Figure 4-3).

Certain areas of the site were largely unprobed by us and could not even be successfully mapped. The modern road embankment - covering much of the west end of the temple core was left because attempts to excavate close to the roadway led to collapse of areas of the embankment slope. It also was not possible to date to clear the large courtyard and the area of the temple's pylon and approach - much of which lies under the area covered by modern houses. Where possible, test trenches were cut in these areas, however, and a selective remote sensing survey of some of the unexcavated areas was conducted in the summer of 2011 (see Chapter 10). In any event, given the tens of thousands of cubic meters of debris which we have already removed from the temple's foundation trenches and surface areas,<sup>5</sup> it is certain that completely clearing all areas of the site would take many more years of work and it is better, of course, that some areas of the site are left untouched for future investigators whose research tools may well have improvements over those available to us today.

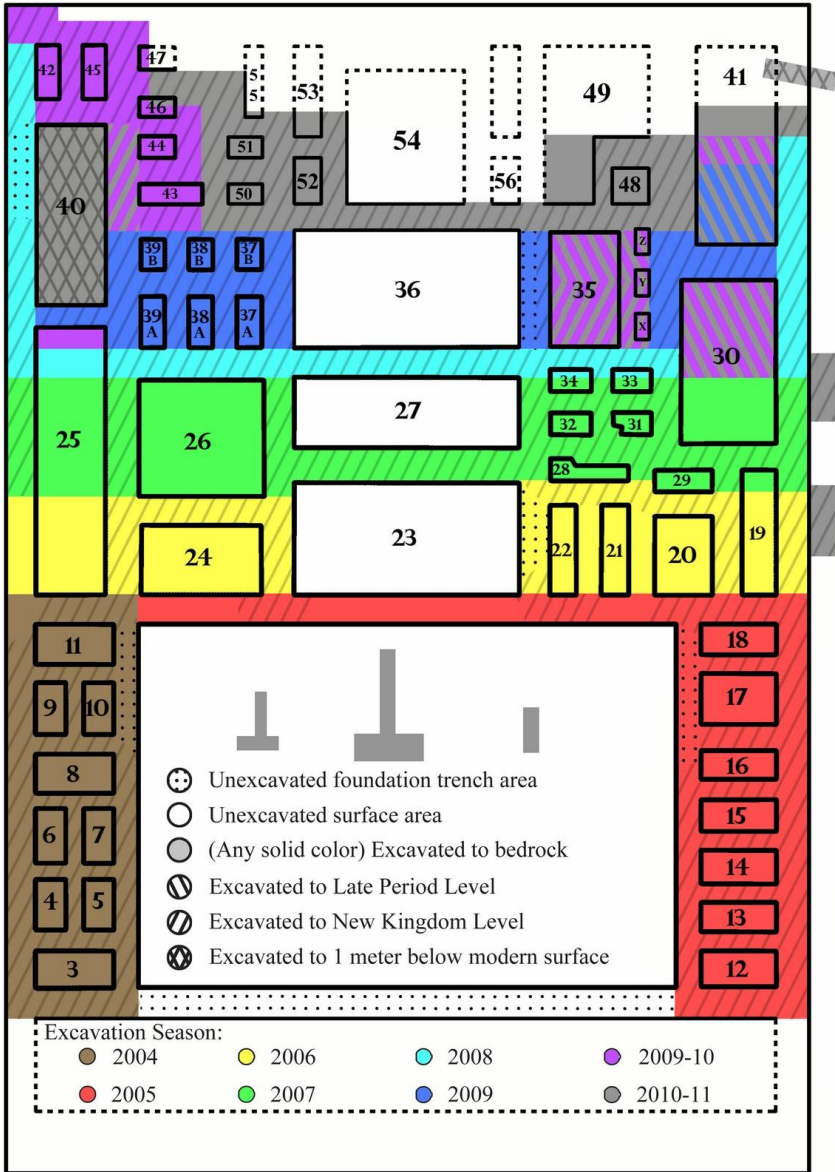


Figure 4-3: Normalized plan of the Temple of Tausret showing areas excavated by the UAEE color coded by season and also coded according to excavation depth. Right side of plan faces local north.

## THE UAEE EXCAVATION FINDINGS

### *SITE STRATIGRAPHY*

The stratigraphic profile encountered in many areas of the temple was remarkably clear and usually simple enough to interpret without difficulty. Most of the site is covered in a cumulative stratum (called by us Stratum 1) consisting mainly of rainwater- and wind-borne sand silt and dirt gradually built up since New Kingdom times, and with little to distinguish it other than occasional pockets of decayed and dissolved mud brick, and remaining mud bricks that had been churned upward in the course of earlier exploration of the site. This stratum extends from the present day surface to New Kingdom level at or just above the bedrock on the surface areas of the site and down to the foundation sand level in the foundation trenches. The stratum is churned in areas where probing or excavation was done in Petrie's time. On the western side of the site there are localized lenses within this stratum composed of limestone chips produced in the cutting of the intrusive Late Period tombs which were constructed on the temple's western edge (see Chapter 8). In areas probed by Petrie's men, the limestone chips are mixed with sand and mudbrick residue. In unprobed areas the lenses range from a few centimeters to two meters or more depending on their proximity to the respective tomb entrances.

In the temple's foundation trenches, the layer of clean desert sand (ISO 14688 medium with average Munsell value 10YR 6/3) placed there by the ancient Egyptians to receive the foundation blocks constitutes the only other stratum (Stratum 2), as this sand extends to the bedrock base of the trenches. In areas of the trenches probed by Petrie's men, strata 1 and 2 are sometimes mixed, though in most areas stratum 2 was found to be untouched. New Kingdom features and artifacts were, of course, commonly found at the interface of stratum 1 and 2, but also occurred throughout stratum 2 wherever we excavated this stratum.

The only instances of uncertainty regarding stratigraphic profile occurred during our excavation of some of the surface areas located in the NW quadrant of the site in which evidence of intrusive burials had been found. It was initially puzzling that on surface units such as S30 and S35, a surface of mud-gypsum *dekka* flooring lay beneath layers of clean sand, some 20-30 cm deep, topped with flat sandstone chips and mud supporting walls of New Kingdom mud bricks (Figure 4-4). It was soon realized, however, that the

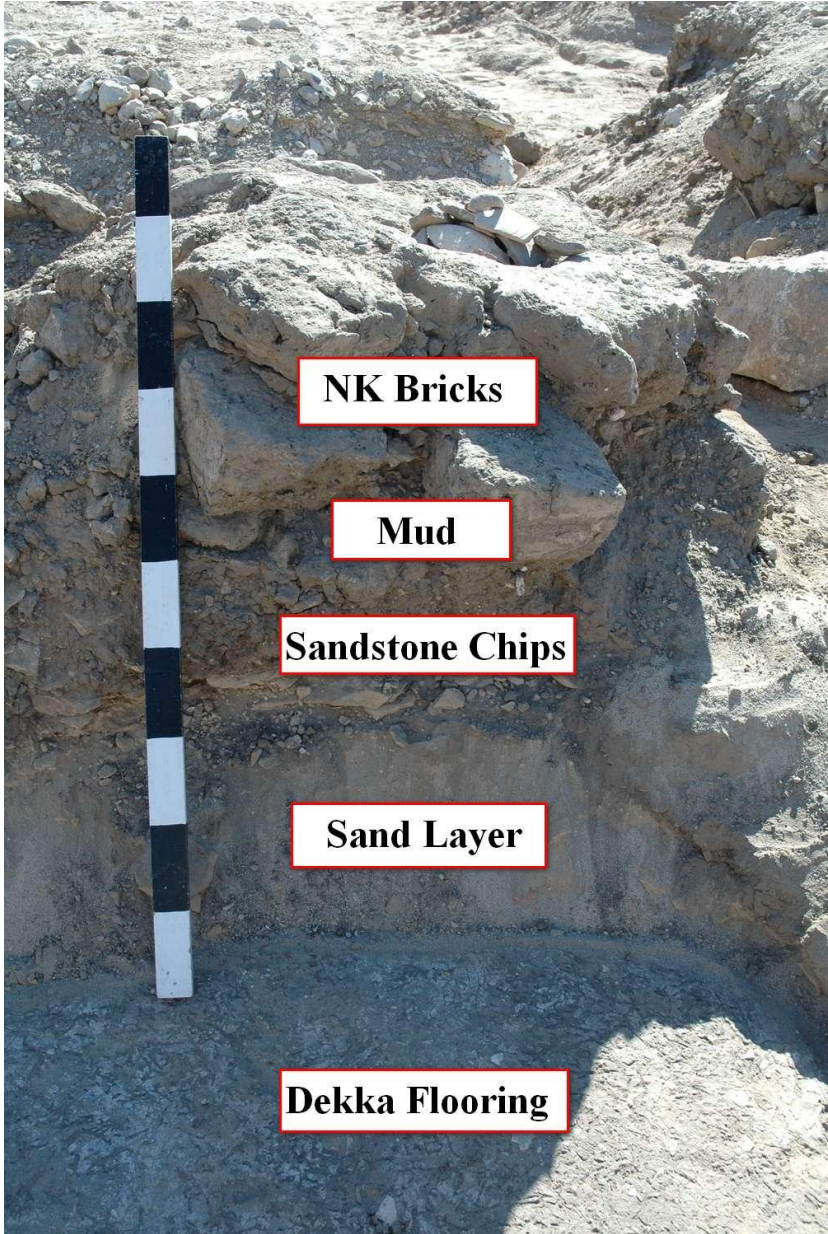


Figure 4-4: Stratigraphic profile showing part of the dekka flooring on surface S35 beneath a layer of sand topped by sandstone chips and the remains of walls built with reused New Kingdom mud bricks.

## The UAEE Excavations

New Kingdom bricks were reused and that the walls were probably associated in some way with the Late Period burials. While it seemed strange that the original - often well preserved - flooring was not utilized for this building work, it became apparent that this flooring had been covered by sand thrown up from the adjacent foundation trenches when the temple was robbed of its stone. This layer of sand had then been leveled, compacted, topped with stone chips and coated with a new mud surface in preparation for the later building work. Most of this later building activity appears to have occurred above those surface areas directly in front (to the east) of the thickest lenses of limestone chips which doubtless represent the areas of the excavated tombs, and the late-built features were eventually confirmed to represent the tomb chapels and courts associated with those burials. In at least one case, in the south west corner of the site, we found New Kingdom mud bricks sitting directly on the *dekka* flooring of a surface area (S42), but in other cases the Late Period features are completely within Stratum 1 well above the New Kingdom level.

### *MUD BRICK ARCHITECTURAL FEATURES*

Few architectural features remain on the site above the present ground level. Most lie within strata 1 and 2 in the post-New Kingdom and New Kingdom levels.

We have discovered only a very few bricks stamped with the cartouche of Tausret herself, and these were mainly in areas around foundation deposit pits. Most of the stamped mud bricks on the site bear the cartouches of Thutmose IV and Merenptah, and it is evident that these building materials were originally cannibalized from the earlier temples directly to the north and south of the queen's monument.

### BUILDINGS AND ROOMS

Just outside the north west corner of the temple we found the remains of what appear to be New Kingdom storage magazines (in the same position relative to the temple core as those in the Temple of Merenptah and other West Bank temples).

We found no clear evidence of above ground mud brick structures of New Kingdom date within the temple core. A large mud brick mass is situated at the rear of the courtyard (S1) in the front portion of the temple, and we

thought at first that this mass might represent the remains of a large wall or pylon. In 2010, however, we excavated several test trenches across this mass, and it proved to be composed mainly of bricks and stones thrown up on the surface from the large foundation trench that spans the rear of the courtyard, as most of the trench walls (see below) in that trench were missing. The sondages we cut through the S1 mass did reveal traces of several small walls at ground level beneath the jumbled bricks and stones, but it is not clear whether these residual walls were part of a New Kingdom structure or made later from reused New Kingdom bricks.

In the rearmost (western) section of the temple itself, we uncovered the remains of what appear to be chapels and tomb courts associated with nearby Late Period tombs (see Chapter 8). These were the only mud brick features uncovered in stratum 1.

#### MUD BRICK TRENCH WALLS

The most commonly encountered brick features within the foundation trenches were small trench-spanning walls constructed mainly of mud bricks, sometimes with occasional stones, built every 1.5 - 2 m apart throughout most of the trenches on the site (Figure 4-5). These walls are of two distinct types which we have called "Type A" and "Type B" (Figure 4-5). Type A walls are built up from the *gebel* bedrock at the base of the trenches and rise only as far as the top of the layer of sand that was placed in the trenches to receive the foundation blocks. It seems most likely that these Type A walls were utilized in stabilizing the sand in the trenches as building progressed, but we are not aware of walls of this type in other temples in the Theban area. Type B walls sit on top of the sand layer in the foundation trenches and typically rise part way toward the top of the trenches.<sup>6</sup> The Type B walls seem to be associated with foundation deposit pits as they are usually found near them, but the purpose of these walls is not yet understood. Strangely, one intact wall found in unit TA11:15 during the 2006 season was built from the *gebel* base to the top of the foundation trench and fit neither type.

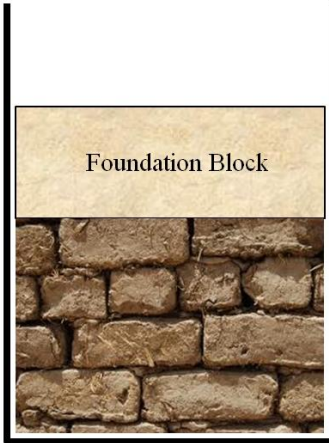




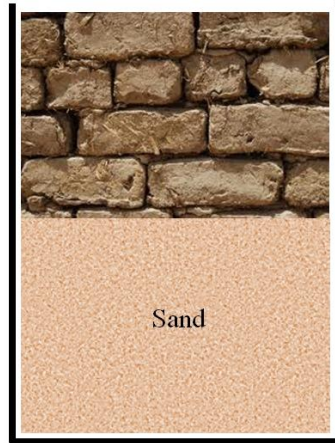
Figure 4-5: Remains of mud brick trench walls in trench TA:14. Both Type A and Type B walls may be seen in this trench.

Foundation Trench

Foundation Trench



TYPE "A" WALL



TYPE "B" WALL

Figure 4-6: Stylized cross sections of foundation trenches showing the two types of mud brick walls found spanning the trenches.

*FOUNDATION OFFERING PITS AND NICHE*

We found two types of foundation deposit pits in various locations in the temple's foundation trenches and surface areas (see Figure 4-7). Most widespread were large circular or semi-circular brick-lined pits ("Type 1") of c. 1m in diameter which were constructed in the foundation trenches. A number of these pits had been found by Petrie's men. The pits of this type were positioned quite symmetrically throughout the site and we discovered the remains of at least two of them not noted by Petrie in areas where pits might be expected according to this symmetrical placement. The second type of offering pit we found ("Type 2") was much smaller – c. 30cm in diameter – and unlined. Two of these pits were found cut into surface areas S26 and S33 in the northwest quadrant of the site. The first of these (on S26) contained a bed of *Persea* leaves in its lower half, at the bottom of which was an undisturbed bovid bone from a haunch of beef.<sup>7</sup> The upper part of this pit had evidently been emptied of its offering-related artifacts by Petrie's men. The second pit of this type was found empty, but it had doubtless originally contained the skull of a bovid which was found close by. Both Type 2 pits were cut into the corners of room areas close to the adjacent foundation trenches. They were both found in disturbed areas clearly worked by Petrie's men, but neither was recorded by Petrie.

An apparent niche for a statue or other artifact was found cut into the rock of the eastern side of the north-south foundation trench TB10:7, just a few meters north of the central axis of the temple. The niche, which had been cut into the rough conglomerate trench wall was rectangular in shape and wider than it was high, measuring 43 cm across its top and 41 cm across its base. Its depth in the *gebel* wall was about 48 cm. The feature was found empty, but this area of trench TB10 had been thoroughly disturbed by Petrie's men who may have emptied it. Its presence was not recorded by Petrie. This was the only feature of this kind found on the site, though this fact must be seen in the context that not all areas of the trenches have been examined.

*FOUNDATION BLOCKS, BUILDING STONES, AND THEIR INSCRIPTIONS*

Whole or partial foundation blocks and smaller building stones were widely distributed through the trenches (see Chapter 5), and the significance of these blocks and stones will be assessed in Chapter 11. The inscriptions found on some of these blocks (Figure 4-8) are covered in Chapter 7. Two inscriptions

The UAEE Excavations

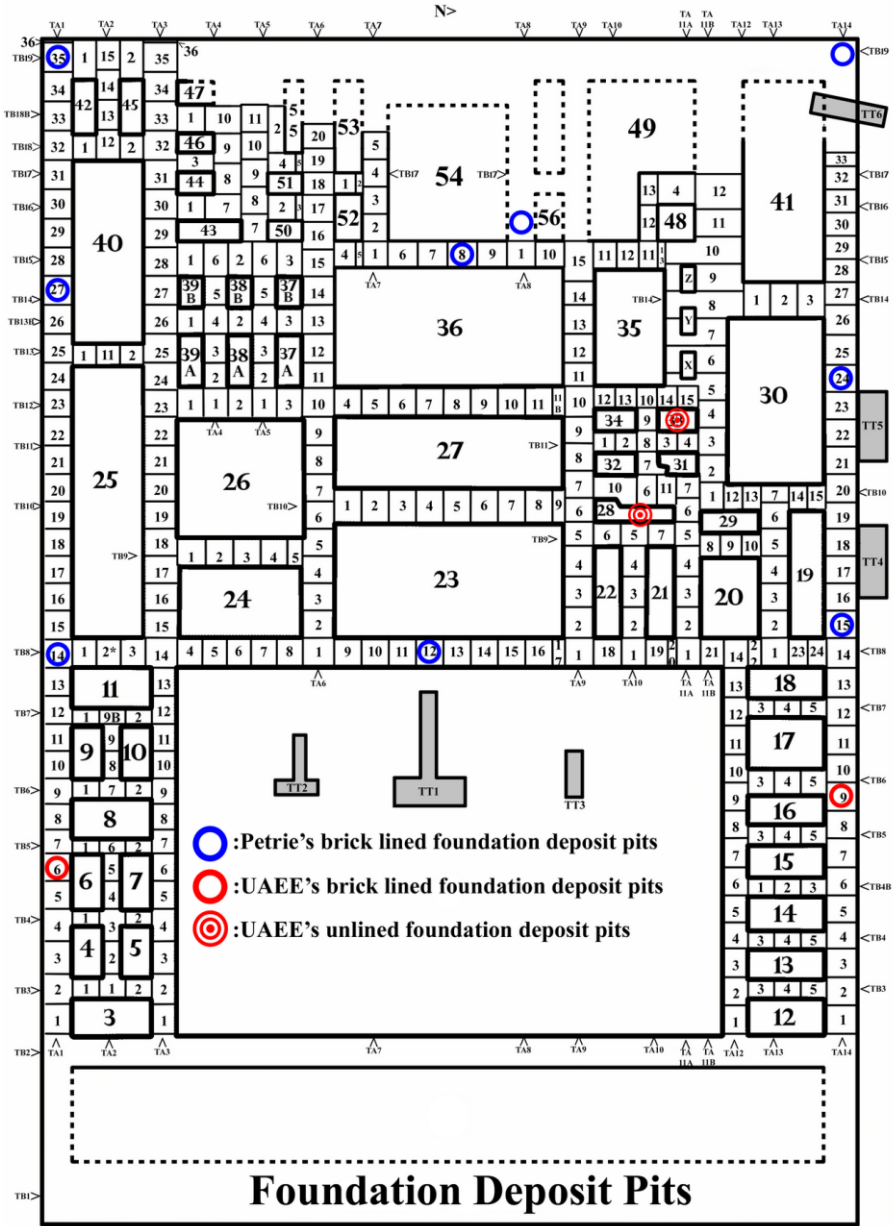


Figure 4-7: Foundation offering pits discovered by Petrie's men, and pits discovered by the UAEE. Right side of plan faces local north.

are of particular importance as they both date the temple's foundation to the queen's eighth regnal year and demonstrate that the queen ruled for a longer period than had been generally believed. While most recent works give the length of Tausret's reign as being only seven or eight years (including her six year regency with Siptah), this is based on the latest known documents from her reign which are dated to the queen's eighth year.<sup>8</sup> However, the fact that we now know she began to build her temple in stone in her eighth year – and that it likely took several years to accomplish the level of completion that was achieved – indicates that Tausret reigned at least nine, and possibly more, years. In any event, it is clear that Petrie would have published these important inscriptions had his men excavated the areas in which they were found.



**Figure 4-8: Examples of some of the many whole or partial foundation blocks found in situ in the temple's foundation trenches. The nearest block carried two inscriptions. A smaller building block is seen atop the foundation stones.**

## The UAEE Excavations

### *SMALL ARTIFACTS*

Well over three thousand artifacts and groups of artifacts (many consisting of multiple items such as beads, etc., - see Figure 4-9) were found throughout the areas of the site excavated in the course of the UAEE investigations. These artifacts are categorized and their distributions mapped in Chapter 5. Most of the artifacts were associated with the New Kingdom foundation layer (Stratum 2), though a good many from the northwest quadrant of the temple were associated with the remains of the Late Period burial assemblages found in Stratum 1.



**Figure 4-9: Some of the many thousands of small faience beads and amulets found throughout the temple's foundation trenches. Each bag contains items found in a single 1 meter unit.**

### ARTIFACT DISTRIBUTION AND CLUSTER

While the distribution of artifacts (and some biofacts) is covered in Chapter 5, it should be noted here that the distribution of many artifacts is instructive. Of particular interest, though not fully understood, is the apparently conscious distribution of small groups of artifacts in or on the New Kingdom sand level of foundation trenches in the south central area of the temple site. In several undisturbed sections we found artifacts in small clusters – positioned about every five meters or so in the areas where they

occurred. The clusters consisted of a shabti, an ostrakon or decorated shard, and a small fragment of stela, cartonnage or even linen. These small artifact clusters seem to have been individual deposits placed between the major deposit pits and were not found or recorded by Petrie – and have not yet been found in other temple sites as far as we are aware. Because we have only discovered such clusters in the area surrounding the so-called “Osiris Suite” or the “Suite of the Royal Ancestors” commonly found in the inner left-hand quadrant of Theban royal temples, it is tempting to see these artifact clusters as being symbolically connected with the Osiride or “ancestor” region of the temple.

The analysis of artifact distribution at the site is proving particularly valuable and is still ongoing.

#### ASSESSING PREVIOUS EXCAVATION OF THE SITE

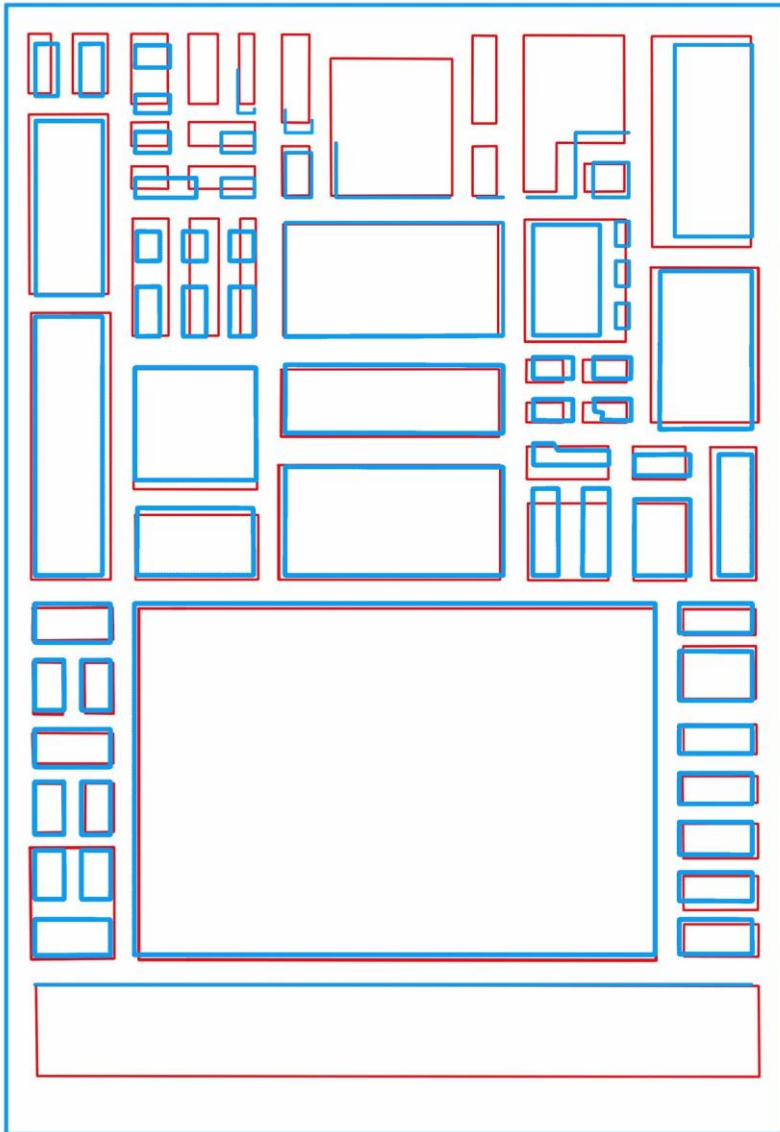
As already mentioned, in our own first season of work on the temple site we immediately began to find evidence that it had not, in fact, been examined to any great degree and that the site held indications of more extensive building of the monument than had been suspected based on Petrie’s report. Although Petrie stated unequivocally that the temple’s foundation trenches were all cleared by his men,<sup>9</sup> we found that a great many of the trenches and their adjoining surface areas were actually completely undisturbed and showed no evidence of previous excavation. This could be seen in the unbroken stratigraphy of the overlying debris which had accumulated up to modern times, and in the presence of a multitude of small artifacts within the undisturbed New Kingdom stratum beneath.

Petrie is renowned for having collected even the smallest artifacts from the sites he excavated, but we have found literally thousands of small artifacts – amulets, beads, shabtis, pieces of statues and stelae, etc. – throughout the obviously unexplored areas of the site. Petrie mentions, for example, that faience beads were scattered around the foundation deposit pits cut at several points into the temple’s trenches, but we have found these beads throughout all areas of the trenches. Often we found that the trenches were only disturbed in areas where foundation pits would be expected to be found. Given this clear evidence that Petrie’s men concentrated their efforts in order to discover and retrieve the contents of foundation pits (Petrie specifically mentions that he paid the men handsomely for these finds<sup>10</sup>) and also the fact that his men robbed several pits which they did not report to him,<sup>11</sup> it is

particularly telling that we discovered other foundation deposit pits in unexcavated sections of the temple. These deposits would certainly have been known to Petrie – or their contents stolen by his men – if the areas in which we found them had been excavated. The foundation pits also demonstrate the lack of clear control of this excavation in another way. Petrie’s report on the temple discusses and carefully tabulates the finds from eight foundation pits which he says were discovered, though the plan of the temple that he published with his report shows the location of nine such pits.<sup>12</sup> On a much larger scale, and more importantly, while Petrie asserted that “. . . only a few stones of the foundation remained, between the deposits marked II and VIII [on his plan of the temple],”<sup>13</sup> we have found a large number of whole or partial foundation and building blocks and fragments around the site (see Chapter 11).

The small brick walls we also discovered throughout the temple’s foundation trenches are a particularly notable feature of the site which Petrie would surely have mentioned had he been present during its investigation, and if the site truly had been excavated. These mud brick walls are of such an unusual, if not unique, nature (we do not know of any like them in the other Theban temples) that Petrie would surely have commented on them in his report had he been aware of them. In addition, the inscriptions we have discovered would certainly have been recorded and published had Petrie found them – including the important foundation texts mentioned above. In exactly the same way, the completed flooring surfaces of rooms around the temple site (and their significance as indicators of the completion of the structure) would have been at least mentioned by Petrie had he been aware of them.

Most telling of all, however, we have found Petrie’s published plan of the temple foundation trenches and surface areas to be inaccurate in dozens of areas (see Figure 4-10). In many cases, it is not only the size and shape of the surface areas (the temple’s courts and rooms) that were incorrectly mapped, but also even the number of surfaces in a given area. Likewise, whole sections of the foundation trenches were inaccurately drawn or omitted. Petrie’s plan of the temple is, in fact, so drastically incorrect in so many areas that it is clear from this alone that much of the temple was not excavated and that its plan was in very many instances merely guessed at, based on the size and shapes of mounds of debris covering the temple’s surface and trench areas. We found proof of this in the fact that when we excavated the mounds of overlying debris they were often in the shapes of the surface areas recorded



**Figure 4-10: Overlay plan of the temple showing Petrie's plan (in red outline) compared with the plan of the temple as mapped by the UAEE (in blue outline). Right side of plan faces local north.**



on Petrie's plan. But the debris mounds contained sealed levels clearly never probed by Petrie's men and when the debris was removed, the underlying surface areas were of very different configuration.

Petrie certainly understood the importance of accurate archaeological plans. In his seminal work *Methods and Aims in Archaeology*, he noted that the main purposes of archaeological excavation were to draw up "plans and topographical information" about sites in addition to obtaining portable antiquities.<sup>14</sup> So the facts outlined above all suggest that Petrie may not have been present at the site when it was cursorily explored by his workmen and that their exploration may have been far more limited than he realized. It is clear to us that Petrie's men did dig in some areas – usually at and around the interstices of the temple's foundation trenches – looking for the foundation deposit pits they knew would contain artifacts. But the fact that Petrie records that his men stole the artifacts from several of these pits when they discovered them indicates in itself that Petrie was not present and was likely elsewhere supervising the excavation of one of the larger of the six temples in which he worked during that single season of 1896. Petrie may possibly have been told by his men that the Tausret temple site was thoroughly examined when, in fact, it was merely probed in selected, potentially promising areas and a minimal amount of digging accomplished to try to establish the plan of the trenches.

The evidence for this situation uncovered in our excavation may thus be briefly summarized as follows:

- 1) Soil discoloration and churning (in both vertical and horizontal dimensions) showed that only limited areas of the site had been previously investigated.
- 2) A great number of small artifacts remaining in undisturbed areas of the fill confirmed these areas had not been excavated.
- 3) Unusual or unique architectural features found in the foundation trenches were neither mapped nor commented upon in Petrie's publication of the site.
- 4) The discovery of the widespread remains of foundation stones and building blocks on the site was at disparity with Petrie's report.
- 5) Important inscriptions found on some of these blocks would certainly have been published by Petrie had he been aware of them.

- 6) The presence of floor surfaces throughout the site was not commented upon and was probably unknown to Petrie.
- 7) The inaccurate recording of both trenches and surface areas in a great many areas show that Petrie's published plan of the site was guessed at in many instances.

Petrie's hasty and clearly very limited examination of the temple proper appears to have been mirrored in his investigation of the intrusive Late Period tombs dug into the scarp at the rear of the temple site. The largest of these tombs gained mention in Petrie's report, but he did not draw its plan, and recorded only its dimensions and a cursory summary of its contents. Of the other tombs in this area he says very little and summarizes only that "We cleared out nearly all of these tombs..." the exact number of the tombs which were present and those excavated not being given.<sup>15</sup> These facts all show that the site was not high on the priorities of the great archaeologist and that he doubtless was more interested in the larger and potentially richer sites nearby.

As a result, the limitations and significant errors which characterize Petrie's report on the Tausret temple have long obscured both the history of the structure and the extent of its completion. The actual situation regarding these aspects of the monument will be examined in the closing chapters of this volume.

## NOTES

- <sup>1</sup> Reports on our field seasons have been published in *The Ostrakon: Journal of the Egyptian Study Society*; *The Bulletin of the American Research Center in Egypt*; and elsewhere. See, for example, Richard H. Wilkinson, "Six Seasons at Thebes: The University of Arizona Tausert Temple Project," in *Thebes and Beyond: Studies in Honor of Kent R. Weeks*, eds., Z. Hawass and S. Ikram, Supplément aux Annales du Service des antiquités de l'Égypte 41 (Cairo: Institut français d'archéologie orientale du Caire, 2010), 17-177. It is important to realize that almost all of these earlier reports of work in progress were provisional, and a number of their conclusions are adjusted or clarified in the present volume.
- <sup>2</sup> See W. M. Flinders Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897).
- <sup>3</sup> Because the site contained a regularly organized grid of trenches and surface areas, a standard division of the site into squares based on the data control point would have meant that parts of trenches and surface areas would have been forced together into individual units in an arbitrary manner. Instead, we elected to divide the foundation trenches and surface areas into separate units to

- facilitate not only recording but also the separate analysis (and searchability) of excavation data and find loci for artifacts recovered in trench and surface areas.
- 4 Using Petrie's plan as a preliminary model, the temple's foundation trenches were assigned designations TA1 through 14 for east-west trenches and TB1 through 18 for north-south trenches (with 2 meter sub units). As excavation progressed and trenches were uncovered that were not on Petrie's plan, these were assigned new numbers based on the closest numbered trenches, e.g., TA14B. Because surface units not recorded on Petrie's plan began to appear from the beginning of the excavation, the site's surface units were simply numbered in the order of their excavation or as they were defined by surrounding trenches.
- 5 The Supreme Council of Antiquities' inspectors and officials annually insisted that the debris from the site be removed and so after careful hand sifting and, where necessary, screening, site debris was hauled away and dumped at areas selected by the SCA.
- 6 The two types of wall are differentiated on our AutoCAD model of the site as follows: type "A" walls are shown in "Fenceline 2" style line, type "B" walls are shown in "Tracks" style line.
- 7 Petrie, *Six Temples*, p. 15, mentions regarding pits of which he was aware in the Tausret temple, "Of animal offerings there was a calf's haunch in deposits I, 4, and 6; and a calf's head in deposits 4 and 6; a pigeon's head in deposit 6, and a pigeon in deposit I. In deposit 7 was a thick bed of leaves of a tree mixed with beads above the glazed objects, and the copper models of tools lay on the top of the leaves."
- 8 Two ostraca from Deir el-Medina are dated to Tausret's eighth year: oIFAO DM 594 and oCairo CG25293. See Kenneth A. Kitchen, *Ramesside Inscriptions, Translated & Annotated, Translations*, Vol. IV, *Merenptah and the Late Nineteenth Dynasty* (Oxford: Blackwell, 2003), 407-408.
- 9 Petrie, *Six Temples*, p. 13, states explicitly, "These trenches were all cleared..." Our findings do not suggest that Petrie knowingly misrepresented his work on the site. It is possible, and perhaps likely, that Petrie was not present for much of the time that limited probing and excavation were conducted by his men. See, for example, Richard H. Wilkinson, "Excavation in the Time of V.S. Golenischev: W. M. F. Petrie's Work at the Tausert Memorial Temple," in *Ancient Egypt: Volume II, On the Occasion of the 150<sup>th</sup> Birthday Anniversary of Vladimir S. Golenischev*, ed. V. V. Solkin (Moscow: Association of Ancient Egypt Studies, 2006), 160-165; pls. 69-73.
- 10 Petrie, *Six Temples*, 2, states that he paid his men the same amounts that he paid antiquities dealers for artifacts, although, as he notes, this did not stop artifacts being stolen by some of the local workmen.
- 11 Artifacts from the robbed foundation pits of the Tausret site have found their way to a number of museums and private collections (see Chapter 3).
- 12 Petrie, *Six Temples*, cf. p. 14 (discussion) and Pl. XXVI (plan).
- 13 Petrie, *Six Temples*, 13.
- 14 W. M. F. Petrie, *Methods and Aims in Archaeology* (London: Macmillan, 1904), 33.
- 15 Petrie, *Six Temples*, 18.



## 5 : ARTIFACT DISTRIBUTION

Danielle O. Phelps

### INTRODUCTION

The University of Arizona Egyptian Expedition, over the course of eight seasons, recovered some three thousand artifacts in its excavation of the temple of Tausret. For the purposes of this chapter, the artifacts have been divided into eleven categories and their distribution plotted on maps. Each category represents several types of artifact, but the maps display the distribution of each artifact type individually. In some cases, where it is especially instructive, related artifacts or features are also shown on the maps.

### PROCEDURE

A systematic procedure was put in place to facilitate the artifact recording process. At each trench, the excavators were given prepared tags onto which all of the information regarding a particular artifact such as the trench and unit and its locus information<sup>1</sup> was recorded. The artifact was then bagged<sup>2</sup> and given to the registrar.<sup>3</sup> The registrar assigned a preliminary identification to the artifact, and then proceeded to record it in the Object Log.<sup>4</sup>

In the Object Log, an artifact was given an object number,<sup>5</sup> then the trench and unit information, the stratum it was found in, the specific vertical horizontal and lateral locus information,<sup>6</sup> the find date and the object's initial assessment was recorded. Artifacts that were of special significance were recorded using traditional methods and were then also recorded through the use of a total station and then placed into the AutoCAD program.<sup>7</sup>

Once an artifact was logged, it was placed in a storage container, which held similar type artifacts. The storage containers were clearly labeled and placed into metal boxes.<sup>8</sup> The metal boxes were then locked and transported to the SCA storage magazine in Western Thebes at the end of each season.

For the purposes of organizing our data, and in this chapter, all artifacts recovered from the temple site were assigned to ten categories: ceramic, faience, shabtis, plaster, worked stones, minerals, organic materials, texts,

## Artifact Distribution

human remains, and artifacts from Petrie's excavation. Each category was assigned a specific color to aid differentiation in the artifact log (recorded in Excel spreadsheets). Within each category, a more specific designation was given to individual artifacts. For example, ceramic artifacts were divided into body sherds, diagnostic sherds, decorated sherds, ostraca and shabtis. Faience artifacts were designated as either being beads, tiles, rings, amulets, vessels, plaques, figures, or shabtis. Plaster fragments were found throughout the site and recorded as being either decorated or non-decorated.<sup>9</sup> A stone designation indicated any type of stone that was human modified – small stone artifacts or large stones that had been used in the construction of the temple. Minerals were divided into pigment nodules and other types of unworked minerals such as quartz or gypsum. Metal artifacts were not abundant at the site. Organic materials included charcoal, wood fragments, floral remains, shells and linen. The Text distribution map includes any type of artifact that displayed a hieroglyphic or hieratic text or graffiti such as mason's marks. Funerary façade fragments represent a large collection of mud, clay, wood and plaster fragments which once adorned the chapels and burials of the Late Period intrusive burials.<sup>10</sup> Human remains include not only articulated and disarticulated human bones,<sup>11</sup> but also mummified body parts and mummy-linen fragments.

The heaviest concentration of artifacts recovered from the site was located in the northwestern section of the temple. It is in this location that the Late Period burials and their respective chapels were built after the temple fell out of its primary function.

## ARTIFACT DISTRIBUTION MAPS

### *MAP I – CERAMICS*

The ceramics found at the site of the Temple of Tausret range from the New Kingdom through Roman and later periods (see Chapter 6). The distribution of the ceramic sherds was quite evenly dispersed throughout the site. Ceramics were found in almost every trench and unit; however, there are a few areas in the middle of the site where fewer ceramics were found. The surface areas that were excavated held very few ceramics. The two exceptions were Surface Areas 30 and 41, which are the locations of the Late Period chapels and burials.

The ostraca found at the site were clustered in two different areas: the northwestern part of the temple and the southeastern part. The main concentration of New Kingdom Blue Ware sherds occurs in the middle section of the temple. Blue Ware sherds were found near the foundation pits in TA1: 14 and TB8: 4/5 and on the other side of the temple near the foundation deposit pit in TA14: 15. In the TA14 trench, several pieces of Late Period Triangle Decorated Ware were found and most likely came from the intrusive burials. A number of *Ballas* sherds<sup>12</sup> were also found at points throughout the temple, often corresponding with locations known to have been worked by Petrie's men as discussed in Chapter 6.

#### MAP II – FAIENCE

Faience artifacts were prevalent throughout the site. The most common type was the bead, which included a variety of forms and colors.<sup>13</sup> The heaviest concentrations of beads occurred in the areas of the Late Period burials and near the New Kingdom foundation deposit pits. Although the current excavation found many faience beads around the locations of the temple's foundation pits (as Petrie observed),<sup>14</sup> beads were also found throughout the trenches across the entire site.

It is of interest that very few faience artifacts were recovered on the surface areas, except for the surface areas associated with the intrusive burials. A number of faience ring fragments were discovered in the TB8 trench, especially in the units in which Petrie claimed to have found a foundation deposit (his pit VIII),<sup>15</sup> however Petrie did not record any ring fragments.<sup>16</sup> Three faience vessels were recovered on Surface Area 30, which were most likely part of the funerary assemblage for the Late Period burials.

#### MAP III – SHABTIS

The shabtis found at the site were of both faience and regular ceramic construction. The larger groups of faience shabtis were located near the Late Period intrusive burials and in the areas of the New Kingdom foundation deposit pits in TA1: 14, TB8: 4/5 and TA1: 6. The few instances of ceramic shabtis were scattered across the site with three fragmentary examples being found in the western section of the temple.

## Artifact Distribution

### *MAP IV – PLASTER*

Pieces of plaster and plaster on brick or stone were recorded throughout the site. The heaviest concentration of plaster on brick occurred in the northwestern section of the temple, which correlates to the area of Late Period intrusive burials and chapels. The chapels would have been constructed with plastered mud-brick walls, which then were decorated.

However, a great amount of plaster, both decorated and non-decorated, was also recovered from other areas of the site. Many stone fragments, both large and small, also have plaster attached. Their distribution was mainly in the middle section of the temple and on the northern side. The plaster on the stone fragments indicates that at least some sections of the temple had been constructed and plastered prior to the temple being demolished for reuse by later pharaohs.

### *MAP V – STONES*

A number of complete foundation and building blocks were recovered around the site, especially in the main North-South axis foundation trench, labeled TB8. Four large foundation blocks, all about 1.85cm X 1.50 cm X 50cm in dimensions, were found contiguously in trench TB13, units 5 through 7. In TA13:6, an additional large foundation block, with a smaller building block on top of it, was also uncovered. Three large foundation blocks have hieratic inscriptions and these are discussed in Chapter 7.

A great number of partial foundation blocks were found throughout the site. In the northern section of the temple, especially in TA14 units 12 through 19, a number of stones with plaster fragments were discovered. Uniquely, and not related to the building materials, a painted limestone stela fragment, which depicts a man and hieroglyphs, was found in the southeastern section of the temple.

### *MAP VI – MINERALS OTHER THAN STONE*

Mineral fragments were not common, though a number of instances occurred near foundation deposit pits. A copper fragment was recovered in the main North-South axis of the temple near the southern edge in the TB8 trench. The fragment is most likely from the foundation deposit pit in TB8: 4/5,<sup>17</sup> and may have been overlooked during Petrie's exploration of the site. A

number of other minerals were also recovered from the same unit and were probably also the remains of items placed in the foundation deposit pit.

*MAP VII – ORGANIC MATERIALS*

The highest concentration of organic material was in the northwestern section of the temple where the intrusive burials and chapels are located. A high concentration of shell fragments was located near the foundation deposit pit in TB8: 4/5. It appears that the fragments were from the deposit and were discarded during Petrie's work. Faunal remains were clustered in three main areas of the temple: the southwestern corner, Surface Area 41 and in the proximity to Surface Area 22. A foundation deposit pit was found on Surface Unit 28 that included phyto and faunal remains. Near this location, on Surface Area 33, was another foundation deposit which apparently contained a calf's skull, which was found nearby.

*Map VIII – Texts*

Seven wine docketts were found at the site. Five of the seven were found in small artifact clusters in the southeastern section of the temple. Three *in situ* foundation blocks with hieratic inscriptions are located in the northwestern section of the temple. The inscriptions are discussed in detail in Chapter 7. Parallel inscriptions were probably placed on foundation stones, later robbed, in the south western part of the site.

In the southwest corner of the temple, where Petrie recorded a foundation deposit pit, re-excavation uncovered a partial limestone plaque inscribed with Tausret's cartouches. The ancient Egyptians placed plaques with the cartouches of the pharaoh who commissioned the building in the four corners of a temple during the foundation ceremony.<sup>18</sup>

*MAP IX – HUMAN REMAINS AND ASSOCIATED ARTIFACTS*

Numerous human remains, including articulated and disarticulated bones and mummified tissue were recovered from the site (see Chapter 9). The human remains and associated artifacts were found in the area of Late Period burials and their associated chapels located on Surface Areas 30 and 41. Material that was used in the funerary assemblages was also found in the same areas. The cartonnage found east of the intrusive burials most likely came from them, but was scattered after they were robbed.



## Artifact Distribution

### MAP X – ARTIFACTS FROM PETRIE’S 1896 EXCAVATION

The distribution of artifacts from the time of Petrie’s excavation was also mapped. The foundation deposit pits dug by Petrie are also shown on this map to indicate the proximity of the artifacts to these pits which seem to have been the focal points for the work conducted by Petrie’s men. For example, a number of *Ballas* sherds, from modern<sup>19</sup> Egyptian ceramic water jugs, were found close to the areas where Petrie found foundation deposits. A large piece of linen and possibly two shoes found at the site were relatively close to an area worked by Petrie’s men. A piece of bread from the same area may also have been left by the workmen employed by Petrie.<sup>20</sup> The linen, shoes and bread indicate that Petrie’s workmen found the foundation deposit pits on the Surface Areas 28 and 33, but did not report them to Petrie.

Other factors also suggest the proximity of Petrie era artifacts with the locations of foundation deposit pits to be significant (see Chapter 4).

Table 5-1 correlates the foundation deposit pits noted as excavated by Petrie and their locations in the map produced by the UAEE.

Petrie’s Foundation Deposit Pit Numbers	UAEE Trench Unit Numbers
I	TA1: 14
II	TA14: 15
III	TA14: 24
IV	TA1: 27
V	TA1: 35
VI	TA14* (Not excavated by UAEE)
VII	TB8: 12
VIII	TB15: 8
IX	TA8: 2* (Not excavated by UAEE)

**Table 5-1**

Table 5-2 indicates the foundation deposit pits discovered by the UAEE and not recorded by Petrie.

UAEE Foundation Deposit Pit Numbers	UAEE Trench and Surface Unit Numbers
1	TA1:6
2	TA14:9
3	S 28
4	S33

Table 5-2

## NOTES

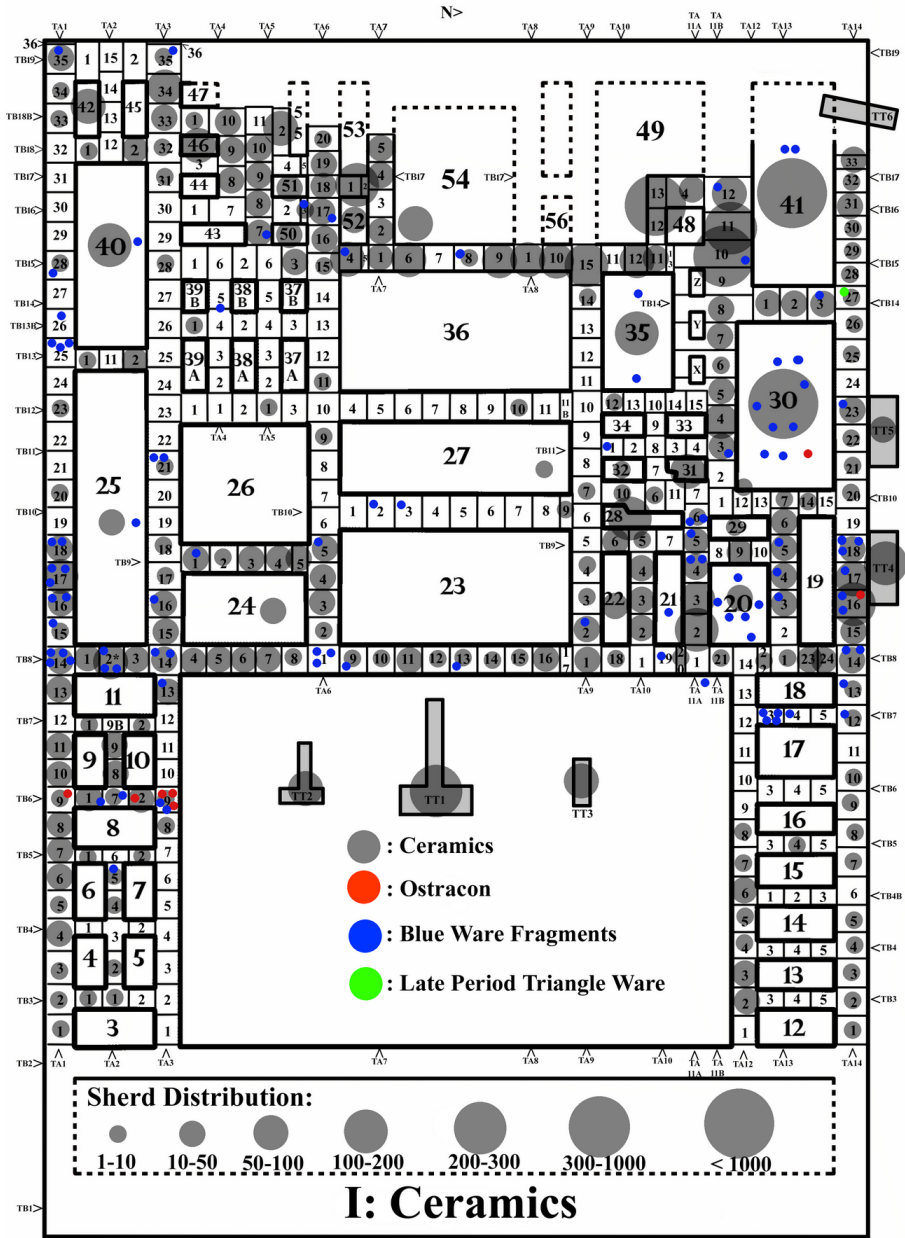
- <sup>1</sup> Locus information refers to the vertical, horizontal and lateral positions (measured in cm) of an artifact within a specific unit number of a specific foundation trench. Vertical positions were measured from the upper surface of the unit, horizontal positions were measured from the beginning of the unit and lateral positions measured from the right hand wall of the trench. Loci of important artifacts were also recorded with the total station.
- <sup>2</sup> When an object did not fit into a plastic Ziploc bag, alternate methods of storage were used such as plastic and cardboard boxes.
- <sup>3</sup> In addition to the present writer, there were two other registrars who served in different seasons: Karin Kroenke (2 years) and Jennifer Harshman (1 year).
- <sup>4</sup> The Object Log data was recorded by hand in the field and then transferred to an Excel spreadsheet at the end of each day of excavation.
- <sup>5</sup> The object number appended to the locus designator refers to the order in which an artifact was processed by the registrar. Each unit had its own alphanumeric designator (see Chapter 4). For example, TA1:14 refers to trench A1, unit 14. If five artifacts were found in that unit on a single day, the five artifacts would be recorded in a numerical manner: the first would have been labeled as TA1:14-1, the next TA1:14-2, and so on. If a unit was not fully excavated during a single day, the sequential numbering system would continue until that unit was completed then start again with the next unit.
- <sup>6</sup> Sometimes the lateral dimension was not possible to measure due to the variability of the trench walls. When this issue arose, an approximate lateral position was noted. There were few instances when a measured lateral position was not recorded, however.
- <sup>7</sup> For more information about the AutoCAD program see Chapter 12.

## Artifact Distribution

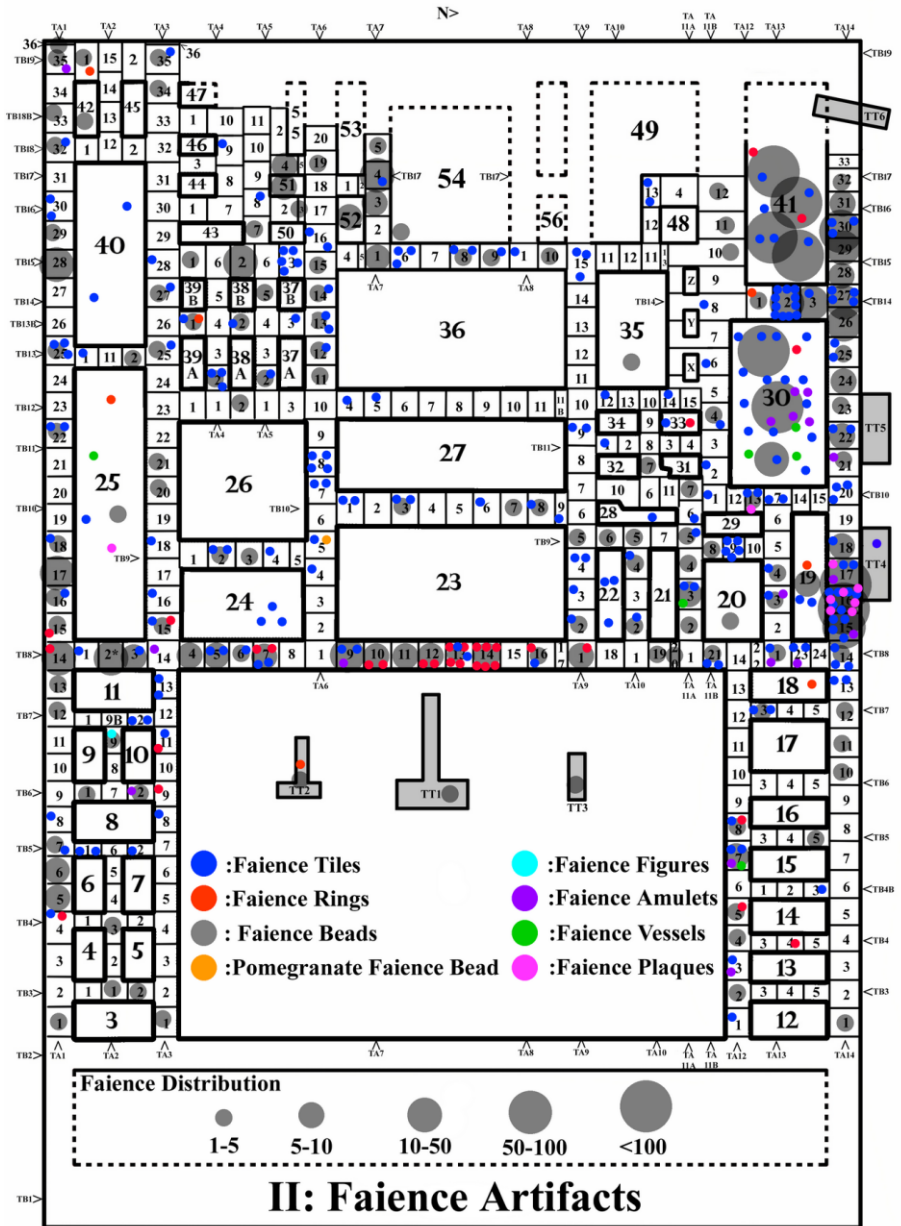
- 8 In the early seasons of the excavation, only two 1 meter metal boxes were used for storage. In the final seasons, three metal boxes were used: one for human remains, one for pottery, and the final box for other types of artifacts.
- 9 Stones with plaster" was a different designation. Twenty-eight large stones with plaster fragments were found at various points around the site. These stones represent one of the indicators that the temple's construction was further along than previously believed.
- 10 The fragments of funerary façade from these tombs were designated as *muna*. Fragments that had decorated plaster and those that did not have decoration were differentiated.
- 11 In the Object Log, a description of each bone was included to help determine the number of individuals recovered.
- 12 *Ballas* sherds are from Egyptian ceramic water jugs of the modern era which would have been used by Petrie's workmen.
- 13 Petrie does not specify the type of bead or the exact number of beads recovered in his excavation. He merely states that "blue glazed beads" were found in the sand in the locations of the foundation deposits. W.M.F. Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1896), 14.
- 14 Petrie, *Six Temples*, 14.
- 15 Petrie, *Six Temples*, 15.
- 16 Faience rings were very common in 19<sup>th</sup> Dynasty foundation deposits, see James Weinstein, "Foundation Deposits in Ancient Egypt" (Ph.D. diss., University of Pennsylvania, 1973), 238.
- 17 Weinstein, "Foundation Deposits," 269, footnote 121. Small metal objects were a part of the foundation deposits during the 19<sup>th</sup> Dynasty.
- 18 Weinstein, "Foundation Deposits," 14, 127, 421-422 and 435-436. The construction of a temple required a set of rituals to ensure that the structure would last forever. The "Placing of the plaques of gold and costly stones at the four corners of the temple" was the seventh of these rituals. Other foundation deposit pits in the temple may also have contained plaques made out of various materials and sizes, though it was not a mandatory practice. Plaques made out of alabaster, faience, wood, metal and glass have been found in foundation deposit pits from the 11<sup>th</sup> Dynasty until the Ptolemaic Period.
- 19 The term "modern" in this book refers to Petrie's 1896 excavation or later.
- 20 Bread is also known to have been included in offerings during the 19<sup>th</sup> Dynasty. See Weinstein, "Foundation Deposits," 133. It is unknown if the bread found on the site was ancient or modern.

- <sup>21</sup> Petrie, *Six Temples*, 14-15.
- <sup>22</sup> See Weinstein, "Foundation Deposits," 134. Bovine offering pits were common during the New Kingdom. The skull and foreleg were popular offerings to place in foundation deposit pits, though by the 19<sup>th</sup> Dynasty, faience replicas were more favored.
- <sup>23</sup> See Weinstein, "Foundation Deposits," 270, footnote 123. Calf haunches were discovered in the foundation deposit pits which correlate to TA1: 14, TA1: 27 and in the very end of the TA14 trench which was not excavated by the UAEE. Two calf heads were discovered in TA1:27 and at the very end of the TA14 trench.

# Artifact Distribution

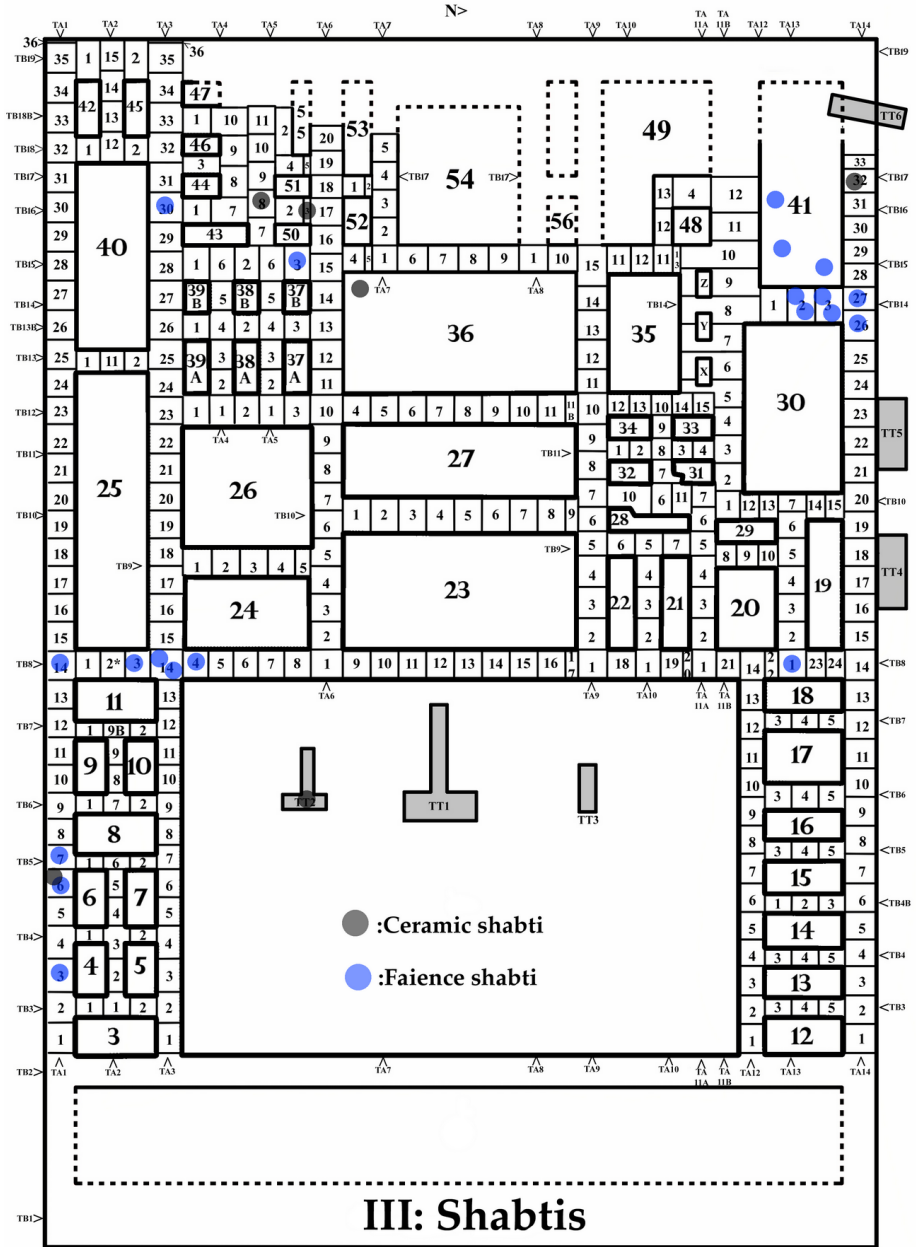


Map 1

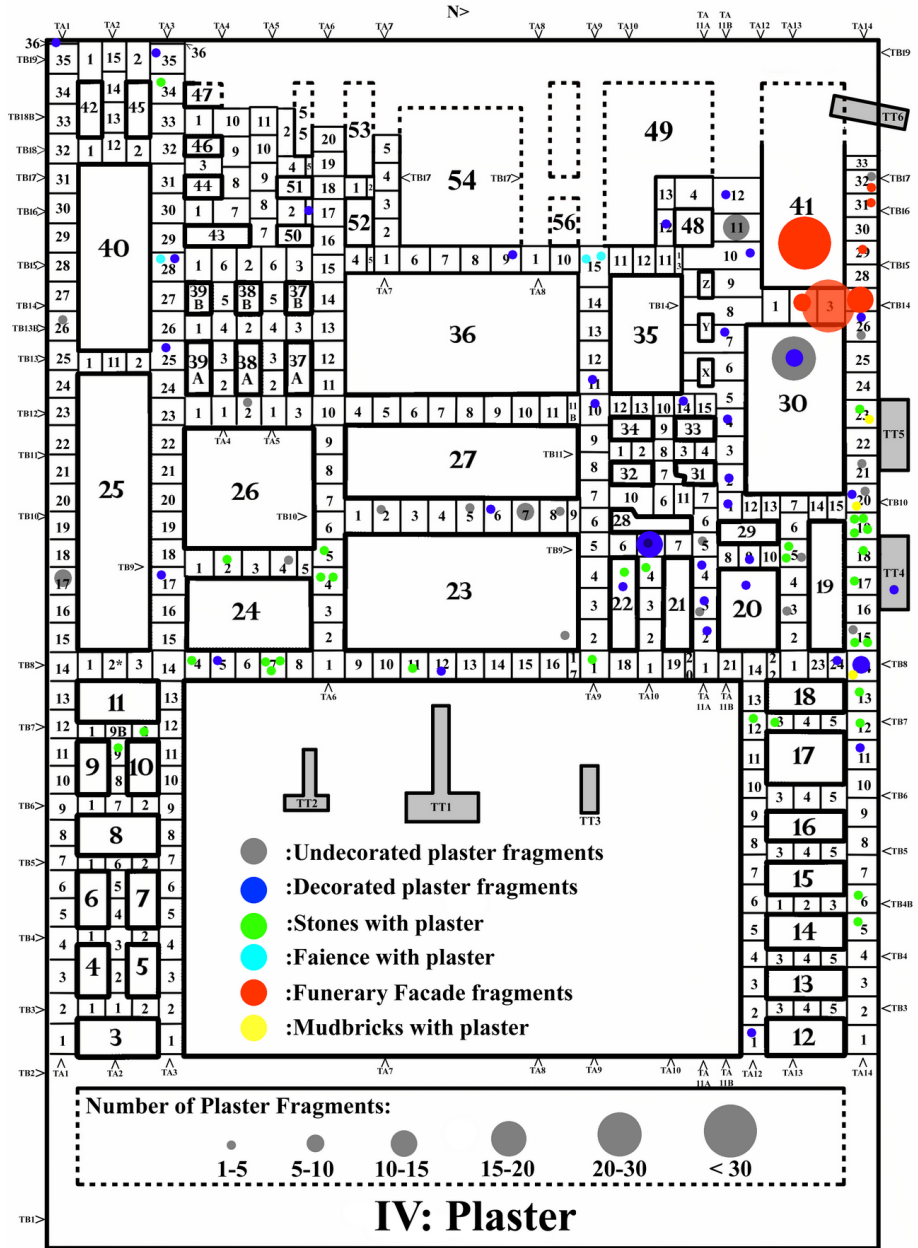


Map 2

# Artifact Distribution



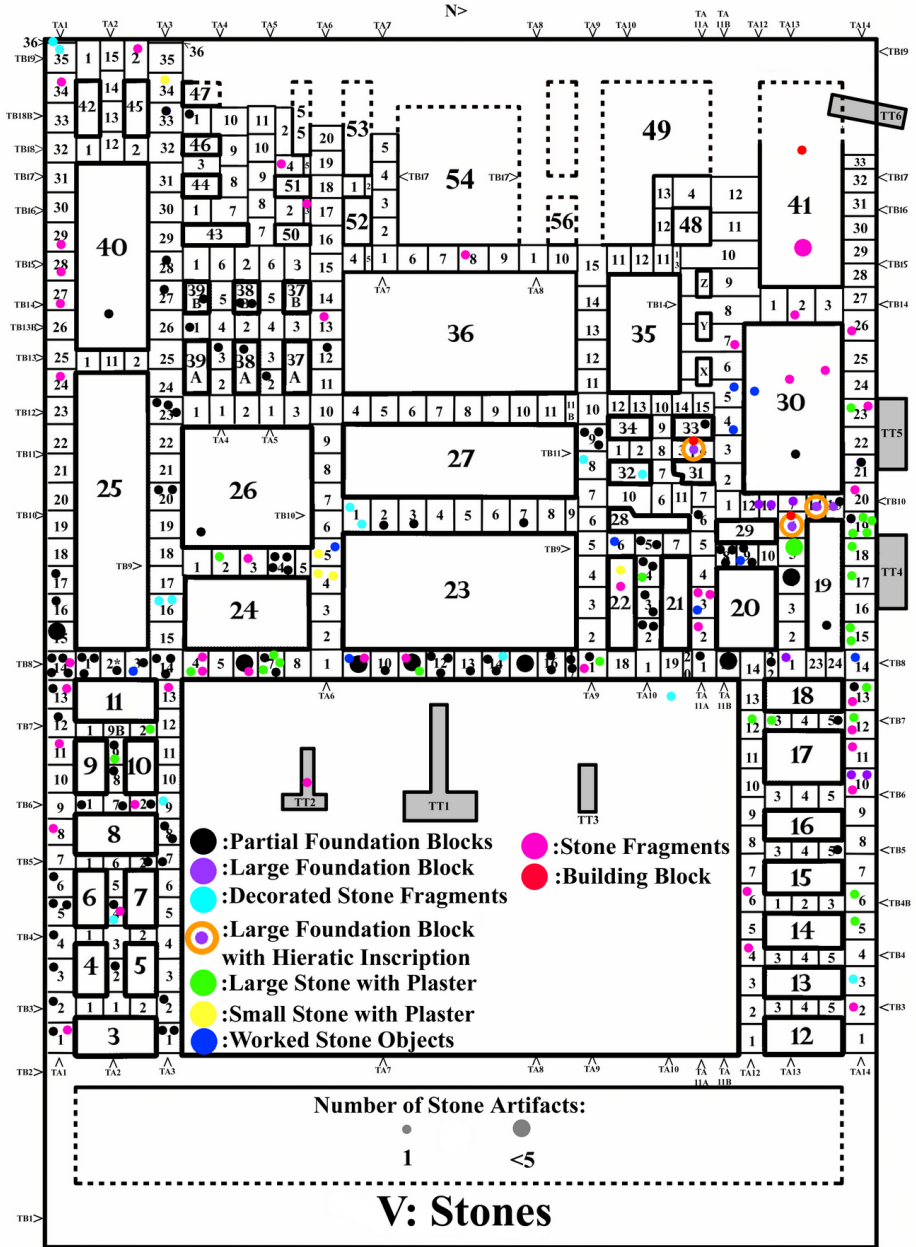
Map 3



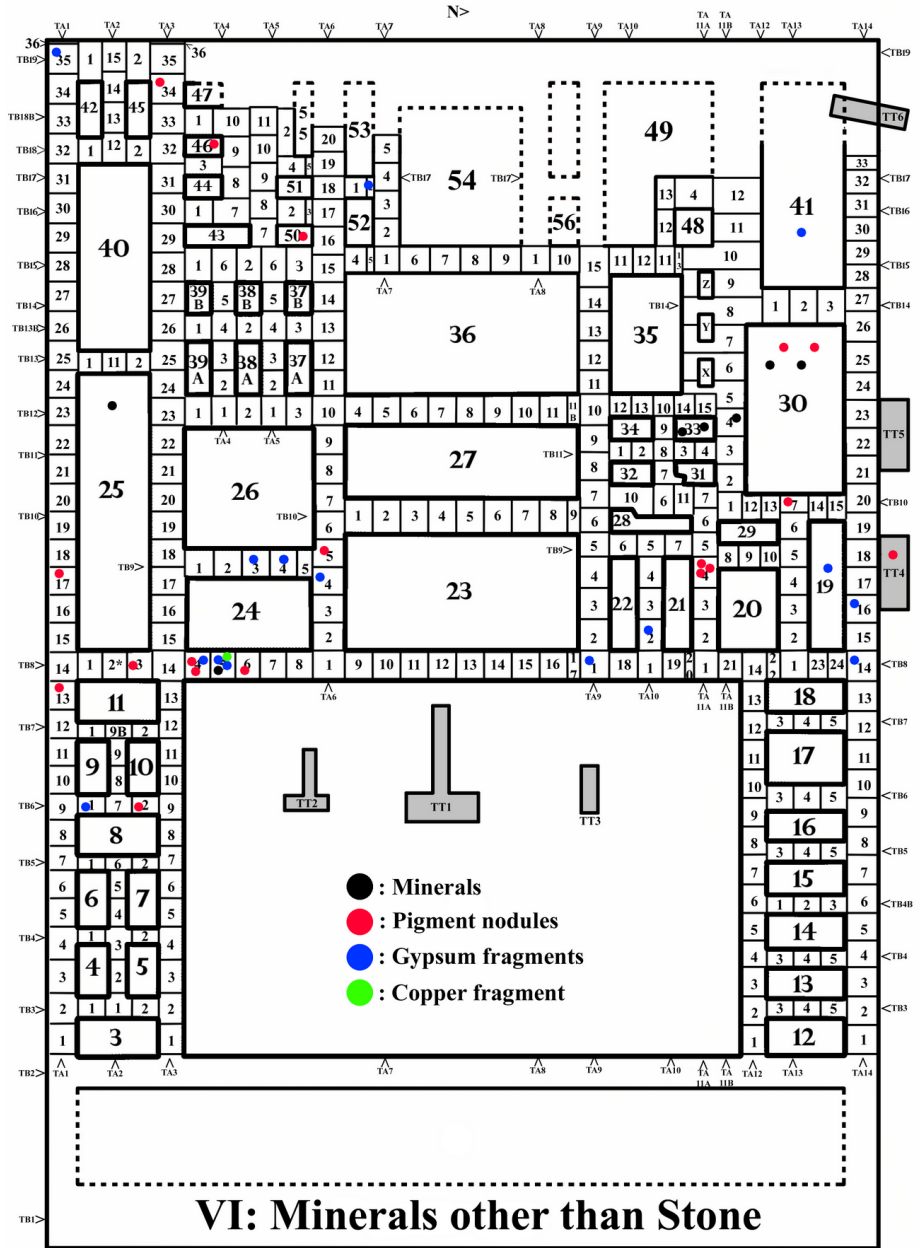
Map 4



# Artifact Distribution

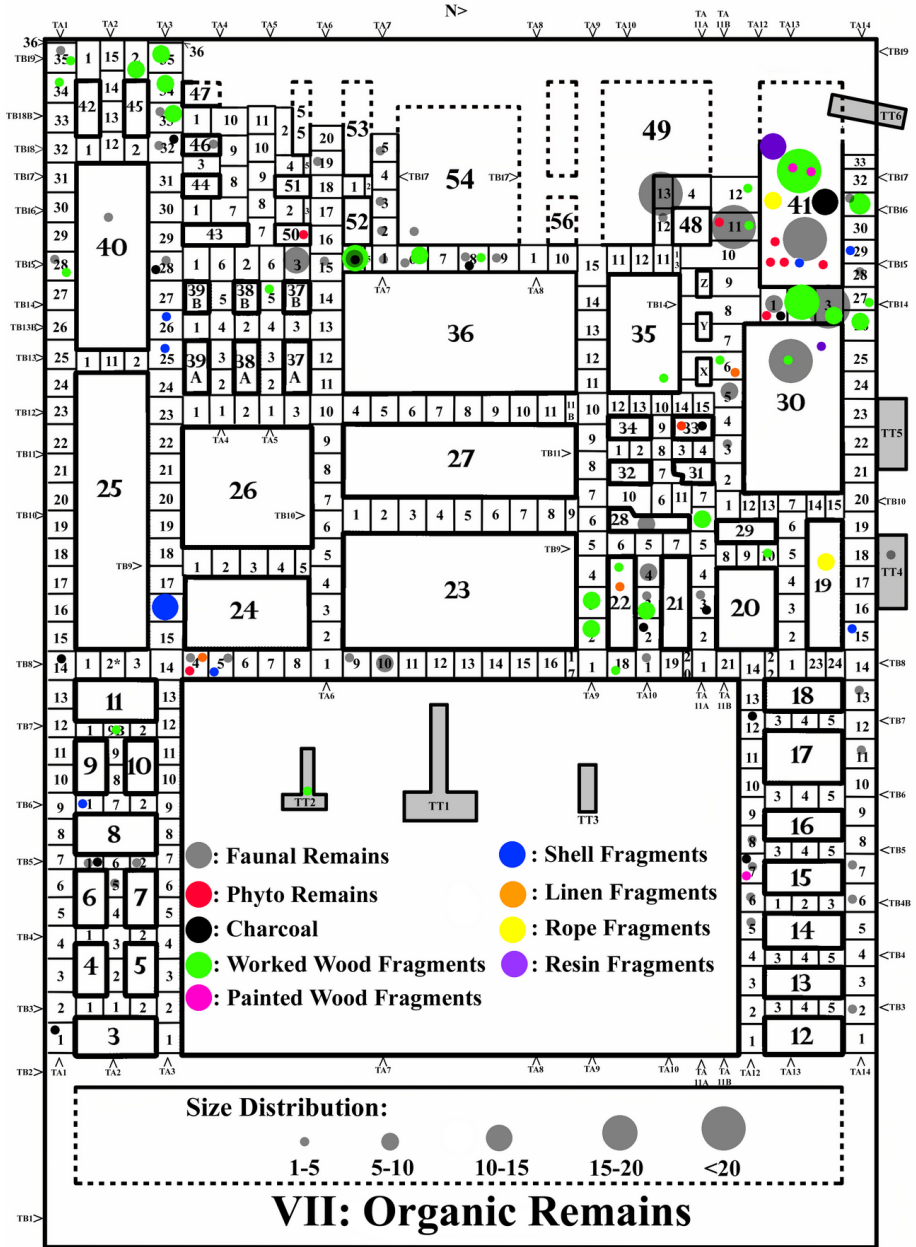


Map 5

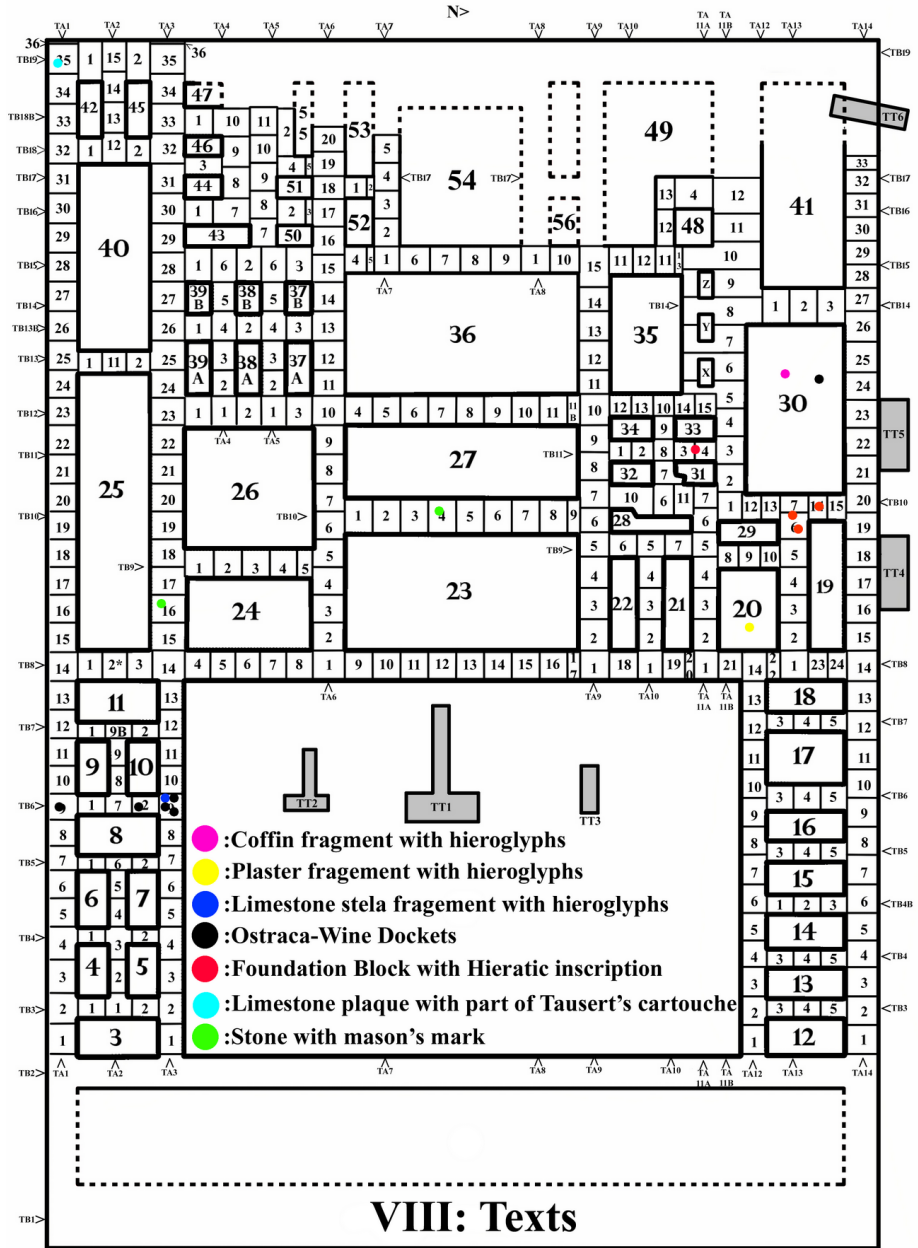


Map 6

# Artifact Distribution

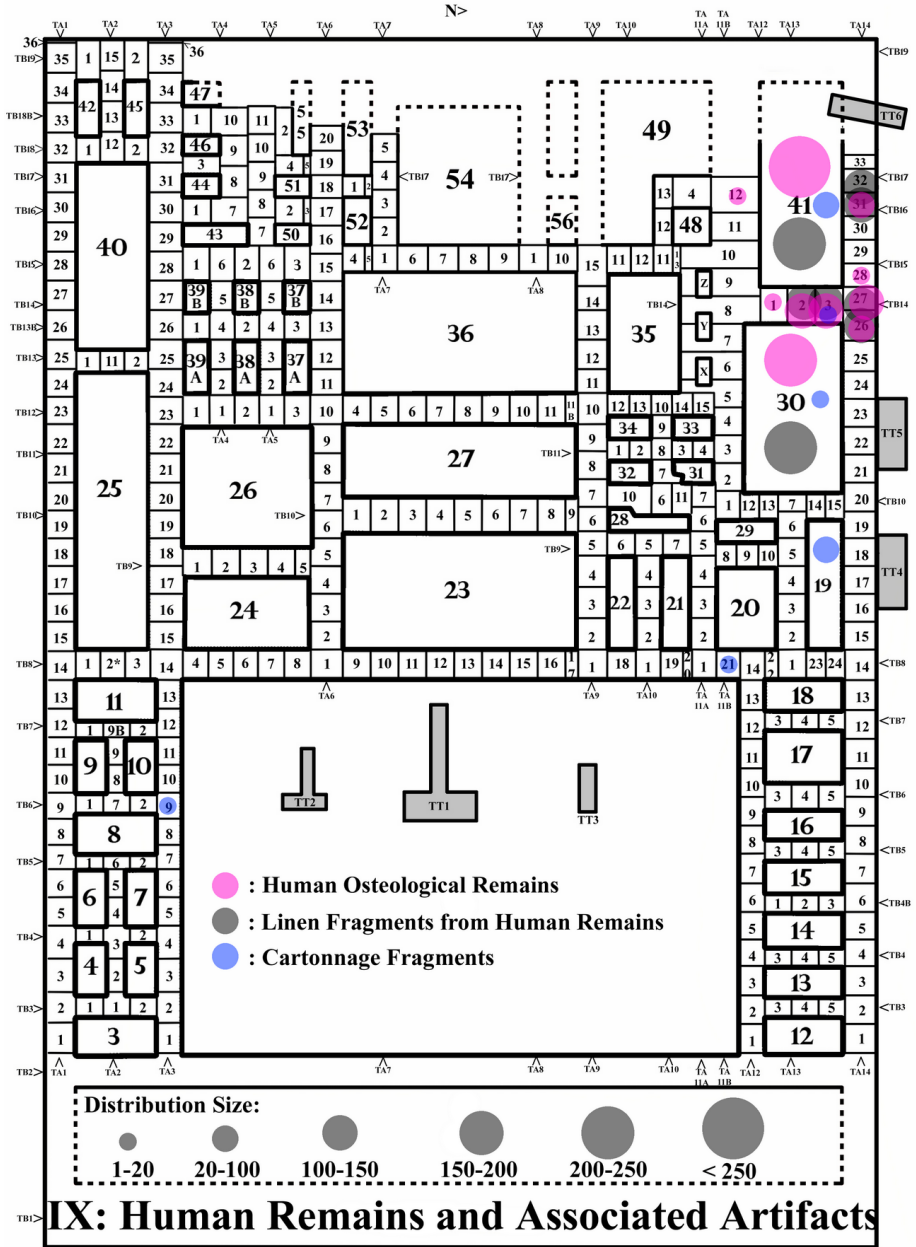


Map 7

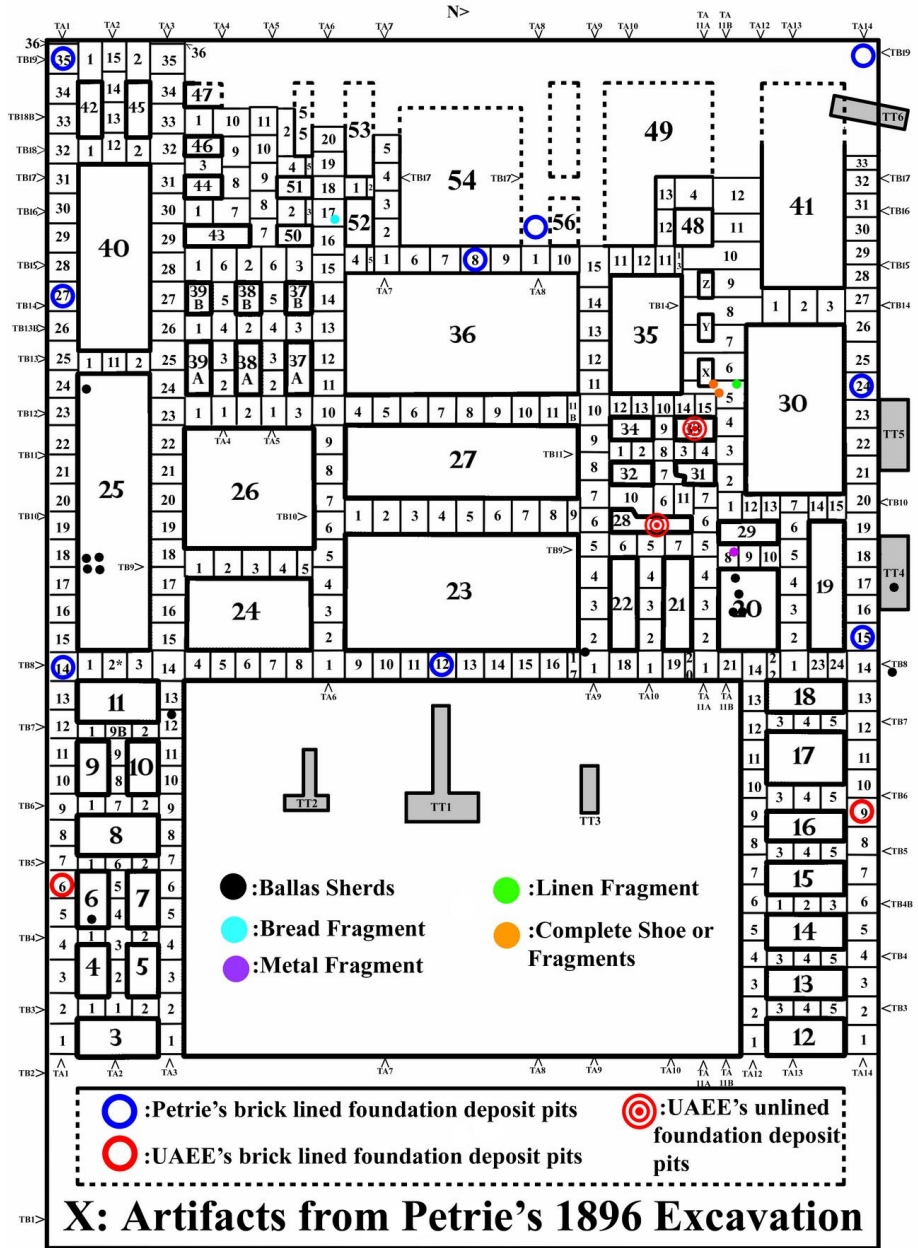


Map 8

# Artifact Distribution



Map 9



Map 10



## 6 : POTTERY

Rexine Hummel

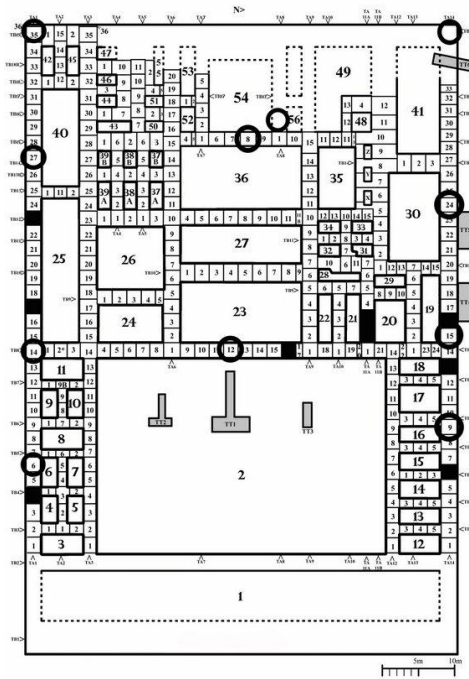
During the course of the University of Arizona's excavation of the Temple of Tausret, a great deal of pottery was recovered, bagged, saved and analyzed.<sup>1</sup> The pottery which has been found in other mortuary temples located in the neighborhood has, for the most part, been published,<sup>2</sup> but this chapter represents the first systematic study of the pottery from the Temple of Tausret. The pottery is a particularly important component of the artifacts found at this site, as a good deal of it was from a sealed layer and provides a unique corpus of evidence for late 19<sup>th</sup> Dynasty ceramics.

### THE POTTERY FROM STRATUM I

The pottery from Stratum I, the uppermost stratum on the site (see Chapter 4), is mainly comprised of sherds from the present day down to the end of the New Kingdom and offers a window into the later history of the site. The following discussion divides this post New Kingdom history into three ceramic time periods: 1) Modern, 2) Late Roman/Byzantine, and 3) Late Period. Displaced sherds of New Kingdom date found in Stratum I are considered in the Stratum II section.

#### *MODERN PERIOD*

Wheel-made Ballas jars (*balālis*), made of porous marl clay in order to keep water cool, have a long tradition in Egypt. Their bodies were decorated with combed registers of alternating horizontal and wavy lines. They were popular in the Ottoman Period and according to one of the site guards, are still in use today.<sup>3</sup> Fourteen fragments of these jars turned up in the trenches (8 rims and 6 body sherds). Their presence is probably an indication of work on the site under Petrie. The distribution of the Ballas fragments reflects the areas where Petrie's workmen stored their water jars as they worked to locate the temple's foundation deposits.



**Figure 6-1: Distribution of Ballas fragments**

- 1:1** Ballas jar. Prov: TA-14/13, 2005. Rim diam: 11 cm. Fabric: pale red, very dense with no core, tempered with abundant fine limestone, often decomposed and showing reaction rings, abundant voids. Surface: uncoated but exhibiting some white powdery substance.

*LATE ROMAN/BYZANTINE POTTERY (See Plate 6-1)*

Large assemblages of Late Roman/Byzantine pottery occur to the south at the Temple of Ramesses III at Medinet Habu, where the Coptic town of Djeme was located after the abandonment of the temple. Another large corpus of Byzantine material was found to the north in the Mortuary Temple of Seti I at Gurna. In contrast, the Temple of Merneptah and the Ramesseum have produced only small assemblages of Byzantine pottery.<sup>4</sup> Likewise, at the Temple of Tausret, only 50 small fragments of Roman/Byzantine amphorae, cooking pots, and fine dinner ware were found strewn throughout Stratum I. Only a few can be dated with confidence; these include the fine ware sherds and some heavily ridged body sherds from amphorae.



FINE WARE (total 2)

Small fragments of two Roman fine ware plates made from Aswan clay (Egyptian 'A' ware) were found, one on the surface and the other in the northwest quadrant of the temple (TB-14/3, Dec 2008). Egyptian 'A' ware did not occur in Egypt before the late 4<sup>th</sup> century A.D. according to J. Hayes.<sup>5</sup>

AMPHORAE (total 12 bases and 16 body sherds)

Twelve amphora bases or 'toes' with average widest diameter (hereafter written Mbd.) were clustered along both the north and south sides of the western end of the temple. Solid amphorae toes like these appear in great numbers on many sites in Egypt, beginning in the 1<sup>st</sup> century A.D.<sup>6</sup> and continuing until the 7<sup>th</sup> century A.D.<sup>7</sup> Without their accompanying rims or handles, these toes are almost impossible to date accurately.

The sixteen body sherds from amphorae were divided into those with smooth or gently ridged surfaces (possibly indicating 1<sup>st</sup> to 3<sup>rd</sup> centuries A.D.)

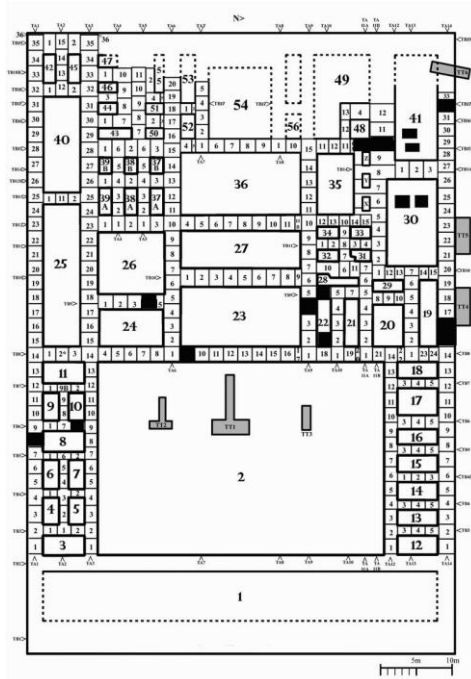


Figure 6-2: Distribution of amphorae

and those with deep or sharply ridged surfaces that were popular in the 4<sup>th</sup> to 7<sup>th</sup> centuries A.D. Eight of the body sherds that were very heavily ridged (i.e., coming from Late Roman 7 amphorae) clustered with the toes along the north and south sides of the western end of the temple. The evidence from the amphorae fragments in these areas is weighted towards a date between the 4<sup>th</sup> and 7<sup>th</sup> centuries A.D.

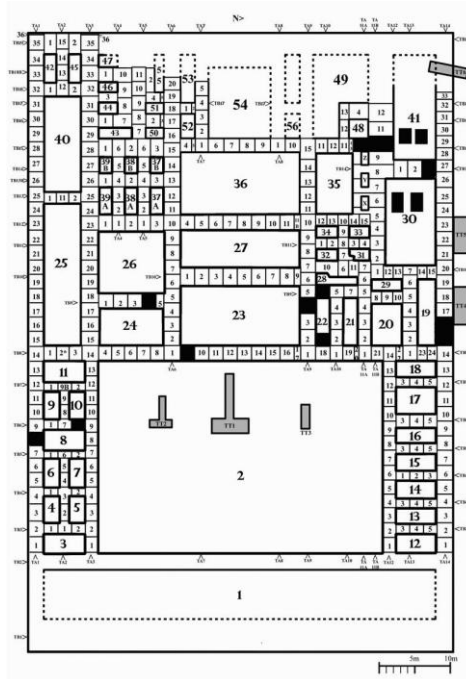


Figure 6-3: Distribution of cooking pots

COOKING VESSELS (total 20, 9 rims and 10 bodies, 1 base)

The sherds from the cooking vessels are more difficult to date, since the forms are very long-lived and appear both in early and late time periods. However, most of them do cluster in the northwest quadrant of the temple, which is where the Byzantine amphorae fragments predominate. Although there is a sprinkling of cooking pots sherds over the temple site, none appear on the southwestern or northeastern parts of the temple.

## Pottery

One group of sherds stands alone; four sherds from cooking pots with smooth surfaces and one amphora toe appear in units TA-1/8 and TB-6/2. There is a possibility that their date could be as early as the 1<sup>st</sup> century A.D.

In the Late Roman/Byzantine Period, a very popular Coptic monastery of St. Phoibammon was situated at Deir el-Bahri to the northwest of the Tausret Temple. Considering the large number of Christian pilgrims that would have been in the area during the 3<sup>rd</sup> to 7<sup>th</sup> centuries, the amount of pottery from this period is unexpectedly sparse at the Temple of Tausret. In any event, the few Byzantine sherds at the site concentrate in the northwest quadrant of the temple.

- 1:2 Amphora toe. Prov: S-25/4, 2006. Mbd: 5 cm. Fabric: Nile silt, chocolate brown, dense and heavy. Inclusions: abundant very fine sand (only seen underX20). Surface: uncoated  
*Parallel:* Aston 2008, Pl. 149:3041 (Late Roman 7 amphora).
- 1:3 Amphora toe. Prov: TB-8/21, 2005. Mbd: 5.5 cm. Fabric: Nile silt, chocolate brown, dense, no core. Inclusions: abundant very fine sand (only seen underX20). Surface: uncoated.  
*Parallel:* Aston 2008, Pl. 149:3042 (Late Roman 7 amphora).
- 1:4 Casserole. Prov: TB-14/3, Dec. 2008. Rim diam: 26 cm. Fabric: Nile silt, brown, medium dense, no core. Inclusions: frequent chaff and some fine sand. Surface: red-brown self-slip inside and out, sharply ridged on exterior.
- 1:5 Cooking pot. Prov: TB-14/ 3, Dec. 2008. Rim diam: 12.5 cm. Fabric: Nile silt, dense brown with a pink blended core. Inclusions: abundant very fine sand. Surface: uncoated, gently ribbed near base and blackened with soot. The pot has an inner ledge to accommodate a lid.
- 1:6 Amphora fragments. Prov: S-30/TU1, Jan. 2009. Mbd: 20 cm. Fabric: Nile silt, chocolate brown with no core. Inclusions: nothing obvious, Surface: uncoated, sharply ridged. Restoration is speculative. The sharp ridging suggests a Byzantine date.
- 1:7 Shallow plate with ring base. Prov: Surface, 2004. Base diam: 10 cm. Fabric: Egyptian A ware. Surface: fine rouletting decorates the inside of the plate. Judging by the shape of the low ring base, as well as the rouletting, the plate belongs to Hayes' Type 84 (dated 460-500A.D.) or Type 99 (dated 510-540 A.D.).<sup>8</sup>

*LATE PERIOD POTTERY*

The West Bank of Luxor continued to be the burial place of choice into the Late Period, as it had been for generations. Rather than dig their own tombs, the local elite population renovated existing shaft tombs in the hills behind the Ramesseum, as well as taking advantage of the existing rooms in the Ramesseum itself. Further north, Petrie found Late Period tomb structures with burial shafts dug into the ruins of the Temple of Amenhotep II.<sup>9</sup> To the south of the Ramesseum and immediately north of the Tausret Temple was the chapel of Khonsuirdis, a gold-worker in the Temple of Amun during the Saite Period.<sup>10</sup> It is not a surprise, therefore, that Late Period sherds are abundant on the West Bank of Luxor.

Although the Temple of Merneptah only produced 42 Late Period sherds, the Tausret Temple to its north had approximately 200 (at least half of the sherds processed from Stratum I). Most of the Late Period sherds cluster in the northwest quadrant of the Tausret Temple, where intrusive graves are found.

## PHOENICIAN STORAGE JARS

Large “Phoenician” storage jars or amphorae are common on Late Period sites throughout Egypt. Eleven fragments of these vessels were found at the Tausret Temple, most of them occurring in the northwest quadrant, but a few appear in the southwest corner of the temple as well. They all are very similar in fabric and form to those found at the Merneptah Temple, dated to the 27<sup>th</sup> Dynasty.<sup>11</sup> The upright rim and sloping shoulder are characteristic of this date.

- 1:8 Amphora shoulder. Prov: TA-1/35, Dec 2009. Mbd: 24.4 cm. Fabric: pale orange, dense, hard with a distinct yellow core. Inclusions: frequent small to large limestone particles, some red and black particles. Surface: pale orange.
- 1:9 Amphora rim. Prov: S-30/3A, Dec. 2009. Rim diam: 6.5 cm. Fabric: reddish-yellow (Munsell 5YR 6/6), dense, no core. Inclusions: frequent fine white particles, some tiny black grits. Surface: uncoated (white).
- 1:10 Amphora rim. Prov: S-30/2AB, Dec 2009. Rim diam: 6.5 cm. Fabric: pale orange, dense, no core. Inclusions: frequent limestone particles, frequent fine black rock particles, some red particles. Surface: traces of reddish slip.

NUBIAN

A very strange sherd (two joining pieces) was found on the northwest side of the temple. In style it resembles a Nubian bowl; however, no parallel has been found to date.

- 1:11** Bowl. Prov: TA-14/27, 2008. Mbd: 14 cm. Fabric: brown silt (Munsell 5YR 5/4), dense with black core. Inclusions: abundant very fine sand, mica. Surface: red slip inside and out (10R 5/4), white-painted triangles (over the red slip) alternating with red-slipped triangles. The triangles are incised in outline.

The Tausret Temple Project has excavated a large assemblage of Late Period pottery mixed in with some New Kingdom pottery in disturbed areas of Stratum I. While the New Kingdom fragments are small and defied restoration attempts, the later assemblage (e.g., the large storage jars manufactured in both marl and silt) was more amenable to matching joins. This is evidence that the Late Period vessels were broken on site. Representative examples of the most frequently occurring types have been chosen for illustration in Plates 2 and 3.

The silt fabrics from the Late Period differ little from those of the New Kingdom. However, there appears to be a larger proportion of well-fired and hard silts. In the softer silts the favorite temper appears to be chaff, in contrast to the New Kingdom's preference for limestone.

SILT VESSELS (*See Plate 6-2*)

- 2:1** Bowl. Prov: S-30/3B, Dec. 2009. Rim diam: 25 cm. Fabric: pale brown Nile silt, medium hard and dense, no core. Inclusions: abundant short straw, frequent sand. Surface: pale orange-brown, row of rope impressions below handle. *Parallels:* Aston 2008, Pl. 144, No. 2969, dated to the 27<sup>th</sup> Dynasty; Aston 1999, No. 2024, dated to late Saite-Persian Period at Elephantine.
- 2:2** Bowl. Prov: S-30/3B, Dec. 2009. Rim diam: 23 cm. Fabric: dark brown Nile silt, hard, no core. Inclusions: some sand and straw. Surface: dark red brown slip (Munsell 10R 5/3).

- 2:3 Cup. Prov: S-30/3, Dec. 2009. Rim diam: 14 cm. Fabric: brown Nile silt, dense, medium hard, no core. Inclusions: some very fine sand. Surface: uncoated.
- 2:4 Cup. Prov: S-30/2AB, Dec. 2009. Rim diam: 6.5 cm. Fabric: red-brown silt, dense, soft, no core. Inclusions: frequent short chaff. Surface: red interior, uneven red rim on uncoated exterior. *Parallel*: Aston 1996, Fig. 217: i-j, found at the Ramesseum and dated to the 7<sup>th</sup> century B.C.
- 2:5 Incense cup. Prov: TB-14/3, Dec. 2008. Base diam: 5.7 cm. Fabric: brown Nile silt, medium coarse, soft, core pink. Inclusions: frequent sand and straw. Surface: white coating inside and out (maybe salt). *Parallel*: Masson in press, Figures 15 and 16 (Ptolemaic).
- 2:6 Incense cup. Prov: TA-11B/4, Dec. 2008. Base diam: 8.8 cm. Fabric: brown Nile silt, medium coarse, soft, core pink, inclusions: frequent sand and straw. Surface: white coating inside and out (maybe accretions). *Parallels*: Masson in press, Fig: 17 (Ptolemaic).
- 2:7 Storage jar. Prov: S30-4, Dec 2009. Rim diam: 18 cm. Fabric: red-brown Nile silt, coarse, medium hard, with a wide pink-black-pink core. Inclusions: frequent chaff, some sand and limestone. Surface: uncoated, decorated with a painted white band starting at the neck (so thickly that it drips) and spiraling downward around pot towards the base. The white paint contrasts nicely against the natural red surface of the jar. This wide mouth store jar was reconstructed from many pieces collected from 6 different units.<sup>12</sup> *Parallels*: Lecuyot 1993/1994, Fig.3: c. 25<sup>th</sup> dynasty; Masson in press, fig: 40, dated to 26<sup>th</sup> to early 27<sup>th</sup> Dynasty.
- 2:8 Cooking jar. Prov: TA-3/35, Dec. 2009. Rim diam: 9 cm. Fabric: chocolate brown Nile silt, medium coarse, pink core, medium soft. Inclusions: frequent chaff and sand. Surface: uncoated, blackened. *Parallel*: Masson in press, Fig: 2 and 3, dated to the Ptolemaic Period.
- 2:9 Jar. Prov: TA-11B/5, Dec. 2009. Rim diam: 10 cm. Fabric: red-brown, Nile silt, dense, hard, black core, zoned. Inclusions: some sand and some weathered lime-stone. Surface: red slip.
- 2:10 Jar. Prov: TB-19/2, Dec. 2009. Rim diam: 10 cm. Fabric: red-brown Nile silt, black, zoned core, hard. Inclusions: very fine sand. Surface: red slip. *Parallel*: Aston 1999, Pl. 69 No. 1996, dated to the Persian Period.

MARL VESSELS (*See Plate 6-3*)

Marl clay vessels were numerous in the Theban region, especially during the Late Period. The predominant marl fabric is a dense and very hard marl clay that fires to a color ranging from pink to beige to green. It is tempered with rare to frequent small white limestone inclusions. The surface of this fabric naturally fires to a cream color. It corresponds to the fabric Marl A4 variant 2 of D. Aston.<sup>13</sup> It was most commonly used for large storage vessels and carinated bowls, which are frequently ribbed on the exterior. Another marl fabric exhibits a yellow to green porous section; limestone is absent, but occasionally red or black particles are present. Pamela Rose describes these green marl sherds as being the regular Late Period marl that has been fired exceptionally high, so that the limestone particles have decomposed and are replaced by voids.<sup>14</sup>

- 3:1** Bowl. Prov: S-30/4, Dec. 2009. Rim diam: 15 cm. Fabric: pale orange marl, dense and hard, with yellow core. Inclusions: abundant fine limestone, some fine sand. Surface: uncoated. *Parallels:* Lecuyot 1993/1994, Fig.3:e, dated 22<sup>nd</sup> to 25<sup>th</sup> Dynasty; Masson in press, Fig. 31, dated 26<sup>th</sup> Dynasty.
- 3:2** Bowl. Prov: S-30/2AB, Dec. 2009. Rim diam: 21.5 cm. Fabric: reddish-pink marl, very dense, pale brown core. Inclusions: abundant very fine sand, some fine limestone. Surface: uncoated. *Parallel:* Aston 2008, Pl.143, No. 2959, dated 25<sup>th</sup>-26<sup>th</sup> Dynasty.
- 3:3** Cup. Prov: S-30/3AB, Dec. 2009. Rim diam: 10 cm. Fabric: pale orange marl, yellow core. Inclusions: abundant voids, some tiny red and black particles. Surface: coated with accretions. *Parallels:* Lecuyot 1993/1994, Fig.3:h, dated to 22<sup>nd</sup> to 25<sup>th</sup> Dynasty; Masson in press, Fig. 75.
- 3:4** Cup. Prov: S-30/3AB, Dec. 2009. Rim diam: 12 cm. Fabric: pale yellow marl, soft, no core. Inclusions: none visible. Surface: uncoated. *Parallels:* Lecuyot 1993/1994, Fig. 3:g, dated to 22<sup>nd</sup>-25<sup>th</sup> Dynasty; Aston 2008, Pl.143, No. 2962, dated to 25<sup>th</sup>-26<sup>th</sup> Dynasty.
- 3:5** Jar. Prov: S-30/2AB, Dec. 2009. Rim diam: 5 cm. Fabric: green-colored marl, medium dense, no core. Inclusions: abundant voids, frequent black particles and some small red particles. Surface: green. Four fragments of this fabric were found, from four different vessels scattered over the site.

- 3:6 Jar. Prov: S-30/3A/B, Dec. 2009. Rim diam: 11 cm. Fabric: yellow-green Marl. Inclusions: frequent voids, some tiny black particles. Surface: uncoated. *Parallel*: Aston 2008, Pl. 144, No. 2976-2978, dated to 27<sup>th</sup> Dynasty.
- 3:7 Wide-mouth store jar. Prov.: TA-12/3, May 2005. Rim diam: 22 cm. Fabric: yellow green Marl, no core. Inclusions: frequent voids, some black particles. Surface: gentle ridges cover thin-walled body. This jar was reconstructed from many pieces coming from different units. Date: 25<sup>th</sup> to early 26<sup>th</sup> Dynasty.<sup>15</sup> *Parallels*: Mysliwicz, 1987, No. 477-478, dated to Late Period.

### SUMMARY OF STRATUM I POTTERY

After the Temple of Tausret was abandoned, life continued on the West Bank and is reflected in the pottery found at the site. The distribution of the Ballas fragments reflects the areas where Petrie's workmen looked for the temple's foundation deposits at the end of the 19<sup>th</sup> century A.D. The 50 Roman/ Byzantine sherds scattered about the site are evidence that people were present in the late 4<sup>th</sup> and 5<sup>th</sup> centuries A.D. During the Late Period (ca. 750 – 300 B.C.), the local population clearly used the northwestern portion of the Tausret Temple for burials. This is only part of a much larger cemetery that encompassed a large swath of the Qurnet Murai, which lies west of the modern road behind the Ramesseum and continued south as far as Medinet Habu. The sherds found in the Ramesseum and the Temple of Tausret range in date from the 25<sup>th</sup> to the 27<sup>th</sup> Dynasty. Some forms continue on into the early Ptolemaic Period. Five of the Late Period vessels illustrated here<sup>16</sup> are exactly the same forms as those that were found in intrusive Late Period burials in the Theban tomb of Senneferi (TT99).<sup>17</sup> Rose presumed these to be the remains of offering pottery; most of the Late Period pottery found at the Tausret Temple also may be presumed to be "offering pottery".

### THE POTTERY FROM STRATUM II

Although the UAEE excavation of the Tausret Temple site has succeeded in outlining the original plan of the entire temple, only about two-thirds of Stratum II – the New Kingdom stratum - has been excavated, leaving the rest of the stratum for future archaeologists. Most of the blocks that had originally sealed the sand layer in the foundation trenches were removed in ancient times, though a number remain. During the 2006 season, a limestone building



## Pottery

block was found *in situ* on top of the sand layer. It bore a hieratic inscription which read "regnal year eight, first month of summer, day 23" which translates into c. 1200 B.C. Therefore Stratum II, the sealed level of the foundation trenches of the original temple, gives a *terminus ad quem* for the pottery found therein in the reign of Queen Tausret.

### FOUNDATION DEPOSITS

Petrie's men evidently concentrated their excavation in areas where the trenches intersected, along the sidewalls and in the corners of main walls, in the expectation of finding foundation deposits. In his publication of Queen Tausret's temple, Petrie included a chart showing which type of object was found in each deposit.<sup>18</sup> Unfortunately, the chart is incomplete when he reaches the pottery. However, he did publish a drawing of eight vessels which represented the types of pottery that he found in the deposits.<sup>19</sup> Beer jars and simple bowls, both small and large, appear to be important to the ritual and appear in all foundation pits. Although whole vessels appear in the foundation deposits, Petrie mentions the presence of broken objects as well. Wilkinson also noticed the presence of small clusters of objects including ceramic sherds sprinkled randomly between some of the main foundation deposits (see Chapter 4).

### PROCESSING

Our main goal was to document fully all of the pottery that had been sealed in Stratum II when the temple's foundation trenches were filled.<sup>20</sup> All of the diagnostic sherds were examined with a handheld x10 lens at a fresh break to establish the fabric. Each sherd was then described in detail and drawn by the artist. All of the diagnostic sherds were later put into a database. This process was very time consuming, but it did provide an excellent archive of the ceramics that were found on the site. We now have 1,030 diagnostic sherds entered in the database, of which 393 came from Stratum II.

### COMPARANDA

Temples that are close in date to the Tausret Temple are the Temple of Merneptah,<sup>21</sup> the Temple of Seti I at Gurna,<sup>22</sup> and the Ramesseum of Ramesses

II.<sup>23</sup> The closest match to our pottery comes from the 'Priest House' at the Temple of Merneptah, dated to the late 19<sup>th</sup> Dynasty.

### FABRICS

An attempt has been made to correlate the Tausret Temple fabrics with the Vienna System.<sup>24</sup>

### SILT

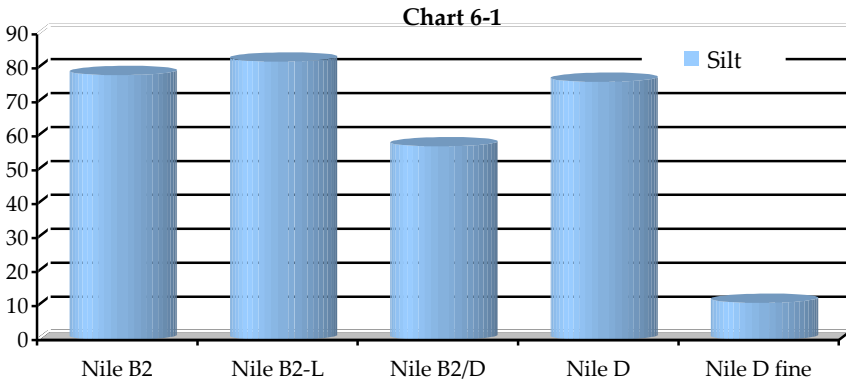
#### NILE B2 AND NILE D

The most common ware found at the Temple of Tausret is a Nile silt clay, which fires to a color that ranges from a cinnamon brown (Munsell 7.5YR 6/4) to a rusty orange (Munsell 2.5YR 6/8). The freshly chipped sections usually exhibit a black or red-black-red core. This ware is sometimes tempered with small amounts of sand or fine chaff, but in almost all cases a varying amount of weathered or decomposing limestone is present. In many cases it was difficult to separate the silt sherds into Nile B2 and Nile D, as described in the Vienna System.<sup>25</sup> We described the amount of limestone in each sherd as 'some', 'frequent' or 'abundant'.<sup>26</sup> Only those sherds that exhibited 'abundant' limestone were categorized as Nile D. The Nile silt fell into five main divisions.

#### NILE B1 - 2

- 1 - Nile B2, with no limestone - 78
- 2 - Nile B2-L with some limestone - 82
- 3 - Nile B2/D with frequent limestone - 57
- 4 - Nile D (a silt with abundant limestone) - 76
- 5 - Nile D fine - 11
- Nile E - 1
- Nile silt (no information) - 27

## Pottery



Whether the limestone in the clay was intentional or not is unknown. Compared to many other sites in Egypt, the clay at the Tausret Temple has less chaff and considerably more limestone. This situation has not gone unnoticed in other Theban sites; for example, Pam Rose has based the division of her fabrics at some Theban tombs on the absence or presence of limestone.<sup>27</sup> David Aston has also noticed the presence of limestone in Nile B2 at the Temple of Merneptah.<sup>28</sup> Only 79 out of 304 sherds have no limestone inclusions. The use of the different Nile B fabrics for the same ceramic forms suggests that some of these fine divisions would have been irrelevant for the potter.

## MARL

A total of 32 diagnostic sherds were manufactured from marl clay.

### MARL A

Eighteen diagnostic sherds were manufactured from Marl A, a local Theban clay. It is a hard, homogeneous, pale red fabric (Munsell 5YR 5/6) that is tempered with fine sand and very fine limestone particles. Marl A is divided into fine (A2) and coarse (A4).

### MARL D

Eleven Egyptian amphorae in the corpus were manufactured of Marl D. The Vienna System<sup>29</sup> describes this ware as a dense, hard fabric with

abundant fine to medium particles of limestone added as temper to the clay. There can also be present fine to coarse sand grains and some dark rock material in the clay. The clay fires from grayish-brown to red-brown, often with no core. The ware is usually coated with a thick cream slip. The clay source or sources of Marl D may be in the Delta or Memphite region where vessels found in this fabric are very common during the 18<sup>th</sup> and 19<sup>th</sup> Dynasties.<sup>30</sup>

MARL F

Aston describes Marl F, which is not in the Vienna System, as a distinctive fabric common in the Eastern Delta and North Sinai. The section fires a very pale brown (Munsell 10YR 7/3) with a white surface color. It is tempered with abundant sand, limestone grits, and occasional small pebbles. It is most often used for slender amphorae with pointed bases.<sup>31</sup> Three Marl F sherds were found in Stratum II.

FORMS

CLOSED		OPEN	
Amphora	31	Bowls	26
Dockets	3	Bowls, carinated	8
Bottle	1	Bowls, large	2
Body sherds of blue-painted jars	43		
Jars (mostly long-necked)	86	Bowls, simple	74
Beer jars	82	Cups	3
Globular beer jars	2	Tub	1
Cooking jar	1	Lid	1
Hathor jar	1	Ring stand	1
Meat jar	4	Bread molds	3
Jar, wide-mouth	4		
Jarlet	2		
<b>Totals</b>	<b>260</b>		<b>119</b>

Chart 6-2: Showing Frequency of Forms in Stratum II

## Pottery

There were fourteen additional vessels fragments that were too small to identify.

### BOWLS

One hundred and eight rims of bowls were found in Stratum II, of which 74 were simple bowls.

#### SIMPLE BOWLS (*See Plate 6-4*)

Diagnostic rim fragments of 74 simple bowls were excavated from Stratum II. These sherds, along with the fragments of beer jars, represent the most frequent forms found in the sand of the foundation trenches. These forms also occur in the original foundation deposits of the Tausret Temple published by Petrie.<sup>32</sup> In addition, these simple bowls are plentiful in the ceramic assemblages of the neighboring temples of Merneptah<sup>33</sup> to the south and Thutmose IV to the north.<sup>34</sup>

Simple bowls, coated with red slip or decorated with red rims, are characteristic of the 19<sup>th</sup> Dynasty, and this type of decoration also continues into the 20<sup>th</sup> and 21<sup>st</sup> Dynasties. Of the 74 fragments, only seventeen were uncoated, and eighteen fragments had red rim bands on an uncoated surface. Seventeen bowls were red-slipped inside and out, fourteen were slipped on the interior only, five were slipped on the exterior. Three bowls were red-slipped and burnished inside and out. Most of the bowls had a red rim band painted along the rim. The most common width of the rim band was one centimeter. A less common variant (sixteen examples) exhibited wider rim bands that were almost two centimeters wide. The red paint extended over the top of the rim and appeared as a narrow red band along the exterior.

#### *Wide red rim on interior*

- 4:1** Bowl. Prov: TA-14/6, 2005. Rim diam: 24 cm. Fabric: Nile D.
- 4:2** Bowl Prov: S-35/3, Dec. 2009. Rim diam: 27 cm. Fabric: Nile B2-L.

This bowl was found in Stratum I and thus stratigraphically postdates the pottery presented here from the sand level in Stratum II. However, it is the only bowl found on the site with its base and is representative of the type of simple bowls shown on Plate 1. These bowls are ubiquitous in the 19<sup>th</sup>

Dynasty, and they continue in popularity throughout the 20<sup>th</sup> and 21<sup>st</sup> Dynasties.<sup>35</sup>

- 4:3 Bowl. Prov: TB-7/1, 2005. Rim diam: 25 cm. Fabric: Nile B2.

*Red slip on exterior, wide red rim on interior*

- 4:4 Bowl. Prov: TA-14/11, 2005. Rim diam: 23 cm. Fabric: Nile B2-L.

*Red slip on interior and exterior*

- 4:5 Bowl. Prov: TA-1/16, 2006. Rim diam: 20 cm. Fabric: Nile B2.  
4:6 Bowl. Prov: TA-1/17, 2006. Rim diam: 25 cm. Fabric: Nile B2/D.  
4:7 Bowl. Prov: TA-1/18, 2006. Rim diam: 25 cm. Fabric: Nile B2-L.

*Red rim in and out on uncoated*

- 4:8 Bowl. Prov: TA-1/14, 2004. Rim diam: 24 cm. Fabric: Nile B2/D.

*Red slip on interior, red rim on exterior*

- 4:9 Bowl. Prov: TB-8/13, 2005. Rim diam: 20 cm. Fabric: Nile B2-L.  
Surface: white paint drips down exterior wall.  
4:10 Bowl. Prov: TB-8/2, 2004. Rim diam: 30 cm. Fabric: Nile B2/D.

*Red slip on interior*

- 4:11 Bowl. Prov: TB-6/2, 2004. Rim diam: 30 cm. Fabric: Nile B2-L.

*Uncoated*

- 4:12 Bowl. Prov: TA-14/6, 2005. Rim diam: 23 cm. Fabric: Nile B2/D.  
4:13 Bowl. Prov: TA-14/16, 2006. Rim diam: 35 cm. Fabric: Nile B2/D. Surface: four bands of rope impressions below rim.  
This large bowl with rows of rope impressions on the exterior is a popular item in the Tausret Temple foundation deposits.<sup>36</sup>  
4:14 Base of bowl. Prov: TA-1/17, 2006. Base diam: 8 cm. Fabric: Nile B2-L. Surface: uncoated.  
4:15 Base of bowl. Prov: TA-13/5, 2006. Base diam: 8 cm. Fabric: Nile D. Surface: uncoated.

*Carinated bowls (See Plate 6-5)*

- 5:1 Bowl. Prov: TB-8/23, 2005. Rim diam: 20 cm. Fabric: Nile B2-L.  
Surface: red-slipped inside and out (Munsell 10R 3/4), incised horizontal bands on exterior below rim. This sherd dates to the Middle Kingdom.  
*Parallel:* Marchand 2004, Fig. 19, dated to the 11<sup>th</sup> Dynasty.

## Pottery

- 5:2** Bowl. Prov: TA-6/2, 2006. Rim diam: 20 cm. Fabric: Nile B2-L. Surface: uncoated.
- 5:3** Bowl. Prov: TA-14/17, 2006. Rim diam: 25 cm. Fabric: Nile B2-L. Surface: red-slipped and burnished inside and out. Interior is blackened.
- 5:4** Bowl. Prov: TA-1/17, 2006. Rim diam: 23 cm. Fabric: Nile B2/D. Surface: uncoated. *Parallel:* Mysliwiec 1987, Nos. 246-247.
- 5:5** Bowl. Prov: TB-8/1. 2004. Rim diam: 55 cm. Fabric: Nile B2. Surface: red-slipped exterior with two horizontal black bands above carination, uncoated interior. *Parallel:* Aston 2008, pg. 165, pl. 51 No. 995, very similar bowl, but made in Marl clay and dated to the late 18<sup>th</sup> Dynasty.
- 5:6** Bowl. Prov: TA-6/5, 2006. Rim diam: 37 cm. Fabric: Nile B2/D. Surface: blue-painted band on red-slipped background.

### *Bowls with modeled rims*

- 5:7** Bowl. Prov: TA-1/18, 2006. Rim diam: 38 cm. Fabric: Nile B2-L. Surface: uncoated inside and out, red paint on top of rim, band of rope impressions below rim. *Parallel:* Mysliwiec 1987, Nos.194-198.
- 5:8** Bowl. Prov: TB-8/3, 2004. Rim diam: 25 cm. Fabric: Nile B2/D. Surface: red slipped inside and out.
- 5:9** Bowl. Prov: TB-8/2. 2004. Rim diam: 50 cm. Fabric: Nile B2-L. Surface: red-slipped inside and out, incised rope impression below rim.

### *Ledged bowl*

- 5:10** Bowl. Prov: TA-6/3, 2006. Rim diam: 50 cm. Fabric: Nile B2-L. Surface: uncoated inside and out, white paint on rim above ledge inside and out, two bands of rope impressions below ledge, patches of soot on rim. *Parallels:* Petrie 1897, pl. XVII:10, in Tausret Temple foundation deposit. Aston 2008, fig.19:e.

### *Bowl bases*

- 5:11** Base of bowl. Prov: TB-8/5, 2005. Base diam: 19 cm. Fabric: Nile B2.D. Surface: uncoated.
- 5:12** Base of bowl. Prov: TA-3/9, 2004. Base diam: 15 cm. Fabric: Nile B2-L. Surface: red-slipped and burnished inside and out (Munsell 10YR 4/4).

- 5:13 Base of bowl. Prov: TA-11/5, 2006. Base diam: 5.3 cm. Fabric: Nile B2/D. Surface: uncoated.

BEER JARS (*See Plate 6-6*)

One of the most common vessel forms found on New Kingdom sites is that of the ubiquitous 'beer jar'.<sup>37</sup> The term 'beer jar' is used here because it is well-known in the ceramic literature. They were rarely slipped, and their non-compacted surfaces allowed them to breathe and therefore to keep their contents cool, a typical requirement for water or beer. Although this characteristic suggests these vessels held liquids, the jars' original contents have never been firmly identified.

All the beer jars were manufactured on the wheel from Nile silt, which is classified as Nile B2, with varying amounts of limestone added. Their apertures average 10-12 cm. The rims and upper shoulders of the jars appear to have received careful modeling and smoothing in comparison to the lower bodies which are often coarse with obvious wheel marks and an unfinished appearance. Included among the fragments of beer jars in our corpus are the heavy crude flat bases with the familiar finger indentations that are the signature of New Kingdom beer jars of the 18<sup>th</sup> and 19<sup>th</sup> Dynasties. So far, 159 diagnostic fragments of beer jars from the Temple of Tausret have been drawn and described, 82 of which were found in Stratum II. The rims fall into two categories, a vertical rim<sup>38</sup> (Type B4) in Holthoer's typology and an incurving rim (Type B2). Petrie himself comments on the many jars of this type in the foundation deposits.<sup>39</sup> He also remarked that many of the objects were broken, as indeed was our pottery.

*Upright rims (Total 56 - 29 in stratum II)*

- 6:1 Beer jar. Prov: TB-8/6, 2005. Rim diam: 11 cm. Fabric: Nile B2/D. Surface: uncoated.
- 6:2 Beer jar. Prov: TB-9/3, 2006. Rim diam: 9 cm. Fabric: Nile D fine. Surface: uncoated.
- 6:3 Beer jar. Prov: TB-8/5, 2005. Rim diam: 9 cm. Fabric: Nile B2-L. Surface: uncoated.
- 6:4 Beer jar. Prov: TA-14/5, 2005. Rim diam: 10 cm. Fabric: Nile B2-L. Surface: uncoated.
- 6:5 Beer jar. Prov: TA-14/17, 2006. Rim diam: 8 cm. Fabric: Nile B2-L. Surface: uncoated.



## Pottery

### *Globular jar with beer-type rim*

- 6:6** Beer jar. Prov: TA-1/7, 2005. Rim diam: 8 cm. Fabric: Nile D. Surface: uncoated. The rim of this jar is identical to the beer jars, and only because it was found intact could the globular shape be identified. An additional fragment of this type was found in the same locus. This locus was very close to the disturbed foundation deposit in Trench TA-1/5/6. The intact vessel may have been part of the original foundation deposit that escaped detention by Petrie's workmen.

### *Inturning rims (Total 34 – 12 in Stratum II)*

- 6:7** Beer jar. Prov: TB-8/2, 2004. Rim diam: 10 cm. Fabric: Nile B2/D. Surface: uncoated.
- 6:8** Beer jar. Prov: TA-1/17, 2006. Rim diam: 8 cm. Fabric: Nile B2/D. Surface: uncoated.
- 6:9** Beer jar. Prov: TA-2/5, 2004. Rim diam: 11 cm. Fabric: Nile B2-L. Surface: uncoated.

### *Bases*

- 6:10** Beer jar. Prov: TB-8/2, 2004. Base diam: 9 cm. Fabric: Nile B2/D. Surface: uncoated.
- 6:11** Beer jar. Prov: TA-2/7, 2004. Base diam: 9 cm. Fabric Nile B2/D. Surface: uncoated.
- 6:12** Beer jar. Prov: TB-12/10, 2008. Base diam: 7.5 cm. Fabric: Nile B2-L. Surface: uncoated.
- 6:13** Beer jar. Prov: TB-8/2, 2004. Base diam: 11 cm. Fabric: Nile B2/D. Surface: uncoated.
- 6:14** Beer jar. Prov: TA-14/4, 2005. Base diam: 7.5 cm. Fabric Nile B2-L. Surface: uncoated.

## DISTRIBUTION OF BEER JARS AND SIMPLE BOWLS IN STRATUM II

Intact beer jars and simple bowls consistently are found together in New Kingdom foundation deposits and therefore must possess some traditional and ceremonial value that far exceeds their humble appearance. It can hardly be a coincidence that fragments of beer jars and simple bowls predominate in Stratum II. Egyptians believed that the part (e.g., a part of a beer jar or bowl) could represent the whole (e.g., a complete vessel with contents) in the future.

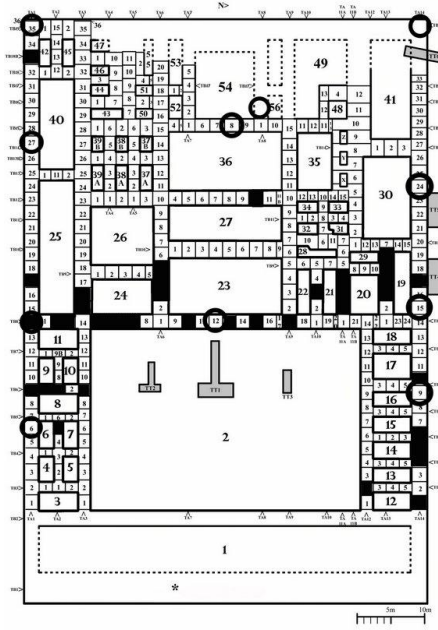


Figure 6-4: Distribution of beer jars

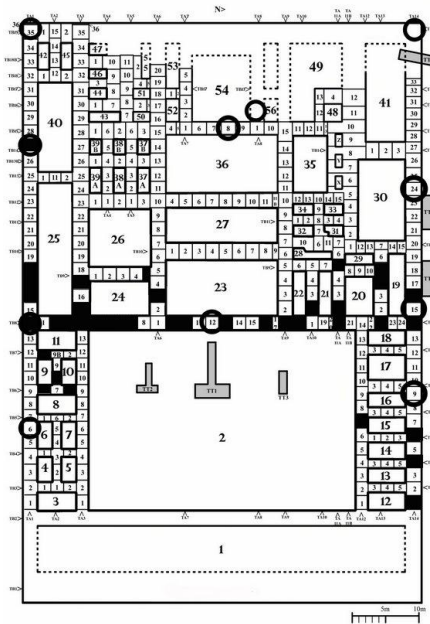


Figure 6-5 Distribution of simple bowls

## Pottery

The units shaded in black in Figures 6-4 and 6-5 show the distribution of beer jars and simple bowls in the foundation trenches. The circles mark the foundation deposits.

### JAR TYPES

Funnel-necked jars are ubiquitous in the New Kingdom from the mid-18<sup>th</sup> Dynasty until the end of the 19<sup>th</sup> Dynasty. Most of the diagnostic jar rims found in the foundation trenches had long necks with contours that were vertical, slightly everting, or bulging outward. The rims were either direct or modeled. Neckless jars were far less numerous. Decoration consisted of red-slipped surfaces, some with white paint added in streaks or blobs. Many of these vessels were painted with registers of blue-painted panels on cream slip.

#### Silt Jars (*See Plate 6-7*)

- 7:1 Jar. Prov: TB-8/24, 2005. Rim diam: 8 cm. Fabric: Nile B2-L. Surface: uncoated. *Parallel*: Rose 2007, pg. 247. No. 437.
- 7:2 Jar. Prov: TB-5/1, 2005. Rim diam: 8 cm. Fabric: Nile B2/D. Surface: uncoated. *Parallel*: Bourriau 2010, pg. 339 Type. 10.4.2.
- 7:3 Jar. Prov: TA-3/8, 2004. Rim diam: 12 cm. Fabric: Nile D. Surface: red-slipped.
- 7:4 Jar. Prov: TB-8/24, 2005. Rim diam: 17 cm. Fabric: Nile B2/D. Surface: red-slipped.
- 7:5 Jar. Prov: TA-14/17, 2006. Rim diam: 9 cm. Fabric: Nile B2/D. Surface: uncoated, blotches of white paint.
- 7:6 Jar. Prov: TA-14/16, 2006. Rim diam: 9 cm. Fabric: Nile B2. Surface: red-slipped, white paint dripping down one side.
- 7:7 Jar. Prov: TA-11/3, 2006. Rim diam: 12 cm. Fabric: Nile B2-L. Surface: red-slipped.
- 7:8 Jar. Prov: TA-1/5, 2005. Rim diam: 11 cm. Fabric: Nile B2/D. Surface: cream-slipped background, red and black bands. Although no blue paint was visible on the fragment, it is probable that this was actually a blue-painted jar.
- 7:9 Jar. Prov: TA-10/2, 2006. Rim diam: 15 cm. Fabric: Nile D. Surface: red-slipped, blackened.
- 7:10 Jar. Prov: TA-10/2, 2006. Rim diam: 13 cm. Fabric: Nile B2/D. Surface: red-slipped, blackened, white paint on rim. *Parallel*: Aston 2008, pg. 121, no. 572.
- 7:11 Jar. Prov: TB-8/2, 2004. Rim diam: 20 cm. Fabric: Nile B2-L. Surface: red-slipped exterior, red rim inside.

- 7:12 Jar. Prov: TB-8/24, 2005. Rim diam: 9 cm. Fabric: Nile B2. Surface: red-slipped. *Parallel*: Aston 2008, pg. 126, no. 653.
- 7:13 Jar. Prov: TB-3/1, 2005. Rim diam: 10 cm. Fabric: Nile D fine. Surface: uncoated. *Parallel*: Aston 2008, pg. 128, no. 677.

Marl Vessels (*See Plate 6-8*)

- 8:1 Jar. Prov: TA-11/2, 2006. Rim diam: 15 cm. Fabric: Marl D. Surface: cream slip.  
*Parallel*: Bourriau 2010, fig. 69: tall jar type 10.14.14, dated to the 19<sup>th</sup> Dynasty.
- 8:2 Jar. Prov: TA-6/5, 2006. Rim diam: 10 cm. Fabric: Marl A2. Surface: uncoated, row of black dots on a band. This is a decoration characteristic of the mid 18<sup>th</sup> Dynasty and is earlier than most of the sherds. *Parallels*: Guidotti and Silvano 2003, Fig: 11 D: 104-107; Mysliwiec 1987, pg. 33, No 41.
- 8:3 Jar. Prov: TA-10/2, 2006. Rim diam: 12 cm. Fabric: Marl A2. Surface: uncoated.
- 8:4 Meat jar. Prov: TA-2/5, 2004. Rim diam: 17 cm. Fabric: Marl A2. Surface: uncoated.  
*Parallel*: Aston, 2008, pg. 171, pl.54 no. 1059
- 8:5 Bottle. Prov: TA-1/16, 2006, Rim diam: 3.5 cm. Fabric: Marl A2. Surface: red-slipped and burnished. *Parallel*: Rose, 1996. Pl. 64, No. 66; the example is made of red-slipped and burnished silt.
- 8:6 Shoulder. Prov: TA-14/13, 2005. Mbd. 13 cm. Fabric: Marl A. Surface: four black horizontal bands on uncoated.
- 8:7 Jar. Prov: TB-6/2, 2004. Mbd. 13 cm. Fabric: Marl A2. Surface: cream-slipped background, blue, black and red bands.
- 8:8 Jar, body. Prov: TB-8/20, 2005. Mbd. 10 cm. Fabric: Marl A2. Surface: cream-slipped background, large blue petal and stamen.
- 8:9 Jar body. Prov: TB-9/9, 2006. Mbd. 35 cm. Fabric: Marl A4. Surface: cream-slipped background, blue, red and black bands.
- 8:10 Jar body. Prov. TA-3/13, 2004. Mbd. 16 cm. Fabric: Marl A2. Surface: black and red decoration on a cream background.  
*Parallel*: Aston, 2008, pg. 95, Pl. 18, No. 381, dated between Ramesses II and Merneptah.
- 8:11 Bowl. Prov: S-24/2, 2006. Rim diam: 30 cm. Fabric: Marl A2. Surface: red-slipped and burnished inside and out.
- 8:12 Bowl. Prov: TB-6/2, 2004. Rim diam: 19 cm. Fabric : Marl A2. Surface: red-slipped inside and out, black ties on rim.
- 8:13 Base of bowl. Prov: TA-11/2, 2006. Base diam: 10 cm. Fabric: Marl D. Surface: cream-slipped inside and out.

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### BLUE-PAINTED POTTERY

This section considers all the blue-painted pottery sherds from both Stratum I and II of the temple site as sherds of this clearly New Kingdom type were sometimes found mixed into the upper stratum in disturbed areas.

Blue-painted pottery has often been called *Amarna Ware* in the popular literature. Although this ceramic decorative style reached its *floruit* during the Amarna Period at the end of the 18<sup>th</sup> Dynasty (reigns of Akhenaten and Tutankhamun), blue paint appears on vessels as early as the reign of Amenhotep II<sup>40</sup> and continues to appear through the 19<sup>th</sup> Dynasty and into the 20<sup>th</sup> Dynasty. The latest firmly dated appearance of blue-painted pottery occurs in the tomb of Ramesses IV.<sup>41</sup> Therefore it is not surprising to find blue-painted pottery from the 19<sup>th</sup> Dynasty at the Temple of Tausret.

The excavation at the Tausret Temple provides a unique opportunity to study the occurrence of blue-painted vessels at the end of the 19<sup>th</sup> Dynasty as the sand level in the foundation trenches of the temple has been reliably dated to c. 1200 B.C. A total of 95 blue-painted sherds have been processed so far from the excavations, 49 from the sand level of Stratum II and 46 from the overburden in Stratum I. This paucity of decorated material is not unexpected, since it is known that the occurrence of blue decoration on ceramics diminished greatly after the reign of Ramesses II.<sup>42</sup>

The majority of the blue-painted sherds were manufactured from Nile silt. Typically they were coated with a cream or peach slip, providing an attractive background for the painted design. Far less frequent are red slip or uncoated wares. Only four sherds were made from a marl clay. The blue pigment (cobalt aluminate spinell) that decorated the sherds is thought to have come from the Khargeh or Dakhleh Oases.<sup>43</sup> The color of the blue paint found on the Tausret Temple sherds is Munsell Gley 2 8/1 8/2.

Our information about the shapes of the blue-painted vessels at the Temple of Tausret is limited because only sixteen rims have been found so far. Unfortunately, the fragments are small. Nevertheless, the rims as well as the decoration fit into the 19<sup>th</sup> Dynasty repertoire of forms, such as ovoid, funnel-neck, and neckless jars, and large carinated bowls. Because of the small size of the sherds, it is difficult to estimate the actual number of blue-painted vessels that the fragments represent. The rims are from sixteen different vessels, seven in the sealed stratum and nine in the fill above. Considerable effort was taken in hunting for matches among the blue-painted sherds, between loci and between different seasons, and it is significant that

so few joins or matches could be made. In the Stratum II foundation trenches there were no joins, indicating that the blue-painted sherds did not come from vessels broken at the site. In contrast, the one restorable blue-painted jar (illustrated on Pl. 6:4) was found on a Stratum II floor surface of the temple.

### DISTRIBUTION OF BLUE-PAINTED SHERDS

The units shaded in black in Figs. 6-6 and 6-7 show the distribution of blue-painted sherds in Stratum I and Stratum II. The circles indicate the location of the main known foundation deposits. Blue-painted pottery is not found in the foundation deposits themselves, but clearly clusters around the deposit areas. During the excavation by the University of Arizona, many faience objects, especially beads, were found in clusters in the sand around and between the actual foundation deposits. The blue-painted sherds have a

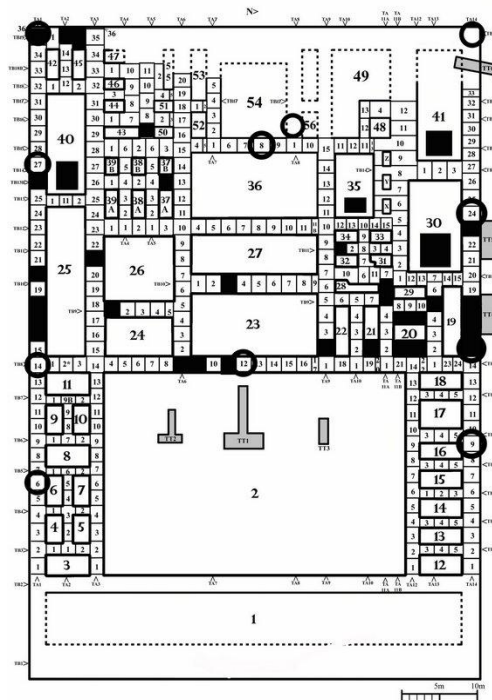


Fig.6-6: Stratum I blue-painted sherds

## Pottery

similar distribution. The western third of the temple was not excavated into Stratum II in many areas, thus explaining the absence of blue-painted sherds in this part of the map.

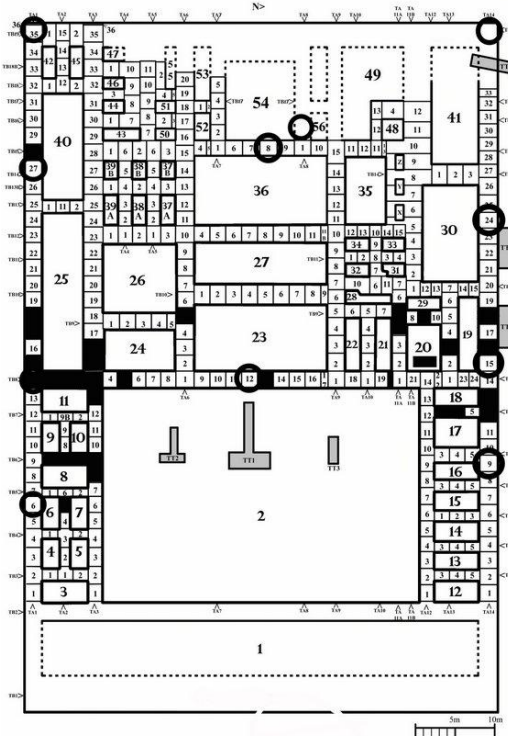


Fig. 6-7: Stratum II blue-painted sherds

With the exception of the sherds in Surface S-20 and perhaps Surface S-30, the distribution of the blue sherds in Stratum I reflects the disturbance of the trenches by Petrie and his workmen. The Stratum I blue-painted sherds may have been part of the sherd scatter in the sand of the foundation trenches. Where did these decorated sherds come from? The builders of the Tausret Temple would not have had to go far, as there are numerous New Kingdom remains in the area. In particular, there are two close sources, one to the north and the other to the south of the temple. Situated immediately north of our site, the ruins of the Temple of Thutmose IV have produced a large quantity of blue-painted sherds in recent excavations.<sup>44</sup> In contrast, a much smaller quantity of decorated sherds have been found in the excavation to the south,

The Temple of Merneptah. The difference in numbers is appropriate, since blue-painted pottery becomes increasingly less popular towards the end of the 19<sup>th</sup> Dynasty. The decorative motifs of the blue-painted sherds at the Tausret site appear to match more closely the sherds found at the Temple of Merneptah.

RIMS FROM STRATUM II (*See Plate 6-9*)

- 9:1 Cup. Prov: TB-7/3/4, 2005. Rim diam: 11 cm. Fabric: Nile B2-D. Surface: cream-slipped background with red and blue horizontal bands. Vessel form: thin-walled cup or ovoid jar.
- 9:2 Jar. Prov: TA-3/15, 2006. Rim diam: 12 cm. Fabric: Nile D. Surface: cream-slipped background, blue and black bands. Vessel form: funnel-necked jar.
- 9:3 Jar. Prov: TA-3/14, 2004. Rim diam: 13.5 cm. Fabric: Nile B2-L. Surface: cream-slipped background, blue, black and red bands. Vessel form: funnel-necked jar. Surface: cream-slipped background, upright large blue petals on the neck alternating with red arches.
- 9:4 Jar rim. Prov: S-20/1, 2006. Rim diam: 16 cm. Fabric: Nile D. Vessel form: funnel-necked jar. Surface: cream-slipped background, upright large blue petals on the neck alternating with red arches.

This jar has been reconstructed from many small fragments. A large shoulder fragment, labeled as Stratum II, was found embedded into the mud-gypsum flooring of an inner room (S-20/1) and therefore postdates the sherds in the foundation trench. Many of the joining sherds were found in the fill of Stratum I (S-20/2 and 3, S-21/2). This is the only group of blue-painted sherds on the site that could be restored. The body has four preserved registers of blue lotus petals. The top register is the typical petal frieze encircling the shoulder where it joins the neck. The second and fourth registers show a band of large pendant blue petals alternating with red 'Vs'. Register three comprises a row of inverted blue flowers with their bases outlined in black dots. Hope suggests that these are cornflowers.<sup>45</sup> The decorative motifs on the jar are typical of the late 18<sup>th</sup> and 19<sup>th</sup> Dynasties. See Chapter 3 for further discussion of this jar.

- 9:5 Bowl. Prov: TA-6/5, 2006. Rim diam: 37 cm. Fabric: Nile B2/D. Surface exterior: traces of red band at rim and blue paint below. Interior is coated with accretions. Vessel form: carinated bowl.



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- 9:6** Jar. Prov: TA-3/16, 2006. Rim diam: 13 cm. Fabric: Nile B2. Surface exterior: red-slipped background, blue and black horizontal bands painted over the red, red band on interior rim. Vessel form: funnel-necked jar.

### *Not illustrated*

Jar. Prov: TA-5/7, Dec. 2010. Rim diam: not available. Fabric: silt. Surface: cream-slipped background, wide blue band at rim. Vessel form: ovoid jar.

### Rims from Stratum I

- 9:7** Jar. Prov: TA-14/18, 2006. Rim diam: 25 cm. Fabric: Nile B2/D. Surface: cream-slipped background, narrow black and red horizontal lines on a broad blue band. Vessel form: wide-mouth storage jar.
- 9:8** Jar. Prov: TA-1/18, 2006. Rim diam: 10 cm. Fabric: Nile B2/D. Surface: cream-slipped background, narrow red and black horizontal lines on a broad blue band. Vessel form: funnel-necked jar.
- 9:9** Jar. Prov: TB-9/1, 2006. Rim diam: 10 cm. Fabric: Nile B2/D. Surface: cream-slipped background, wide blue band at rim with black and red narrow bands below. Vessel form: ovoid jar.
- 9:10** Jar. Prov: TA-9/2, 2006. Rim diam: 12 cm. Fabric: Nile B2. Surface: cream-slipped background, wide blue band on neck. Vessel form: funnel-necked jar.
- 9:11** Bowl. Prov: TB-11/1, 2007. Rim diam: 30 cm. Fabric: Nile B2-L. Surface: cream-slipped background, black band and traces of petal frieze (blue petals outlined in black). Vessel form: carinated bowl.
- 9:12** Pitcher. Prov: TA-11/5, 2006. Rim diam: 16 cm. Fabric: Nile B2. Surface: cream-slipped background, wide blue band with petal frieze outlined in black. Vessel form: pitcher.
- 9:13** Jar. Prov: TA-6/1, 2007. Sherds found on surface Rim diam: 13 cm. Fabric: Nile B2. Surface: cream-slipped background, traces of blue band below rim. Vessel form: ovoid jar.

*Not illustrated*

Bowl. Prov: TB-19/2, Dec. 2009. Rim diam: n/a. Fabric: silt. Surface: cream-slipped background, register of blue buds alternating with red stamens below rim. Vessel form: carinated bowl.

Jar. Prov: S-30/4, Dec. 2009. Rim diam: n/a. Fabric: silt. Surface: cream-slipped background, register of blue pendant petals alternating with red stamens below rim.

BLUE-PAINTED BODY SHERDS (*See Plate 6-10*)

When dealing with body sherds, it is difficult to get a clear picture of the whole vessel; however, patterns in the decoration can help in this interpretation. Most of the individual vessels exhibit two or more different types of bands and registers of floral motifs. Most necks of vessels in the corpus are striped, while the shoulder is decorated with a register of pendant blue petals outlined in black. The widest body diameter of the vessel is usually decorated with a register of large pendant blue petals alternating with red stamens. By recognizing the areas of the vessel where typical motifs are most commonly placed, more information can be extracted from individual sherds.

The 19<sup>th</sup> Dynasty ushered in a preference for simple designs on the pottery. Registers of stylized lotus petals separated by horizontal red and black bands replaced an earlier fondness for elaborate and vivid marsh scenes.<sup>46</sup>

- 10:1** Jar body. Prov: TA-1/14, 2004. Mbd. 27 cm. Fabric: Nile B2/D. Surface: cream-slipped background, black horizontal lines and a row of red tics on a broad blue band encircling the maximum diameter.
- 10:2** Jar neck. Prov: TA-1/14, 2004. Mbd. 11 cm. Fabric: Nile B2/D. Surface: cream-slipped background, narrow and wide, red, blue and black horizontal bands.
- 10:3** Jar neck. Prov: TA-1/14, 2004. Mbd. 11 cm. Fabric: Nile B2. Surface: cream-slipped background, black, blue and red horizontal bands.
- 10:4** Jar fragment. Prov: TA-2/7, 2004. Mbd. 15 cm. Fabric: Nile B2-L. Surface: cream-slipped background, red and blue horizontal bands.

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- 10:5 Jar fragment. Prov: TA-3/8, 2004. Mbd. 20 cm. Fabric: Nile B2/D. Surface: uncoated, wide red and blue bands outlined in black.
- 10:6 Jar shoulder. Prov: TA-1/28, 2008. Neck diam: 10 cm. Fabric: Nile B2-L. Surface: cream-slipped background, narrow horizontal line on a broad blue band encircles shoulder.
- 10:7 Jar shoulder, Prov: TA-3/15, 2006. Fabric: Nile B2/D. Surface: cream-slipped background, black and red band encircles shoulder.
- 10:8 Jar shoulder. Prov: TA-11/4, 2006. Neck diam: 9 cm. Fabric: Nile B2/D. Surface: uncoated, red horizontal bands on a broad blue band encircle shoulder.
- 10:9 Jar shoulder. Prov: TA-11/4, 2006. Neck diam: 8 cm. Fabric: Nile B2/D. Surface: bottom of neck is red, a row of red rectangles alternating with vertical blue strokes on a broad blue band encircle shoulder.
- 10:10 Jar body. Prov: TA-3/13, 2004. Mbd. 15 cm. Fabric: Nile B2-L. Surface: cream-slipped background, blue petal frieze outlined in black.
- 10:11 Jar body. Prov: TA-14/12, 2005. Mbd. 31 cm. Fabric: Nile B2-L. Surface: cream-slipped background, large blue pendant petals outlined in black.
- 10:12 Jar body. Prov: TA-13/3, 2006. Mbd. 16 cm. Fabric: Nile B2/D. Surface: cream-slipped background, blue and black bands with obscure decoration.
- 10:13 Jar body. Prov: TB-8/20, 2005. Mbd. 10 cm. Fabric: Marl A2. Surface: cream, large blue petals alternating with red stamens.

### *AMPHORAE (See Plate 6-11)*

#### EGYPTIAN AMPHORAE

The expulsion of the Hyksos by Kamose at the beginning of the 18<sup>th</sup> Dynasty put the Delta vineyards and the technology of winemaking into Egyptian hands; therefore, during the next 25 years, wine production expanded greatly under royal control. This new Egyptian royal industry in winemaking necessitated suitable transport vessels for the Egyptian wine; the Marl D clay, which was available in the Delta, filled this need. Marl D, a dense

and hard fabric, with typical thick cream slip, was impermeable to liquids. It was, therefore, very suitable for the purpose of manufacturing amphorae in the Canaanite style, with handles and a tapering base which could serve as a third handle.

Many of the amphorae were painted with hieratic labels on their shoulders in black ink, itemizing contents, source, and destination, its dedicator, name of the vintner and sometimes the quality of the commodity. Intact wine amphorae were found by Petrie in the foundation deposits of Siptah<sup>47</sup> and Amenhotep II.<sup>48</sup> Six diagnostic fragments of Marl D amphorae were identified in Stratum II of the Tausret Temple.

Marl F, a fabric from the Eastern Delta area identified by Aston, was used to manufacture slender amphorae with pointed bases.<sup>49</sup> Marl A, a Theban marl, was used less often for amphorae.

- 11:1 Amphora. Prov: TA-10/2, 2006. Rim diam: 12 cm. Fabric: Marl A2. Surface: uncoated.
- 11:2 Amphora. Prov: TA-9/1, 2005. Rim diam: 13 cm. Fabric: Marl D. Surface: cream slip
- 11:3 Amphora. Prov: TA-14/16, 2006. Rim diam: 8 cm. Fabric: Marl F. Surface: cream (slip or bloom). *Parallel*: Aston 2008, pg. 119, Pl. 27, No. 556, dated to the late 19<sup>th</sup> Dynasty.
- 11:4 Amphora. Prov: TB-8/24, 2005. Mbd: 24 cm. Fabric: Marl D. Surface: cream slip.

Four wine labels from Marl D amphorae were found clustered in the foundation trenches in the southeastern part of the Temple of Tausret. Three were found in TA-3/9, while the fourth was found in TA-1/9. Petrie published four wine labels that he had found in Deposit IV (TA-1/26) and Deposit V (TA-1/35).<sup>50</sup> Since intact wine amphorae with wine labels as well as inscribed sherds are often found in foundation deposits, it is not unreasonable to assume that this cluster of wine labels was intentionally placed into the foundation trenches as part of the offerings.

- 11:5 Amphora. Prov: TA-3/9, 2004. Wine label #1, Mbd. 22 cm. Fabric: Marl D. Surface: cream slip, hieratic label in black ink.
- 11:6 Amphora. Prov: TA-3/9, 2004. Wine label #3. Mbd. 30 cm. Fabric: Marl D. Surface: cream slip, hieratic label in black ink.

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- 11:7** Amphora. Prov: TA-3/9, 2004. Wine label #2. Mbd. 22 cm. Fabric: Marl D. Surface: cream slip, hieratic label in black ink.
- 11:8** Amphora. Prov: TA-1/9, May 2005. Wine label #1. Mbd. 30 cm. Fabric: Marl D. Surface: cream slip, hieratic label in black ink.  
*Not illustrated*

An ostracon with a rough sketch on both sides was found in Stratum II in TA-14/16.

## LEVANTINE AMPHORAE

Stratum II produced a total of seventeen diagnostic fragments of amphorae identified as coming from the area of Syro-Palestine. Every foreign body sherd was recorded, unlike the Egyptian amphora sherds where only the diagnostic sherds were counted; this results in the foreign wares being over-represented in the ceramic assemblage.

Most of these Levantine vessels would have been carrying olive oil, pistachio oil, resins, honey and wine.<sup>51</sup> The various fabrics of these jars are described individually. Future petrographic analysis of the sherds may more accurately identify their geographic origin.

The presence of these imported amphora fragments in Stratum II at the Temple of Tausret suggests that they were valued, perhaps as representing luxury items, and therefore suitable for a temple foundation offering.

- 11:9** Amphora. Prov: TA-2/8,2004. Rim diam: 8 cm. Fabric: pale brown (Munsell 5YR 6/4), medium dense with a wide gray core, tempered with abundant large white particles, and some red and black particles. Surface: uncoated
- 11:10** Amphora. Prov: TB-8/16, 2005. Rim diam: 10 cm. Fabric: medium dense, brown with a wide gray core and tempered with frequent large chunks of limestone, soft. Surface: self-slipped.
- 11:11** Amphora. Prov: TA-11/2, 2006. Mbd. 27 cm. Fabric: dense, brown, outer zone with a dark gray inner zone, tempered with abundant large gray rock particles and frequent decomposed limestone, hard and heavy. Surface: uncoated.
- 11:12** Amphora. Prov: TB-12/10, 2008. Mbd. 25 cm. Fabric: dense, red-brown outer zone (Munsell 2,5YR 5/6), gray inner zone,

hard and heavy, tempered with abundant medium to large white particles, some sand and some fine black particles. Surface: self-slipped; a pot mark is incised pre-firing at the bottom of the handle.

## OASIS WARE

Seven fragments of Oasis ware were found, mostly in areas where Stratum II was disturbed and mixed with the upper Stratum. Two different types of vessels were found; amphorae and the smaller amphoriskoi. Two bases and one body sherd were identified as coming from amphoriskoi.<sup>52</sup> The fabric is a dense pale pink or pinkish brown with a brown or gray core, if one exists, tempered with frequent to abundant large limestone particles and the occasional red or black angular particles. Many of these small and often decorated wine amphorae with button bases were found at 'Ayn Asil in the Dakhleh Oasis.<sup>53</sup> Three body fragments and one handle came from a much larger thick-walled amphora. The fabric is a dense pink, no core, tempered with frequent large chunks of limestone and small quantities of fine sand. The surface is coated with a reddish-pink slip. Amphorae from the Oases carrying fine wine are found all over Egypt from the New Kingdom.

LOCUS	FORM	PART	STRATUM
TA-14/16	Amphora	Body	I
TA-14/17	Amphora	Body	I
TA-14/17	Amphoriskos	Base	I
TB-8/7	Amphora	Handle	I
S-30/TU1	Amphora	Body	I
S-35/3	Amphoriskos	Base	I
TA-13/5	Amphoriskos	Body	II

**Chart 6-3: Distribution of Oasis Ware**

**11:13** Amphoriskos. Prov: S-35/3, Dec 2009. Mbd: 12 cm. Fabric: Oasis ware. Pale, brown dense section, wide gray core, tempered with abundant large limestone particles, and occasional red and black particles. Surface: cream slip with

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traces of red paint, incised pot mark (pre-firing) near base. A similar base was found in TA-14/17. This example is illustrated because of its size rather than the much smaller sherd found in Stratum II.

*Parallels:* Aston 1998, pgs. 538, 539, No. 2008; Marchand and Tallet 1999, Fig. 14: a-o.

A shoulder sherd from a Levantine amphora was found in a mixed I/II Stratum in the foundation trench and appears here because of its interesting decoration.

- 11:14** Amphora. Prov: TA-1/5, 2004. Mbd: 31 cm. Levantine. Fabric: pale brown (Munsell 7.5YR 6/4), wide gray core, tempered with abundant fine limestone particles, some reaction rings. Surface: cream coating, red paint on shoulder (probably a large *nefer* or *ankh* sign).<sup>54</sup>

*Parallels:* Rose 2007, No. 690; Aston 2008, No. 2086.

## MYCENANEAN STIRRUP JARS

Two small body fragments of two separate stirrup jars were found, both from Stratum I. Although found in the upper stratum these New Kingdom sherds were in a disturbed area so are here considered with the Stratum II material. Luxury containers from Mycenae and Cyprus are often found in tombs and temples throughout Egypt in the late 18<sup>th</sup> and early 19<sup>th</sup> Dynasties. They carried medicinal herbs and sweet-smelling ointments.

- 11:15** Stirrup jar. Prov: TB-10/7, 2007. Mbd: 12 cm. Mycenaean. Fabric: cream (Munsell 10YR 7/3), pale pink core, no obvious inclusions. Surface: brown and black horizontal bands on a cream background. *Parallel:* Hankey 1997, pg. 204, No. 13, small, squat stirrup jar.

- 11:16** Stirrup jar. Prov: S-30/2AB, Dec 2009. Mbd: 8-10 cm. Fabric: Mycenaean ware, pale yellow dense section, no core, no obvious inclusions. Surface: brown and black horizontal bands on a cream background. *Parallel:* Hankey 1997, pg. 204, No. 11, small, globular stirrup jar.

## MISCELLANEOUS VESSELS IN STRATUM II (See Plate 6-12)

### BREAD MOLDS

The few handmade bread molds found were of Type 'D' with rounded

bases, according to Helen Jacquet-Gordon's typology, and are dated to the 18<sup>th</sup> Dynasty.<sup>55</sup>

- 12:1** Bread mold. Prov: TA-11/5, 2006. Rim diam: 7 cm. Fabric: Nile D. Surface: uncoated.
- 12:2** Bread mold. Prov: TA-11/3, 2006. Base diam: 2.5 cm. Fabric: Nile C. Surface: uncoated.

#### BREAD MOLD WITH INDENTS

One particular bread mold fragment in the sand layer had three indents near the base. It matches similar bread molds found in two large assemblages in two nearby locations. Hundreds of bread molds with two or four pre-fired indents were found in a bakery in the area of the Chapel of the White Queen north of the Temple of Amenhotep II.<sup>56</sup> In addition, a large assemblage of the same type of bread mold with two, four, or six indents was found in the Temple of Merneptah under the workshops. Whether they were connected to a bakery is unknown.<sup>57</sup> The Tausret example has three indents and could have come from either source; it appears to be pre-Ramesside in date.

- 12:3** Bread mold. Prov: TA-11B/7, Dec. 2009. Base diam: 3 cm. Fabric: Nile B2-L. Surface: uncoated, three oval indents made pre-firing. *Parallels*: Aston, 2008, pg. 49, Fig. 19:l, De Saintilan 2000, fig. 3.

#### RINGSTAND

- 12:4** Ringstand. Prov: S-22/3, 2006. Base diam: 12 cm. Fabric: Nile B2/D. Surface: uncoated. *Parallel*: Aston 2008, pg. 49, Fig. 19:f.

#### LID

- 12:5** Lid. Prov: S-22/2, 2006. Rim diam: 7.2 cm. Fabric: Nile B2. Surface: uncoated, blackened inside and out, *Parallel*: Mysliwiec 1987, pg. 50:299.

#### JAR BASES

- 12:6** Base of jar. Prov: TA-11/3, 2006. Fabric: Nile B2/D. Surface: uncoated
- 12:7** Base of jar. Prov: TB-9/4, 2006. Fabric: Nile B2. Surface: red slip.



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- 12:8** Base of jar. Prov: TB-3/1, 2005. Base diam: 3.5 cm. Fabric: Nile D. Surface: uncoated.
- 12:9** Base of jar. Prov: TA-1/33, 2008. Base diam: 4 cm. Fabric: Nile B2. Surface: red slip.
- 12:10** Base of jar. Prov: TA-14/6, 2005. Fabric: Nile B2/D. Surface: red slip.
- 12:11** Base of jar. Prov: TA-2/4, 2005. Fabric: Nile B2-L. Surface: red slip.
- 12:12** Neck of Hathor jar. Prov: TA-1/1, 2005. Neck diam: 10 cm. Fabric: Nile D. Surface: modeled head of Hathor. *Parallels:* Bourriau 1981, pg. 38, Nos. 55 and 56, dated to Amenhotep IV; Guidotti and Silvano 2003, pg. 143: D44, from the Temple of Thutmose IV.

### *SUMMARY OF STRATUM II POTTERY AND SPECIAL POTTERY TYPES*

We have described the pottery fragments sealed in the sand layer (Stratum II) of the foundation trenches of the Temple of Tausret as well as a number of interesting New Kingdom sherds from Stratum I which were evidently displaced by earlier excavation. As a group, these sherds are predominantly made of Nile silt tempered primarily with small bits of weathered limestone. The pottery from Stratum II is broken and fragmentary with no obvious joins; it resembles sherds that come from a dump or fill. Although the assemblage is dated to the end of the Nineteenth Dynasty, a number of Eighteenth Dynasty and even Middle Kingdom sherds appear in the assemblage. Two forms dominate the ceramic assemblage: 1) beer jars, and 2) simple bowls, many with red slip or red rims. These forms are very common in Egyptian foundation deposits; and so the question arises about the relationship of the broken sherds to the Tausret Temple foundation deposits.

Either the sand brought in for the foundation deposits was not entirely clean but contained bits of pottery, or the pottery and other small objects were deliberately scattered throughout the sand as part of the foundation ceremony. The foundation ceremony presumably used intact beer jars and bowls along with other ritual items. Petrie and Wilkinson both mention clusters of faience shabtis and beads that were found between the Tausret Temple foundation deposits. To these ritual items we may add the blue painted sherds, wine labels, and imported amphorae sherds. Another example may be the bread molds with the indents; they must have come from

the neighborhood, either from Merneptah's Temple or from the White Chapel (north of the Ramesseum).

The pottery from Stratum II of the Temple of Tausret adds to the ceramic repertoire known from the Egyptian New Kingdom mortuary temples. It seems likely that these sherds were deliberately scattered within the foundation trenches as part of the process of sanctifying the building site. There would be no need to travel far in order to obtain sherds such as these. The analysis presented here suggests that they most likely came from sherd piles at Merneptah's Temple next door. That area would have been considered sacred space, as well as family land, and therefore pottery from there would have been considered appropriate to connect the new temple being constructed with its predecessors and perhaps magically to protect and strengthen the new temple's foundations.

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### NOTES

- <sup>1</sup> The ceramic team, consisting of Rexine Hummel (ceramicist) and Lyla Pinch-Brock (artist) worked on the ceramic collection in 2006 for three weeks. Thanks to a generous donation from Diane Blake of Toronto and institutional support from the Royal Ontario Museum, the pottery team was able to continue to study the pottery between November 8<sup>th</sup> and December 14<sup>th</sup>, 2010. Only the pottery from the 2010-2011 season remains to be processed. The pottery is stored in the Ali Hassan Storeroom on the West Bank at Luxor.
- <sup>2</sup> The Mortuary Temple of Seti I at Gurna provides many parallels for the pottery dating to the Saite to Late Roman/Byzantine period. The pottery of the Merenptah Temple, adjacent to that of Tausret, has been completely published by David Aston, *The Pottery: Untersuchungen im Totentempel Des Merenptah in Theben*, Untersuchungen im Totentempel Des Merenptah in Theben, Band IV (Mainz: Philipp von Zabern, 2008). A single pottery plate, dating to the Late Period, from the Ramesseum was published by Guy Lecuyot, "La Ceramique du Ramesseum. Etude Preliminare," in *Memnonia: Bulletin édité par l'Association pour la Sauvegarde du Ramesseum*, IV/V (1993/1994): figure 3.
- <sup>3</sup> Charles Le Quesne, *Quseir: an Ottoman and Napoleonic Fortress on the Red Sea Coast of Egypt*, American Research Centre in Egypt Conversation Series2 (Cairo: American University in Cairo Press, 2007), 225 and figs. 89-90, has found *balālīs* (which he calls red marl wavy line ware) in 18<sup>th</sup> century AD levels at Quseir Fort on the Red Sea. See also Carol A. Redmount, "The Egyptian Modern Pottery Project: Pilot Phase Findings" in Carol A. Redmount and Cathleen A. Keller, eds., *Egyptian Pottery: Proceedings of the 1990 Pottery Symposium at the University of California, Berkeley*. Number 8, University of California Publications in Egyptian Archaeology (Berkeley: University of California Press, 2003), fig. 10.4.2. I am in debt to one of our site guards who, seeing me struggling with a strange sherd, convinced me that it was indeed modern and even gave me a piece of his water jar to prove it.
- <sup>4</sup> Aston, *Pottery*, 2008, 365.
- <sup>5</sup> John Hayes, *Late Roman Pottery* (London: The British School at Rome, 1972), 387.
- <sup>6</sup> The early Roman amphora has a long neck with opposing handles joined at the rim and neck and the solid toe. They are made from a chocolate brown Nile silt and called Type 'A' by Donald M. Bailey, "A Form of Amphores Égyptiennes 3 from the South-West Fayum," in Sylvie Marchand and Antigone Marangou, eds., *Amphores D'Égypte de la Basse Époque a l'Époque Arabe*, Cahiers de la Céramique de la Égyptienne 8 Vol.I

- (Cairo: Institut Français D'Archéologie Orientale, 2007), 228.
- 7 The Late Roman 7 amphora has a shorter neck, and handles attached at the neck and shoulder and solid toe. They are also made of chocolate brown Nile silt and are called Type 'B' by Bailey, "A Form of Amphores," 2007, vol. I, 228.
  - 8 Hayes, *Late Roman Pottery*, 1972, Figures 23 and 28.
  - 9 David A. Aston, "The Theban West Bank from the Twenty-Fifth Dynasty to the Ptolemaic Period," in Nigel Strudwick and John Taylor, eds., *The Theban Necropolis: Past, Present and Future* (London: The British Museum Press, 2003), 139.
  - 10 W.M.F. Petrie, *Six Temples at Thebes* (London: Quaritch, 1897), 18.
  - 11 Aston, *Pottery*, 2008, 358, and nos. 2984-5.
  - 12 Additional fragments were found in TA-14/25/26, S-30/3A/B, S-30-5A/B, and S-30/2A.
  - 13 Aston, *Pottery*, 2008, 36.
  - 14 Pamela Rose. "The Pottery," in Nigel Strudwick et al, *The Tombs of Amenhotep, Khnummose, and Amenmose at Thebes, (Nos. 294, 253 and 254)* (Oxford : Griffith Institute, Ashmolean Museum, 1996), 172.
  - 15 Personal communication with Aurelia Masson, who has studied the pottery from the Priest's houses at Karnak Temple.
  - 16 The vessels are PL. 1:8 and 9 and 10, PL. 2: 1 , 6, 7 and 10; these are the same type.
  - 17 Rose, 2003, figs. 1 and 2. Pamela Rose, "Ceramics from New Kingdom Tombs: Recording and Beyond," in Nigel Strudwick and John H. Taylor, eds., *The Theban Necropolis: Past, Present and Future* (London: British Museum Press, 2003), figures 1 and 2.
  - 18 Petrie, *Six Temples*, 1897, 14.
  - 19 Petrie, *Six Temples*, 1897, pl. XVII: 3-10.
  - 20 Pottery from disturbed areas was not included in the materials assigned to Stratum II.
  - 21 Aston, *Pottery*, 2008.
  - 22 Karol Mysliwiec, *Keramik und Kleinfunde aus der Grabung im Tempel Sethos'I. in Gurna*, Archäologische Veröffentlichungen 57 (Mainz: Philipp von Zabern, 1987).
  - 23 Lecuyot, "La Ceramique du Ramesseum," 1993-1994, 103-14.
  - 24 H-Å. Nordström and J. D. Bourriau, *Ceramic Technology: Clays and Fabrics Fascicle 2*, in D. Arnold and J. Bourriau, eds, *An Introduction to Ancient Egyptian Pottery*, Deutsches Archäologisches Institut Abteilung Kairo (Mainz: Philipp von Zabern, 1993).
  - 25 Nordström and Bourriau, *Ceramic Technology*, 1993, 171. The Vienna system describes the ware Nile D as having frequent and obvious

## Pottery

- limestone inclusions while Nile B2 contains moderate amounts of limestone.
- <sup>26</sup> Janine Bourriau, "Canaanite Jars from New Kingdom Deposits at Memphis, Kom Rab'ia," *Eretz-Israel* 21 (1990): 21.
- <sup>27</sup> Rose, "Pottery," 1996, 168.
- <sup>28</sup> Aston, *Pottery*, 2008, 34.
- <sup>29</sup> Nordström and Bourriau, *Ceramic Technology*, 1993, 181.
- <sup>30</sup> J. D. Bourriau and P. T Nicholson, "Marl Clay Pottery Fabrics," *The Journal of Egyptian Archaeology* 78 (1992): 37.
- <sup>31</sup> David Aston, *Die Keramik des Grabungsplatzes. Q I. Teil 1, Corpus of Fabrics, Wares and Shapes, Die Grabungen des Pelizaeus-Museums Hildesheim in Qantir- Pi-Ramesse, vol. I* (Mainz: Philipp von Zabern, 1998), 67.
- <sup>32</sup> Petrie, *Six Temples*, 1897, pl. XVII.
- <sup>33</sup> Aston, *Pottery*, 2008, 105.
- <sup>34</sup> M.C. Guidotti and F. Silvano, *La ceramica del tempio di Thutmosi IV a Gurna* (Pisa: Biblioteca di Studi Egittologici, 2003), 3.
- <sup>35</sup> Aston, *Pottery*, 2008, 185.
- <sup>36</sup> Petrie, *Six Temples*, 1897, pl. XVII:9.
- <sup>37</sup> R. Holthoer, *New Kingdom Pharaonic Sites: The Pottery*, Swedish Joint Expedition to Sudanese Nubia 5:1 (Lund: Berlings, 1977), 60. Holthoer classified these jars as 'beer bottles' because they were frequently found with 'flower pots' (bread molds) and therefore seemed together to represent archaeologically the bread and beer formula. However, at many sites, including the Temple of Tausret, 'flower pot' vessels are conspicuous by their absence.
- <sup>38</sup> Holthoer, *New Kingdom Pharaonic Sites*, 1977, pl. 18.
- <sup>39</sup> Petrie, *Six Temples*, 1897, 15, pl. XXVII.
- <sup>40</sup> Colin A. Hope, "Some Memphite Blue Painted Pottery of the mid 18<sup>th</sup> Dynasty," in J. Phillips, ed., *Ancient Egypt, the Aegean and the Near East: Studies in Honour of Martha Rhoads Bell, Vol. II* (San Antonio: Van Siclen Books, 1997), 253-4.
- <sup>41</sup> David Aston, *Egyptian Pottery of the Late New Kingdom and Third Intermediate Period*, Studien zur Archäologie und Geschich Altägyptens, Band 13 (Heidelberg: Heidelberger Orientverlag, 1996), 79.
- <sup>42</sup> Aston, *Die Keramik des Grabungsplatzes*, 1998, 56.
- <sup>43</sup> Colin A. Hope, *Pottery of the New Kingdom: Three Studies*, Victoria College, Archaeology Research Unit, Occasional Paper No. 2 (Burwood, Victoria, Australia: Victoria College Press, 1989), 17.
- <sup>44</sup> Guidotti and Silvano, *La ceramica*, 2003.
- <sup>45</sup> Colin A. Hope, "Blue-Painted Pottery," in Edward Brovarski, Susan Doll, and Rita Freed, eds., *Egypt's Golden Age: The Art of Living in the New Kingdom 1558-1085* (Boston, MA: Museum of Fine Arts, 1982), 91-3.

- <sup>46</sup> Hope, *Pottery of the New Kingdom*, 1989, 56.
- <sup>47</sup> Petrie, *Six Temples*, 1897, pl. XVII: 13.
- <sup>48</sup> Petrie, *Six Temples*, 1897, pl. V:3.
- <sup>49</sup> Aston, *Pottery*, 2008, 35-6.
- <sup>50</sup> Petrie, *Six Temples*, 1897, 15, pl. XIX, 1-4.
- <sup>51</sup> Janine Bourriau, "The Beginnings of Amphora Production in Egypt," in Janine Bourriau and Jacke Phillips, eds., *Invention and Innovation: the Social Context of Technological Change, vol. II: Egypt, the Aegean and the Near East 1650-1150 B.C.* (Oxford: Oxbow Books, 2004), 89.
- <sup>52</sup> I thank David Aston who identified drawings and photos of this amphoriskos.
- <sup>53</sup> Sylvie Marchand and Pierre Tallet, "Ayn Asil et L'oasis de Dakhla au Nouvel Empire," in *Bulletin de l'Institut Français d'Archéologie Orientale* 99 (1999): figures 14:a-o.
- <sup>54</sup> See Lyla Pinch-Brock, "Red-painted *nefer* and the example from Tell el-Borg," in James K. Hoffmeier, ed., *Excavations in North Sinai: Tell el-Borg I* (Winona Lake, IN: Eisenbrauns, in press).
- <sup>55</sup> Helen Jacquet-Gordon, "A Tentative Typology of Egyptian Bread Molds," in Dorothea Arnold, ed., *Studien zur altägyptischen Keramik* (Mainz: Philipp. von Zabern, 1981), figure 5.
- <sup>56</sup> Michelle De Saintilan, "Des cuisines de plein air localisées dans le secteur de la chapelle dite de la Reine Blanche," [Pl. XXXV-XXXVIII] in *Memnoni: Bulletin édité par l'Association pour la Sauvegarde du Ramesseum XI* (2000): 176.
- <sup>57</sup> Aston, *Pottery*, 2008, 108.

Pottery

PLATES

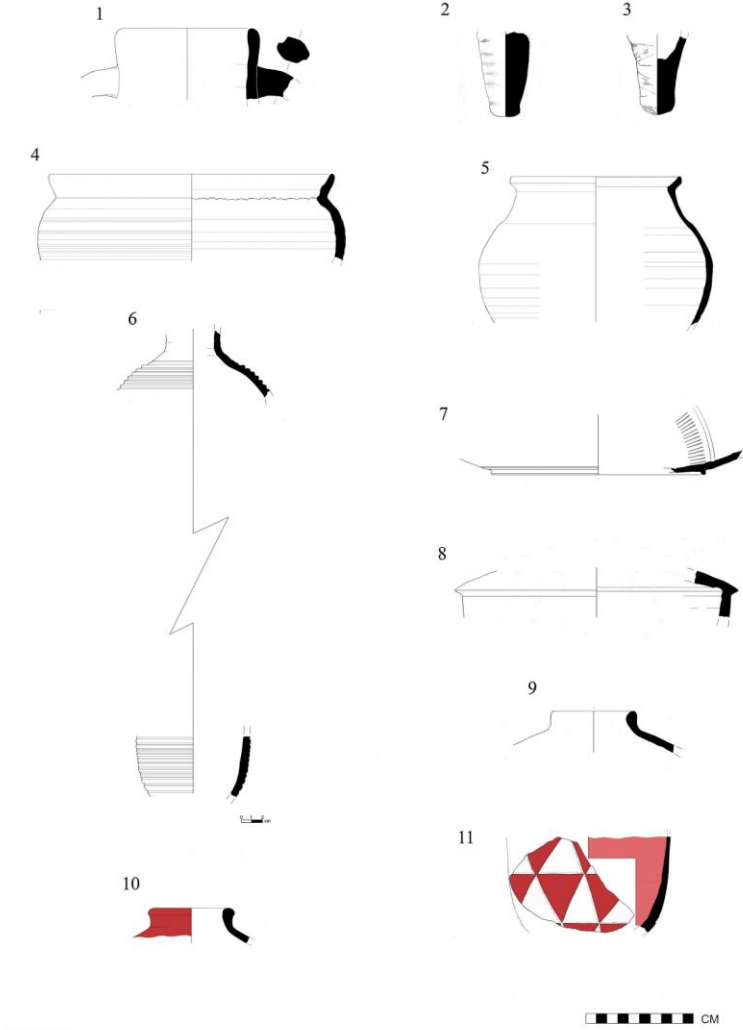


Plate 6-1

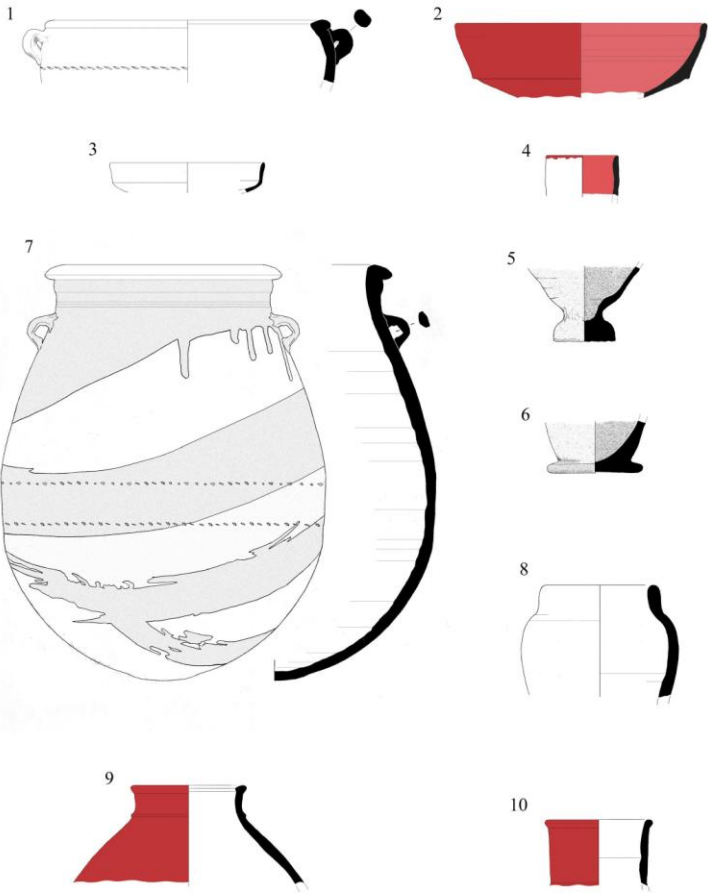


Plate 6-2



Pottery

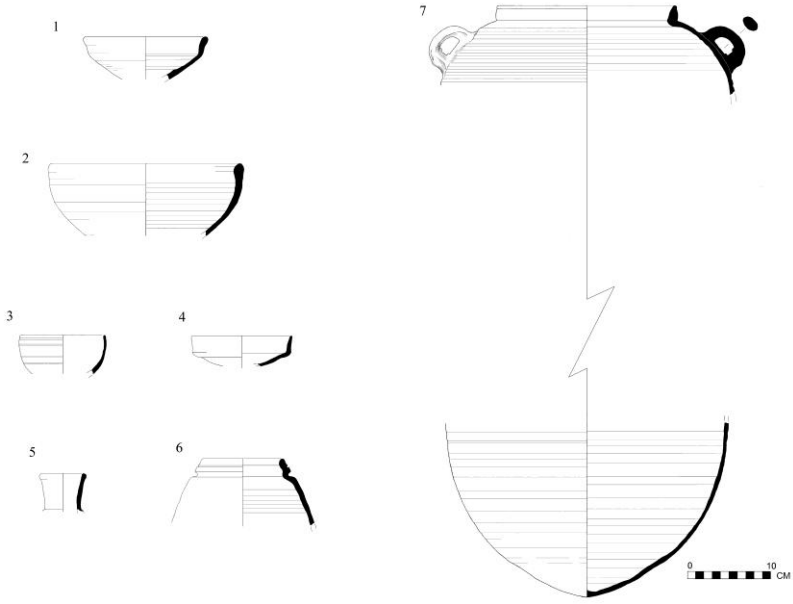


Plate 6-3

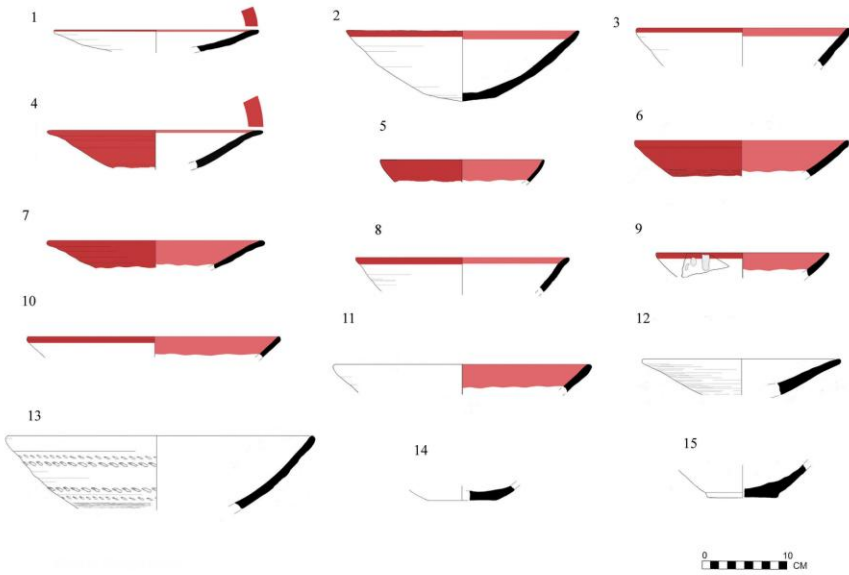


Plate 6-4

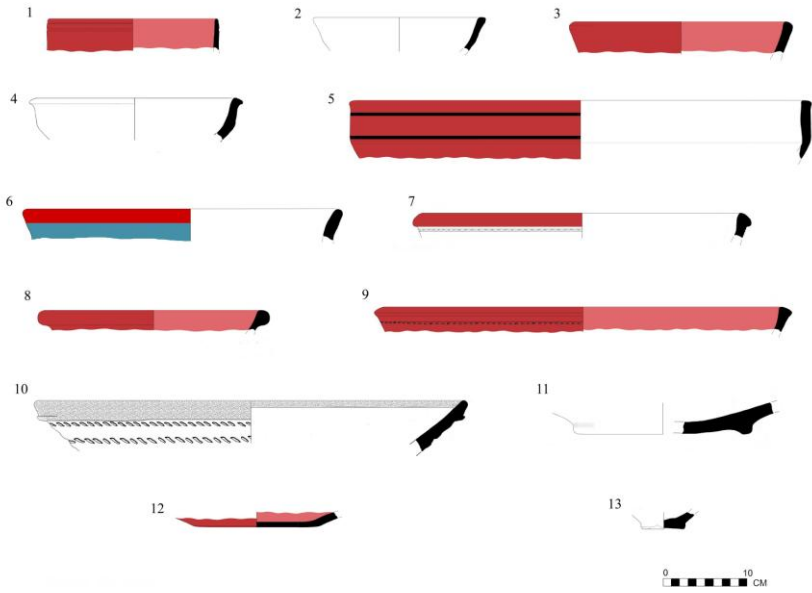


Plate 6-5

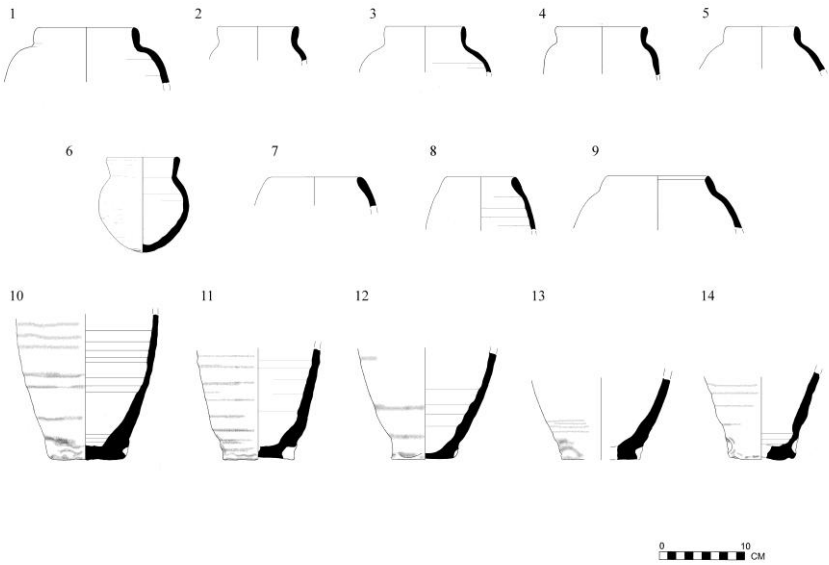


Plate 6-6

# Pottery

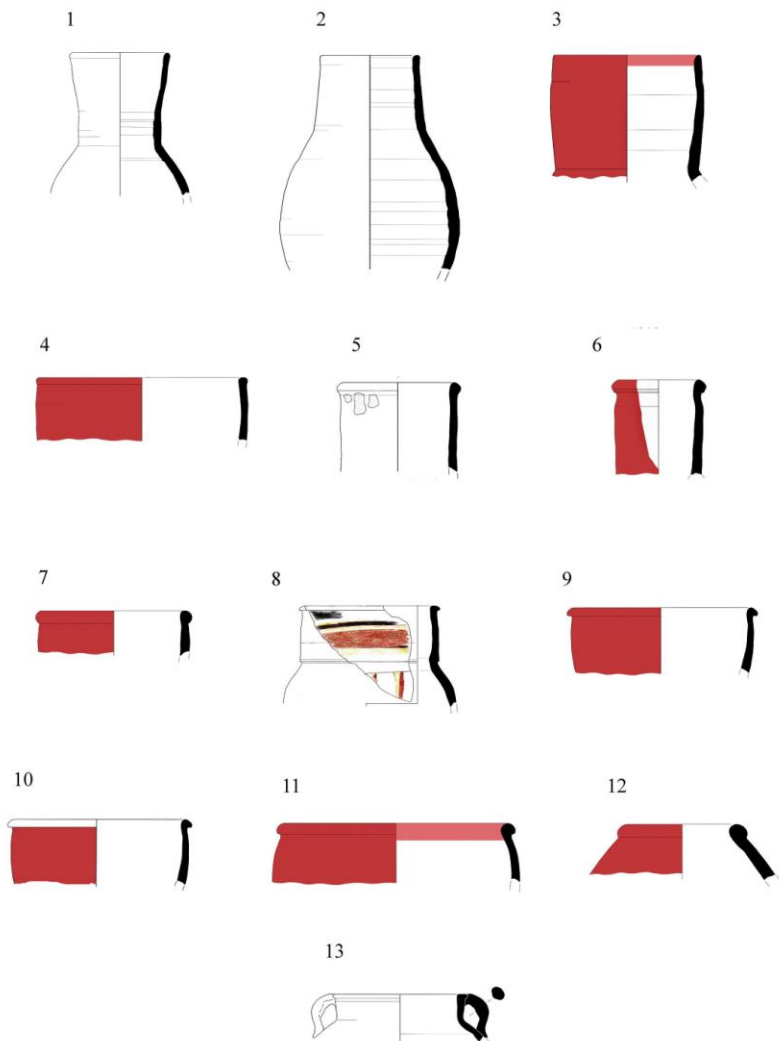


Plate 6-7

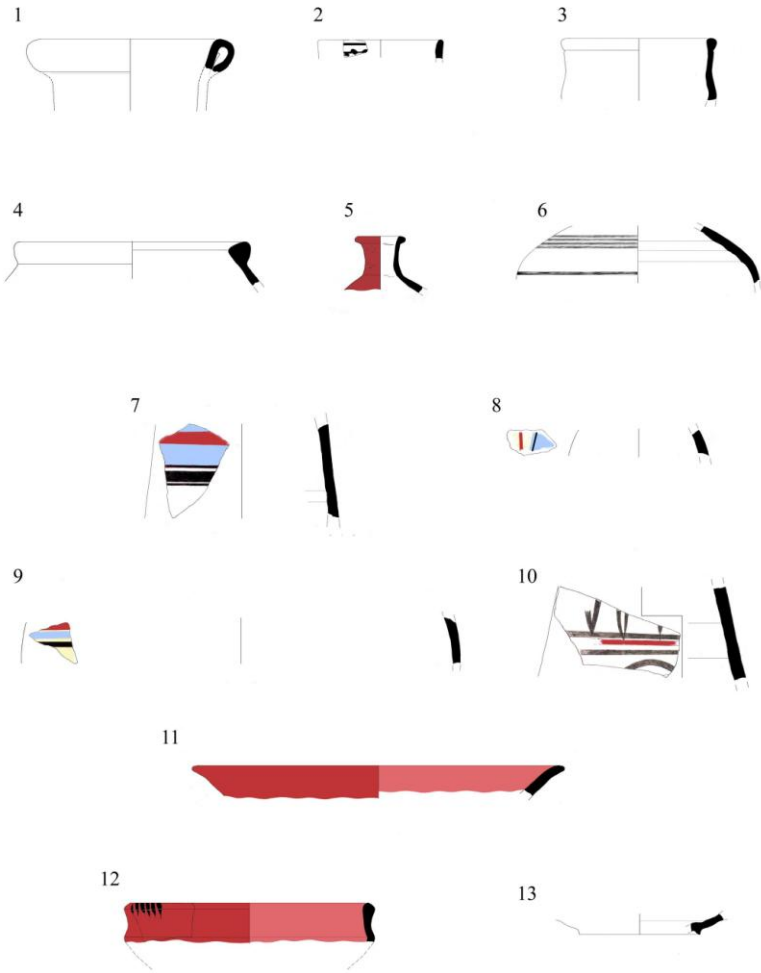


Plate 6-8

Pottery

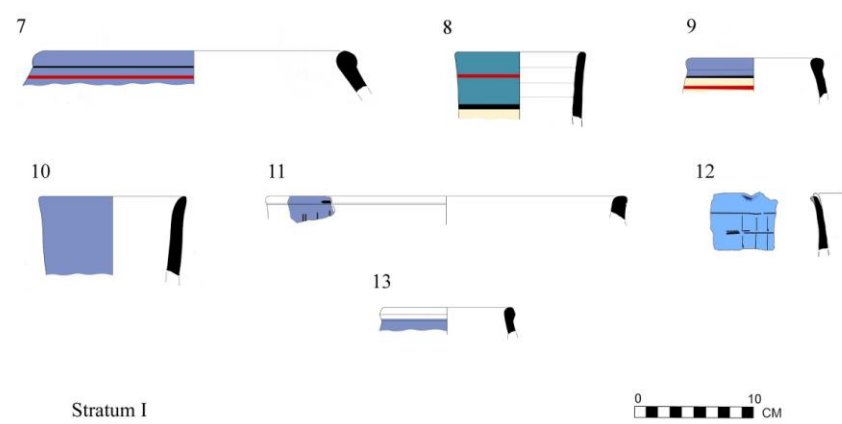
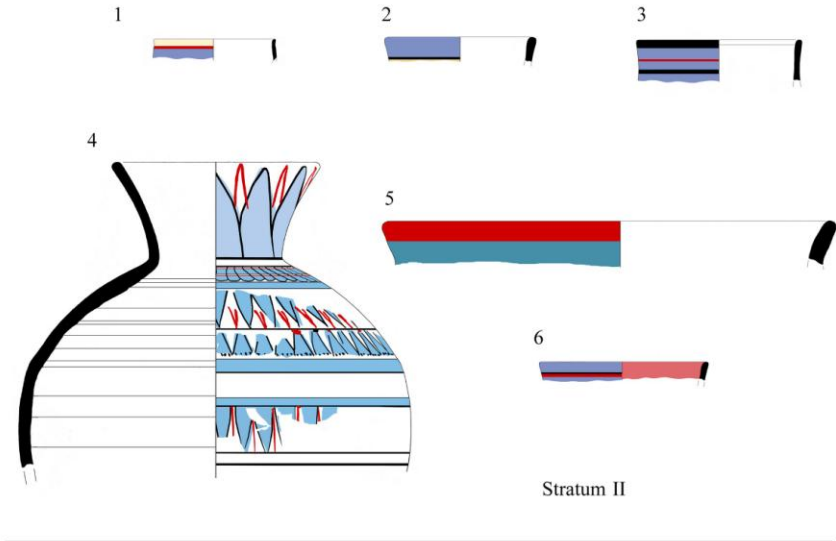


Plate 6-9

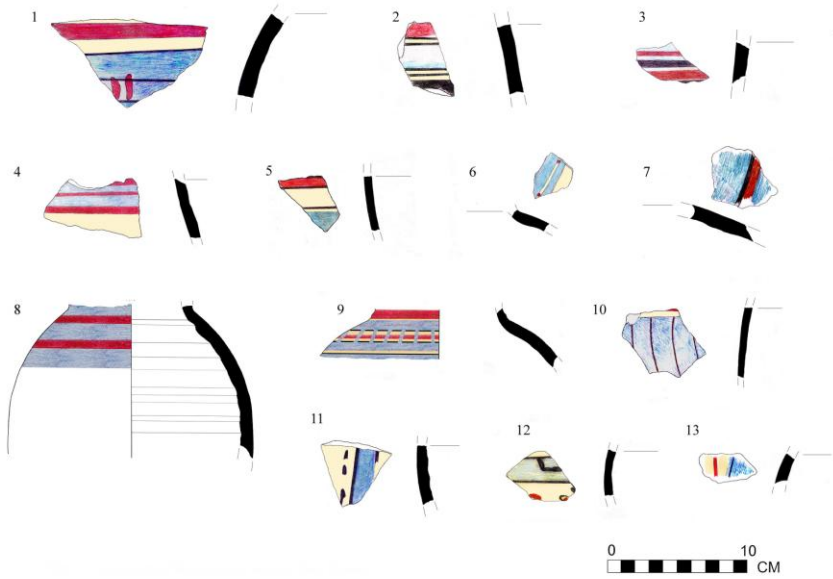


Plate 6-10

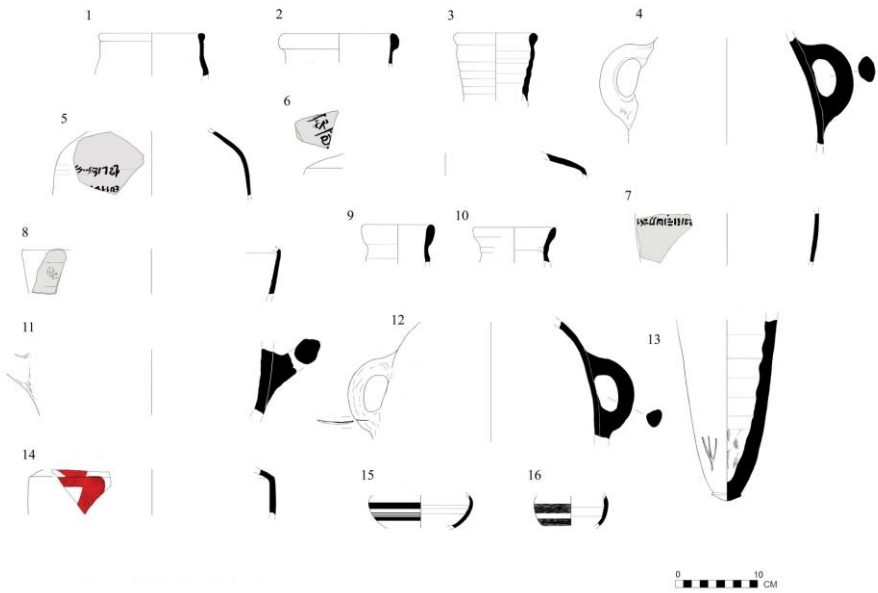


Plate 6-11

# Pottery

1



2



3



4



5



6



7



8



9



10



11



12



Plate 6-12



## 7 : HIERATIC TEXTS

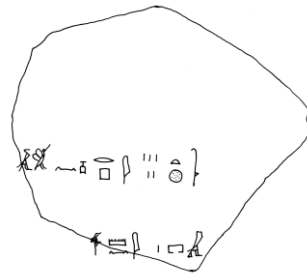
Robert J. Demarée

The texts from the Tausret temple site are comprised of jar labels (dockets) and graffiti, some of which are longer and of a more formal nature in both their setting and content. Some of these texts are of great importance regarding the history of the temple and the reign of Tausret herself. For the find locations of the docket and graffiti, see Chapter 5.

### JAR LABELS (DOCKETS)

#### DOCKET 1

Find location: Trench unit TA3:9



Figures 7-1a and 7-1b

- (1) *rnp.t-sp 5 irp n p3 [k3mw ...]*
- (2) *m pr-'Imn [...]*
- (1) Regnal year 5. Wine of the [vineyard ...]
- (2) in the domain of Amun [...]

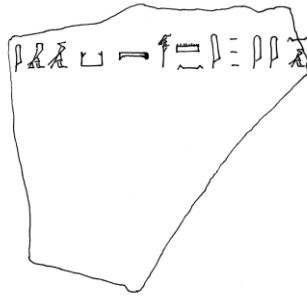


Hieratic Texts

This type of wine-jar label belongs to “Groupe VII” of the typology by G. Bouvier.<sup>1</sup>

DOCKET 2

Find location: Trench unit TA3:9



Figures 7-2a and 7-2b

(1) [...]

(2) [...] *N3y.w-Imn hry k3my.w* [...]

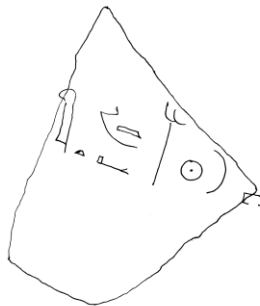
(1) [Regnal year X. Wine of the vineyard ...]

(2) [in the domain of Amun which is in] Nay-Amun, chief of vintners [...]

The text on this docket is almost certainly likewise part of a wine-jar label belonging to “Groupe VII” of the typology by G. Bouvier.<sup>2</sup>

DOCKET 3

Find location: Trench unit TA3:9



Figures 7-3a and 7-3b

(1) [... *hw.t*] *Wsr-M3<sup>c</sup>.t-R<sup>c</sup>* [...]

(2) [*nty m* ...]

(1) [Regnal year X. Wine of the vineyard of the Temple of Usermaatre-  
[setepenre]

(2) [which is in ...]

Most probably the text on this docket is also part of a wine-jar label.

The spelling of the royal name of Ramesses II with the element *m3<sup>c</sup>.t* in full writing is also found in the docketts belonging to "Groupe V" of the typology by G. Bouvier.<sup>3</sup>

These three wine-jar labels are probably stray finds, originating from the nearby Ramesseum, as proven by their orthography and script which are completely different from the labels dating to the later 19<sup>th</sup> Dynasty.<sup>4</sup>

## OSTRACON

Find location: Trench unit TA1:9



Figure 7-4

The inner (concave) side of this pottery sherd bears the remains of one line of text of which the only legible elements are a vase-determinative (Gardiner Signlist W22) followed by plural strokes.

Hieratic Texts

**GRAFFITI**

*MASON'S TEXT ON FOUNDATION TRENCH WALL*

Find location: Trench unit TB10:4



**Figure 7-5**



*r-<sup>c</sup> Wsr-h3.t*

Assignment/work of Userhat.

This type of graffiti usually refers to the man in charge of the delivery or the transport of the stone blocks.

*FOUNDATION BLOCK TEXT 1*

Find location: Trench unit TA13:5

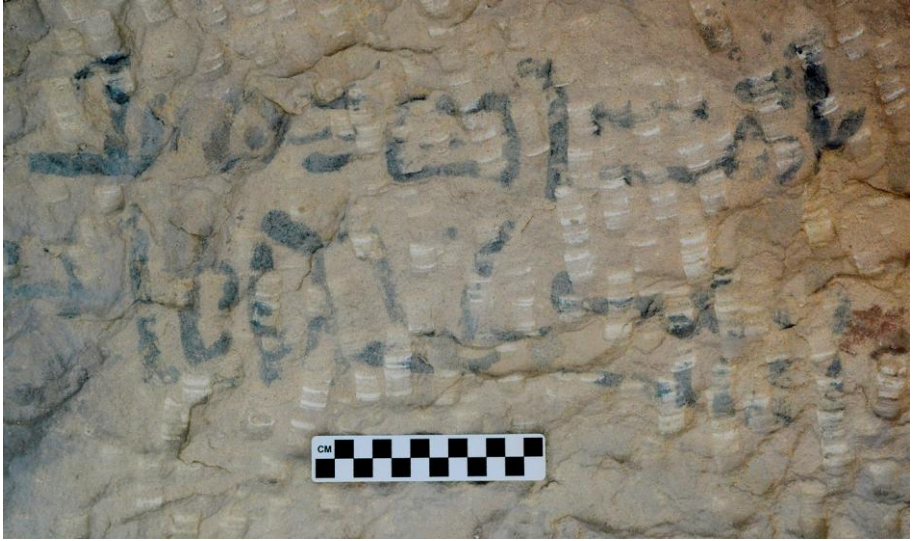


Figure 7-6a

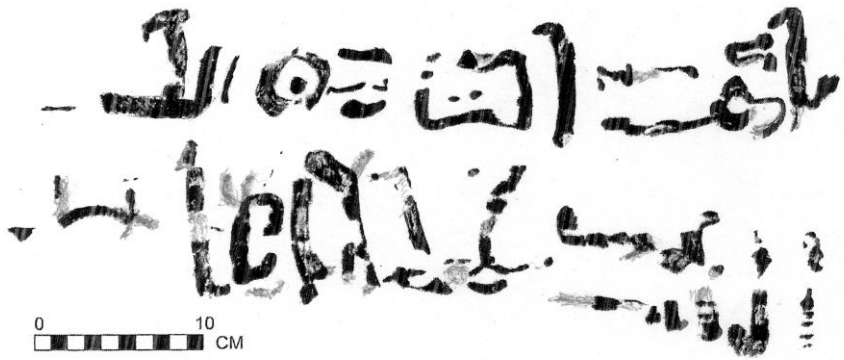


Figure 7-6b



## Hieratic Texts

1) *rnp.t-sp 8 I šmw 24*

2) [...] *ʿn mi Sth nht*

1) Regnal year 8, 1<sup>st</sup> month of *Shemu*, day 24

2) [?.] beautiful like Seth-nakht

Line 1 and most of line 2 are clearly legible. The first groups of line 2 are unfortunately severely damaged by chisel marks. A guess would be to read the second sign as the beginning of a cartouche and what follows as *nsw.t*, but this is highly uncertain.

Nevertheless, the remaining words of line 2 are really intriguing. In all likelihood they form part of the name of the temple, incorporating one of the throne names of queen Tausret. In the fullest known royal titulary of Tausret, her Horus name reads *mry M3ʿt nb ʿn m nsw.t mi ʿTmw* – “Beloved of Maat, Beautiful lord as king like Atum”.<sup>5</sup> And it can hardly be a coincidence that her successor Sethnakht uses as his Gold name *hwi pdt-psdt ʿn m nsy.t* – “Who smites the Nine Bows, Beautiful in kingship”.<sup>6</sup> Whether the expression *Sth nht* in line 2 refers directly to Sethnakht or just stands for “Seth the strong one” is hard to decide. Nevertheless, the text of this graffito may be understood as an indication that the real power at the court during the later years of Siptah and Tausret was Sethnakht, just as he himself seems to indicate in his victory stela from Elephantine.<sup>7</sup> Exactly what happened during those years, however, remains a mystery.<sup>8</sup>

### FOUNDATION BLOCK TEXT 2

Find location: Trench unit TA13:6



Figure 7-7



- 1) *rnw.t-sp 7 I 3h.t 23*
- 2) [...]
- 1) Regnal year 7, 1<sup>st</sup> month of *Akhet*, day 23
- 2) *traces only*

A date, probably referring to the installation of the foundation block(s).

*FOUNDATION BLOCK TEXT 3*

Find location: Trench unit TB 11:3/4



**Figure 7-8**

Except for what is probably a date at the beginning of the line (“day 23?”), the scanty remains of this graffito are illegible.

*FOUNDATION BLOCK TEXT 4*

Find location: Trench unit TB 13:7

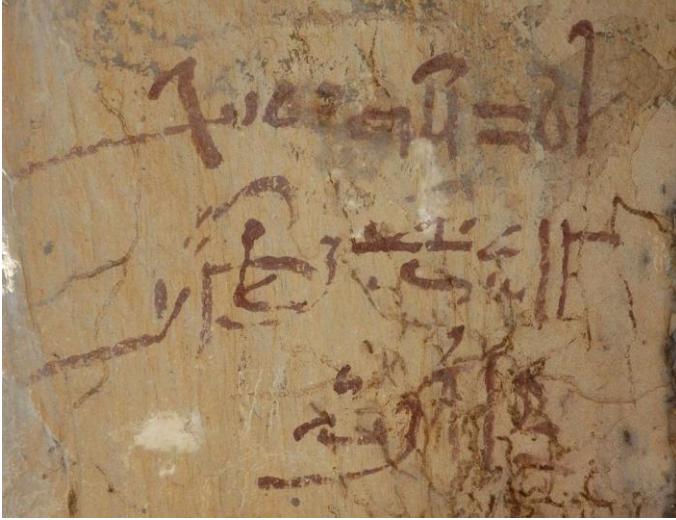


Figure 7-9



1) *rnp.t-sp 8 II šmw 29*

2) *is.t H<sup>c</sup>-m-mš<sup>c</sup>=f*

3) *hr wnmy*

1) Regnal year 8, 2<sup>nd</sup> month of *Shemu*, day 29

2) The gang "Who appears as/in his army"

3) on the right side

This graffito proves that more than halfway into her regnal year 8, a gang of workmen named "Who appears as/in his army" was at work on the foundations of Tausret's temple.

The five graffiti all clearly refer to the construction of Tausret's temple. As can be seen from Table 1 below, the date of the graffito at Deir el-Bahari mentioning a visit would indicate that at least a basic form of this building was already functioning before the date of foundation block text 2. If indeed Siptah was buried on IV *3h.t* day 22 of year 7, Tausret started building her temple even before the death of her consort.<sup>9</sup>

**TABLE 7-1: Concordance of dates for the later years of the reign of Tausret**

I <i>pr.t</i>	Day 2 - <i>Most probable first day of regnal year 5</i>
II <i>pr.t</i>	
III <i>pr.t</i>	
IV <i>pr.t</i>	
I <i>šmw</i>	
II <i>šmw</i>	
III <i>šmw</i>	Day 27 - <i>Announcement at Deir el-Medina of the execution of Chancellor Bay</i> (O. DM 886) <sup>10</sup>
IV <i>šmw</i>	
I <i>3h.t</i>	
II <i>3h.t</i>	
III <i>3h.t</i>	
IV <i>3h.t</i>	
I <i>pr.t</i>	Day 2 - <i>Most probable first day of regnal year 6</i>
II <i>pr.t</i>	
III <i>pr.t</i>	
IV <i>pr.t</i>	
I <i>šmw</i>	
II <i>šmw</i>	
III <i>šmw</i>	
IV <i>šmw</i>	
I <i>3h.t</i>	
II <i>3h.t</i>	
III <i>3h.t</i>	
IV <i>3h.t</i>	
I <i>pr.t</i>	Day 2 - <i>Most probable first day of regnal year 7</i>
II <i>pr.t</i>	
III <i>pr.t</i>	
IV <i>pr.t</i>	
I <i>šmw</i>	
II <i>šmw</i>	
III <i>šmw</i>	Day 28 - Date of a graffito at Deir el-Bahari recording a visit to Tausret's Temple <sup>11</sup>
IV <i>šmw</i>	
I <i>3h.t</i>	Day 23 - Date of graffito 2 in Tausret's temple
II <i>3h.t</i>	Between days 9 and 12 death of Siptah (calculated, based on O. Cairo 25792, 9)
III <i>3h.t</i>	
IV <i>3h.t</i>	Day 22 - Burial of Siptah according to O. Cairo CG 25792, 9 <sup>12</sup>
I <i>pr.t</i>	Day 2 - <i>Most probable first day of regnal year 8</i>
II <i>pr.t</i>	
III <i>pr.t</i>	
IV <i>pr.t</i>	
I <i>šmw</i>	Day 24 - Date of graffito 1 in Tausret's temple
II <i>šmw</i>	Day 29 - Date of graffito 4 in Tausret's temple
III <i>šmw</i>	
IV <i>šmw</i>	Day ?? - ostracon Cairo CG 25293 <sup>13</sup>



NOTES

- <sup>1</sup> G. Bouvier, *Les étiquettes de jarres hiéroglyphiques*, fasc. 5 (Cairo: Institut français d'archéologie orientale, 2003), 80-87.
- <sup>2</sup> Bouvier, 80-87.
- <sup>3</sup> Bouvier, 76-77.
- <sup>4</sup> Cf. e.g. W.M. Flinders Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897), pl. XIX.
- <sup>5</sup> K.A. Kitchen, *Ramesside Inscriptions* IV (Oxford: Blackwell, 1982), 352, 7.
- <sup>6</sup> K.A. Kitchen, *Ramesside Inscriptions* V (Oxford: Blackwell, 1983), 1, 7-8. Although the determinative of the verb  $\epsilon n$  is lacking, a translation of  $\epsilon n m n s y t$  by "who opposes the king", as given by A. Dodson, *Poisoned Legacy. The Fall of the Nineteenth Egyptian Dynasty* (Cairo: The American University in Cairo Press, 2010), 122, seems untenable. According to the text of the Elephantine Stela, Sethnakht changed his Golden name into  $s h m h p s d r h r y . w = f$  – "Powerful of arm, who drives out his enemies", cf. K.A. Kitchen, *Ramesside Inscriptions* V, 671, 15.
- <sup>7</sup> K.A. Kitchen, *Ramesside Inscriptions* V, 671-672; R. Drenkhahn, *Die Elephantine-Stele des Sethnacht und ihr historischer Hintergrund* (Wiesbaden: Harrassowitz, 1980), 62-67.
- <sup>8</sup> A. Dodson, *Poisoned Legacy*, 119: "The end of the reign of Tawosret remains enveloped in a thick mist."
- <sup>9</sup> A. Dodson, *op.cit.*, 111, still dates this event (recorded without a year-date in O. Cairo CG 25792, 9) to IV  $3 h . t$  day 22 of year 6, but as Helck and von Beckerath already noted, this day was a "regular" working day for the necropolis workers of Deir el-Medina according to P. Greg, verso B 19 (= K.A. Kitchen, *Ramesside Inscriptions* V, 444, 8). The funeral mentioned in O. Cairo CG 25792 was attended by the Vizier Hori and thus most probably related to a high-ranking personality. See also E. Hornung, R. Krauss, and D.A. Warburton, *An Ancient Egyptian Chronology* (Leiden/Boston: Brill, 2006), 213.
- <sup>10</sup> P. Grandet, *Catalogue des ostraca hiéroglyphiques non littéraires de Deir el-Médinéh*, Tome 9, Nos. 831-1000 (Cairo: Institut français d'archéologie orientale, 2003), 59-60, 291-294. See now also M. Bierbrier, "Bye-Bye Bay", and A. Dodson, "Fade to Grey: Chancellor Bay, *Éminence Grise* of the Late Nineteenth Dynasty", both in: M. Collier & S. Snape, *Ramesside Studies in Honour of K.A. Kitchen* (Bolton: Rutherford Press, 2011), 19-22 and 145-158 respectively.
- <sup>11</sup> K.A. Kitchen, *Ramesside Inscriptions* IV, 376, 9-377, 12.
- <sup>12</sup> K.A. Kitchen, *Ramesside Inscriptions* IV, 414, 5.
- <sup>13</sup> K.A. Kitchen, *Ramesside Inscriptions* IV, 408, 2-4.



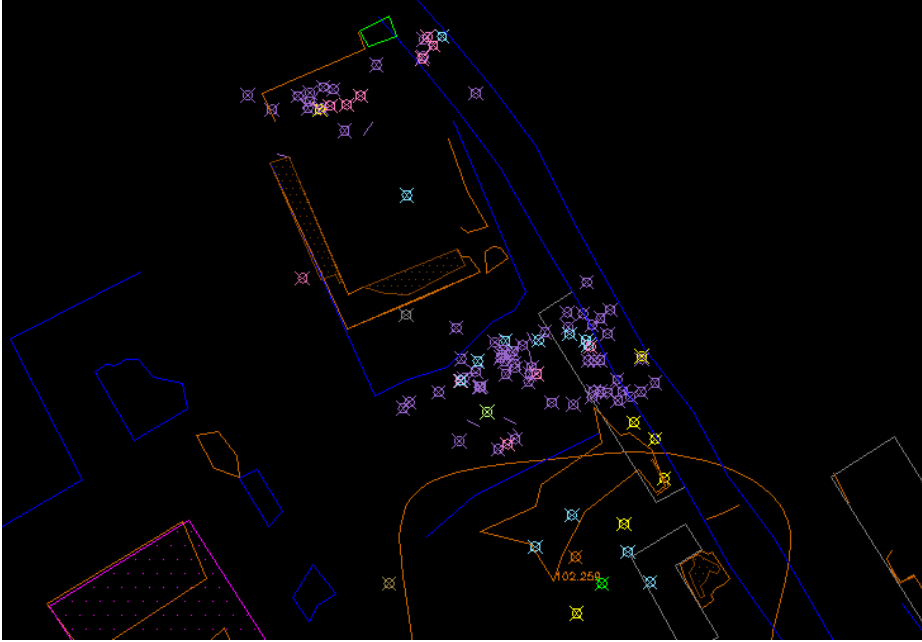
## 8 : THE LATE PERIOD BURIALS

Damian H. Greenwell

The first evidence suggesting a later phase of use around the temple of Tausret comes to us from William Flinders Petrie's publication *Six Temples at Thebes*.<sup>1</sup> In this work Petrie makes reference to "tombs cut in the scarp above it",<sup>2</sup> referring to the steep scarp along the north and west sides of the temple. This area had previously been leveled for use as an area for building (see Chapter 1), and the scarp to the west and north was a by-product of this leveling.

Beginning in January 2008, the excavations conducted by the UAEE began to corroborate Petrie's identification of tombs located in the scarp directly to the west of the temple complex. During the clearance of trench unit TA14 and directly north of Surface Unit 30, a number of mummified remains were found (see Figure 8-1 and Chapter 9). These remains had clearly been extracted from a tomb and desecrated by tomb robbers. The remains were almost completely barren of linen and highly fragmented. A number of small faience objects, wood sarcophagi fragments, plaster, and pottery of the Late Period were also found among the human remains, although all context had been lost. Some of the pottery was of particular interest (see Chapter 6).

In the following field seasons excavation progressed further to the west, towards the rear of the temple and the adjacent scarp where a growing number of remains were found. They were located not only in foundation trench TA14, but also on Surface 41 as well. Excavation in both of these areas became more difficult as the scarp was approached, due to the erosion of a large mass of debris running along its entire length. The debris had built up since ancient times and was then added to when the modern paved road was built directly on top of the scarp. As the slope was excavated, debris would slide onto the area being worked. Although some valuable results were obtained, this problem ultimately prevented excavation from progressing to the vertical rock face of the scarp.



**Figure 8-1: Evidence of an intrusive burial in the northwest corner of the temple site. The brown rectilinear lines in the upper center represent the remains of the surrounding walls of a tomb court or chapel (Figure 8-2). The small green rectangle at top center represents a sandstone threshold block at the tomb entrance (Figure 8-3). The colored points scattered across this area represent artifacts from a burial assemblage – doubtless remaining from the pillaging of tomb robbers. Purple points represent human remains (individual or clustered); pink points, painted sarcophagus fragments; yellow points, Nubian style pottery; blue points, shabtis; green points, other anthropomorphic figures.**

During the 2008/09 field season, excavation was initiated on Surface 41. It was on this unit that a second indicator of the presence of at least one Late Period tomb was found. Many Late Period tombs, whether cut horizontally or vertically, have a surrounding mud brick wall which serves as an open court – sometimes linked to or serving as a funerary chapel - outside the tomb. Examples of this feature are plentiful in the Theban west bank area, including well- preserved mud brick walls around shaft tomb burials at the temple site of Amenhetep II directly north of the Ramesseum. A similar mud brick wall was found on Surface 41(see Figure 8-2). This wall ran the length of the east and south edges of the surface unit; however, the north wall seems to have

been destroyed by Petrie's workmen when they excavated the adjoining section of foundation trench TA14. The mud brick wall was one course high and three courses wide along the east edge, and one to two courses high and three courses wide on the south edge. A layer of fine mud plastering was still preserved along much of the interior face of both walls. The greatest concentration of mummified remains excavated at the site was located directly on Surface 41 within these mud brick walls, although almost all were situated in the stratum directly above the mud brick architecture.<sup>3</sup>



**Figure 8-2: Surface area 41 viewed from the northwest (left end of meter stick points north) showing the mud brick walls of a Late Period tomb court or chapel area. The wall is also present on the north side of the surface area but was evidently considerably damaged by Petrie's men in their digging of a section of foundation trench TA14 immediately to the north.**

It was not until the field season of 2010-11 that the true function of the mud brick walls and their connection to the mummified remains was determined. Just as the limit of safe excavation westward into the sloping mass of debris was reached, a third mud brick wall was located running north-south which formed a well-preserved corner with the south wall. This north-south wall was contemporary with the other two and was three courses

## The Late Period Burials

high and wide. At the north end of the wall, next to TA14, we uncovered a large sandstone block (see Figure 8-3). The block had no visible reliefs or paint on the three sides that were exposed. We believe the block served as the threshold from the outer mud brick funerary chapel to a tomb entrance cut into the side of the scarp directly to the west.



**Figure 8-3: Western end (right side of meter stick points north) of Surface area 41 showing the continuation of the mud brick wall of the tomb court or chapel area and the large sandstone block which was utilized as a threshold at the entrance to the tomb. This block was doubtless originally part of one of the foundation blocks from the trenches of the temple. Photograph shows how the tomb area proper now lies beneath the steep embankment of the modern roadway.**

The last major indicator of the presence of at least one tomb located at the western end of Tausret's temple complex was the presence of large masses of limestone chips. In his excavation report on Tausret's temple, Petrie explains almost all the foundation trenches were cleared in search of foundation deposits "except a part at the back of the cella, which was deep in accumulated dust and chips from tombs cut in the scarp above".<sup>4</sup> One of these mounds was located just to the southeast of Surface 41. It covered the entire

area of Surface 35, spanned the width of TA11B to the southern edge of Surface 30, and had a maximum height of 2 meters. The close proximity of this large mass of limestone chippings to the funerary chapel suggests the two are linked to the same phase of construction. Two other large masses of chippings were found towards the rear of the temple as well. One was located where the cella is probably situated, making it the likely candidate in Petrie's report, and the other was a little further to the south. The presence of these other two mounds of limestone chips strongly indicates there are at least two more tombs cut into the temple's western scarp.

In the summer of 2011, a survey of the scarp and the western end of the temple proper was carried out using ground penetrating radar (see Chapter 10). The goal of this survey was to locate anomalies in the underlying rock which would confirm where and how many tombs actually were cut into the scarp.

#### NOTES

- <sup>1</sup> William M. Flinders Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897).
- <sup>2</sup> Petrie, *Six Temples*, 13, 18.
- <sup>3</sup> Petrie also notes that the remains of a mud brick chamber were found constructed against the face of the scarp where the north and west edges form a corner (Petrie, *Six Temples*, 18). The nature of that structure is not known, but within it, a cache of iron tools and bronze objects were found. Based on inscriptions found on the objects, they were dated to the 7<sup>th</sup> century B.C. (*ibid.*), also placing this structure in the Late Period.
- <sup>4</sup> Petrie, *Six Temples*, 13.



## 9 : THE HUMAN REMAINS

Gonzalo Sanchez

### INTRODUCTION

The University of Arizona Egyptian Expedition excavation of the Temple of Tausret recovered a considerable number of human remains in its field seasons between 2009 and 2011. The following report is based on a complete survey and analysis of these remains.

### MATERIAL

All human remains were uncovered on surface area S30 and S41 and in the adjacent trenches TA14, and TB14 and TA11B (see Chapter 5, Map IX).<sup>1</sup> Their provenance appears to be from an intrusive tomb or tombs constructed at the rear NW perimeter of the Temple site.<sup>2</sup>

No complete mummies or entire skeletons were found, however 304 osteological specimens were recovered. The osteologic material belongs to a number of adult individuals and at least one child. The material consisted of numerous disarticulated bones, some of which were intact (<30%), though many were fragmented. There were also a few anatomically contiguous body structures with attached remnants of mummy cloth found. The destruction of these mummies occurred in antiquity. Estimated dating is suggested by remnants of burial assemblages found with the human remains, consistent with the Third Intermediate Period.

All 304 specimens were given a consecutive HRX+number identification, lightly brushed and photographed. Specimens with possible pathology were studied in detail. Small bony splinters, skin fragments and mummy cloth were recorded but not photographically.

The quality of preservation of the anatomically contiguous human remains varied from poor to excellent. The best preserved specimen HRX-163 is a mummified right hand in which the skills of embalmers in the Late Period are evident.

**HUMAN REMAINS DATA**

Skull	41
Chest	16
Vertebra	38
Upper Extremity	26
Pelvis Os Coxae	8
Lower Extremity	88
<b>Total</b>	<b>277</b>

**Table 9-1: Specimens by Region**

Mandible	Occipital	Parietal		Temporal		Frontal
		Maxillary/Zygomatic				
		Rt.	Lt.	Rt.	Lt.	
34 right female adult	70	1	70**	15	71	76
69 right female adult	201	17	147	166	198	266
111 left male adult	212	23	189	200	216	275
194 right male adult	213	43	201**	239	263	
196 same individual as 194	147	95	75	264		
206 right elderly female	240***	201	235**			
207 left young male	279 fg. Rt.	235 frag.				
214 child 4-5 y/o	292 fg. Rt.					
*	8	7	6	5	4	3

\* Eight fragments from seven individuals

\*\* Specimens with same number include contiguous bone

\*\*\* No photographic record is available

**Table 9-2: Skull – Craniofacial (41 Fragments)**



The Human Remains

Sternum	Scapula		Clavicle		Rib	
	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.
63	2	121		37	24 frag.	34 frag.
277 Manubrium	58	209 frag.		121*	284	296
	91 frag.				302 frag.	
	303 Frag.				303 with Costochondral cartilage	
2	4	2		2	4	2

\* Specimens with same number include contiguous bone

**Table 9-3: Chest (16 fragments)**

Cervical	Thoracic	Lumbar	Sacral	Coccyx
152 (C-7)	36-38 Four vertebrae in resin	131 - L-2	21 S1-2 Healthy	295 C1 - 4
198 (C-1, C-2 to 5) (Discussed below)	59 – 60 Six Fused vertebrae A.S. v. DISH (See Discussion)	139 - L2-3	28 – S1-3 Healthy	
	204 Upper some spondylosis	157 – L3-4 Bound - resin	113 – S1 Poor condition	
	219 Low - (Child)	217- L2 or 3	187* (pelvis/hip)	
257 Block C1-5/6	259 Mid.	282 - L1		
283 C-7	294**			
12	14	7	4	1

\* Specimens with same number include contiguous bone.

\*\* No photographic record is available.

**Table 9-4: Spine (38 fragments)**

Humerus		Radius		Ulna		Hand***	
Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.
36	56	122	46		46*	52 finger	128 Frag. Pair to 163
54	74		144		127	163 Complete	
61 Fractured	164		218 Frag. Child		130	193 Metacarp. #2 or #3	
192	218				186 Frag.	301** Metacarp. #3	
192	220				226**		
192	285						
	299						
5	7	1	3	0	5	4	1

\* Specimens with same number include contiguous bone.

\*\* No photographic record is available.

\*\*\* Includes multiple small bones

**Table 9-5: Upper extremity (26 fragments)**

Rt.	Lt.
150 Frag. Probably female	47 + (48 Femur)
185 fragment	50 – frag. Probably female
234 fragment with acetabulum charred?	109 - frag. Female
	187* (pelvis / hip) Male
	228* With acetabulum, fragmented
3	5

\* Specimens with same number include contiguous bone.

**Table 9-6: Pelvis – Iliac / Os Coxae (8 fragments)**

# The Human Remains

Femur		Patella		Tibia	
Rt.	Lt.	Rt.	Lt.	Rt.	Lt.
35	41 Upper half	35*	228	35*	112
51 Low 2/3 Fractured	47* Upper with acetabulum	51*	281	39/40 Fractured Complete	153 Pair to 158
145 Child 6 year-old	132 Complete			45	
215 fg Mid segt.	148 Prox.			120	
	165 Upper half			158	>>
	173 Complete Wrap.			211	
	187* with pelvis			230	
	205 frag. Fem. Head 228			288	
	228				
4	9	2	2	9	2

\* Specimens with same number include contiguous bone.

**Table 9-7a: Lower extremity (88 fragments) – Part 1**

Fibula		Foot	
Rt.	Lt.	Rt.	Lt.
35*	271 Distal & foot	22 #6 Tarsals Metatarsals	49 #5 Metatarsals
120*	280 Fg Distal	53 5th Metatarsals	203 Metatarsal 2 or 3
237 Fg. Distal		126 Calcaneous Frag.	229 Navic.
238 Fg Prox.		146 Big Toe Wrap.	233 Phal. prox
241 w wrapp		245 – 248 Cuneif. & prox. Phalanx s 4	233 Cuneiform Intermediate
255 Fragmented		249 Phalanxes Med.	258 Calcaneous
256 Distal		250 Phalanx 2 Distal	271 entire foot wraps
		270 Talus	276 Talus
7	2	14	37

**Table 9-7b: Lower extremity (88 fragments) -- Part 2**

## ANALYSIS

### *DETERMINATION OF NUMBER OF INDIVIDUALS*

A minimum of 10 individuals were found. This determination was made from the most numerous one-sided long bones, the femur. There were 9 left-sided adult femoral bones or fragments belonging to separate specimens, plus 1 right-sided pediatric femoral bone (5 y/o). The closest matching from the count of other osteologic material (humerus and mandible) was 7 individuals.

### *DETERMINATION OF SEX*

- By Mandible data (69-90% accuracy)
  - 3 adult males
  - 3 adult females
  - 1 unknown / incomplete specimen
- Temporal bone data, low numbers
- Pelvic bone data, low numbers

### *DETERMINATION OF AGE*

Data from the mandibular and dental material indicate individuals whose age ranged from 5 years to elderly.<sup>3</sup>

A more accurate age assessment was possible in specimen HRX-187. This is a male's pelvis whose Os Coxae provided age-ranging data, from the pubic symphysis and from the iliac auricular surface.

- Pubic symphysis = Todds' Phase VI<sup>4</sup> age 30 to 35 y/o.
- Auricular surface of the Ilium = Lovejoy et al. Phase 4<sup>5</sup> age 35 to 39 y/o.

Data derived from dental<sup>6</sup> and femoral bone<sup>7</sup> measurements allowed determination of age in a child to be 5 +/- 1 years old.

### *ESTIMATED STATURE FROM FEMORAL BONE MEASUREMENTS*

Stature was estimated using a Feldesman's femur/stature ratio of 26.74% in 51 different populations of contemporary humans.<sup>8</sup>

## The Human Remains

- Specimen HRX-132 belongs to an individual who was approximately 143.60 cm tall (56.53”).
- Specimen HRX-173 belongs to an individual who was approximately 165.46 cm tall (65.14”).
- Specimen HRX-145 belongs to an individual who was approximately 103.21 cm (40.63”) (5y/o +/-1).

## PATHOLOGY

No neoplasms were evident. Specimen HRX-38 is a thoracic vertebral block encased in resin without evidence of tumor.

No evidence of infections was found.

Specimen HRX-163 (Fig. 9-1) was the best preserved specimen found. It consists of the right hand, wrist and distal forearm. Its cloth coverings were absent but their imprint on the skin could still be detected in various areas. The hand belonged to an adult, probably a female (suggested by the length of



**Figure 9-1**

the index finger). The hand's fine features, manicured nail detail and the lack of calluses indicate its owner had not been involved in heavy labor. There is a

slight ulnar deviation of the last two phalanxes of the middle finger due to early arthritic degeneration. Finger prints can still be appreciated in the thumb. The fifth finger position slightly under the fourth digit is probably due to mummification artifact. The extremity was severed by a sharp blow to the distal forearm. Seven centimeters of distal radius are visible protruding through the broken skin.

Thoracic vertebrae block specimen HRX-59-60 (Fig. 9-2) indicated probable DISH (Diffuse Idiopathic Skeletal Hyperostosis). The two blocks of thoracic vertebrae were originally one continuous thoracic spine which had been fractured postmortem between third and fourth vertebral body (counted from the top) and through the lamina of the third vertebrae. Multiple vertebral body segments are fused with marginally symmetric bony ridges (syndesmophytes) between the vertebrae (single red arrows in Top View of the fractured segment). There is ossification of the anterior longitudinal ligament (yellow arrows). There is a vertical larger syndesmophyte on the right side of the vertebral bodies, joining the fourth and the fifth vertebrae in this block from the top (double red arrow).

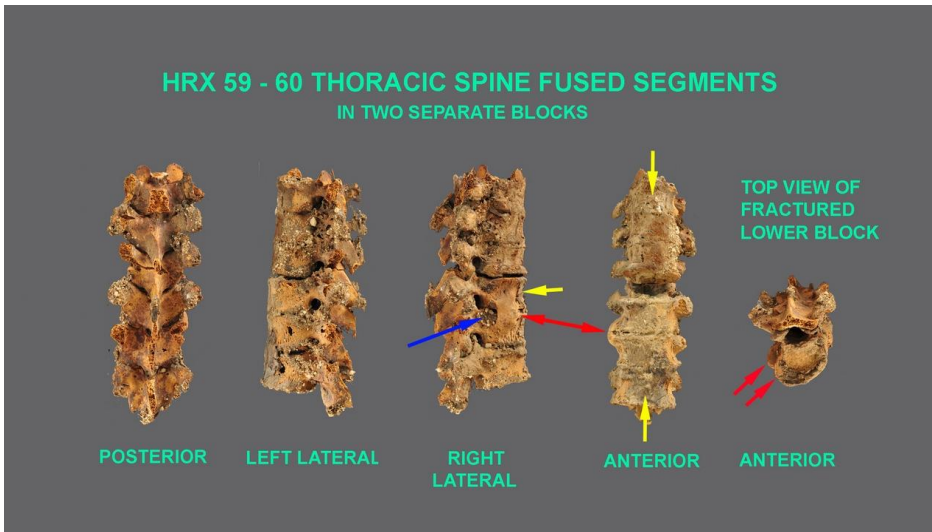


Figure 9-2

The specimens were examined at the SCA storage magazine in Luxor's West Bank during our 2009 season. On examining the photographic material, my initial impression was the possibility of this specimen representing some

## The Human Remains

form of infection. This opinion was included in "The Tausret Temple Project: 2008 Season",<sup>9</sup> but it needs to be amended. What appeared to be a cavity with loss of bone in the vertebral body of one thoracic vertebra in this block was in fact the costal facet of the vertebral body filled with sand and small rocks, the immediate surface anterior to it being an area bridged by a large syndes-mophyte, giving the appearance of an erosion or cavity (blue arrow). In effect, this was part of the disc space beneath the bony bridge. The differential diagnosis in this case is with degenerative Spondylosis and with Ankylosing Spondylitis. The anatomical pathological features favor DISH (Diffuse Idiopathic Skeletal Hyperostosis).<sup>10</sup>

## TRAUMA

### *PRE-MORTEN TRAUMA*

There was abundant evidence of violence inflicted upon the mummified bodies, but no evidence of major pre-mortem trauma was found.

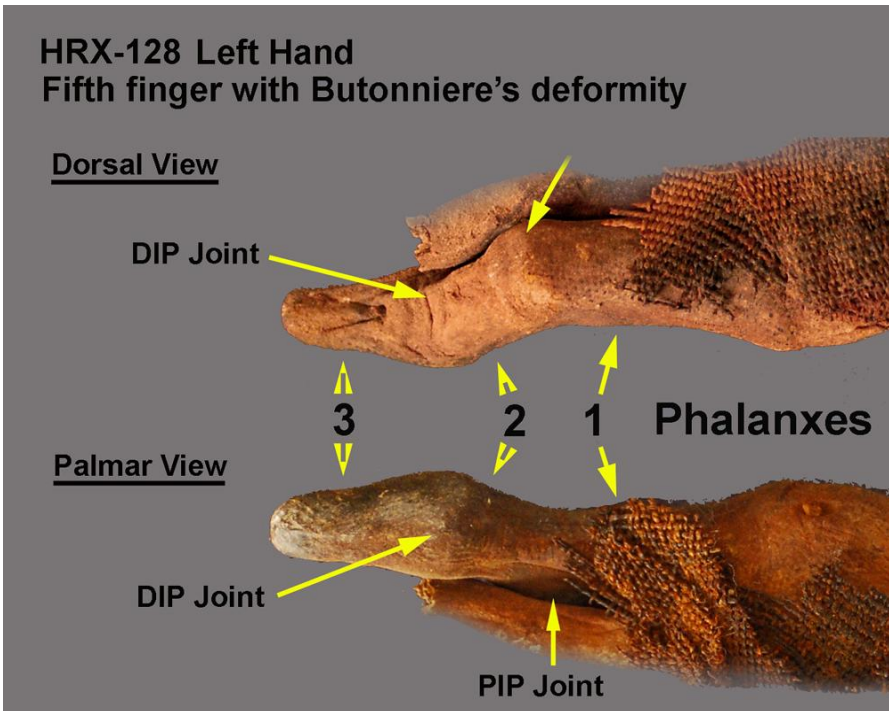


Figure 9-3

The only minor pre-mortem injury found was to the fifth digit of the left hand, specimen HRX-128 (Figure 9-3). This hand displays the typical “Boutonniere deformity”<sup>11</sup> of the fifth finger. The proximal interphalangeal joint (PIP) is flexed and the distal interphalangeal joint (DIP) is extended, displaying a bulbous enlargement on its palmar surface. This injury results from a tear, or section of the extensor tendon of the finger at the PIP level with loss of extension between first and second phalanx and loss of flexion of the distal phalanx. Injury can also occur when the finger is jammed from its end, forcing the PIP joint to bend, damaging the extensor tendon attachment to the middle phalanx. The bulbous enlargement seen in this case is the result of chronic and repeated trauma to that part of the finger from its abnormal position.

*POST-MORTEM TRAUMA*

Widespread trauma to every part of the mummified remains is evident. Discussion of two specimens follows:

SPECIMEN 1  
CRANIOFACIAL AND CERVICAL INJURIES

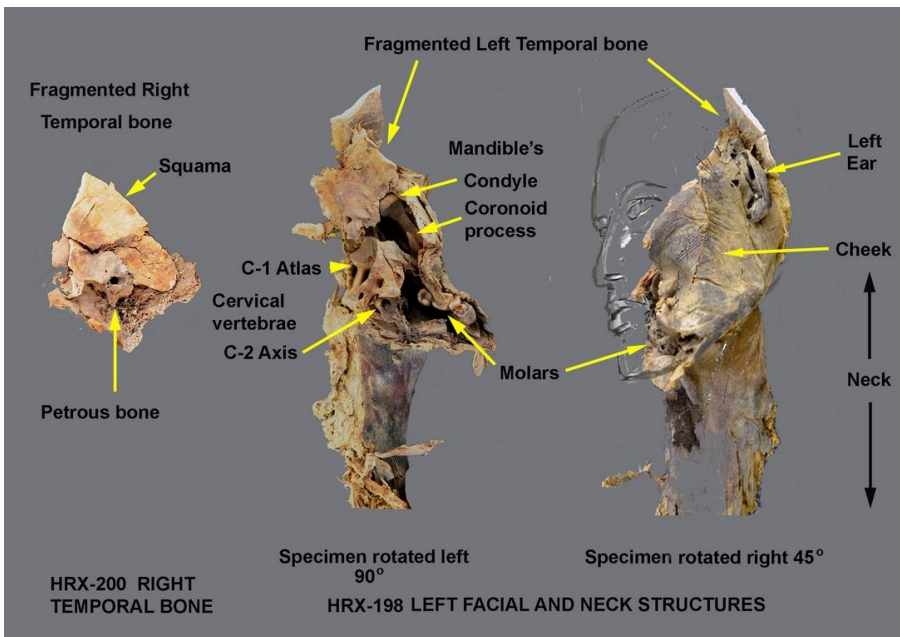


Figure 9-4a



## The Human Remains

The specimen consists of mummified fragments of skull, facial and neck structures, HRX-194-196-198-200 (Fig. 9-4a and 9-4b).

The injuries are post-mortem. This is a male's mummified head that has been destroyed by multiple heavy blows, probably with a sharp object like an axe. The largest fragment includes the left one third of the face and two thirds of the neck cut in a vertical direction. The skin remaining over the face and neck shows the ear cartilage. More anteriorly, it is split over the cheek and maxillary area. Fragments of the temporal bone squama and petrous bone are pushed in and the mandible is split in three. The left portion of the mandible remains within the facial block, showing two molars and one premolar. The cheek is caved in by a blow. There are no facial bones or skull base bones left in place, so that the upper cervical spine is visible with the atlas (C-1) dislocated over the axis (C-2). The mid-section of the mandible contains the incisors, a broken left canine and an intact right canine. The right section of the mandible has one premolar and two molars. The angle of the

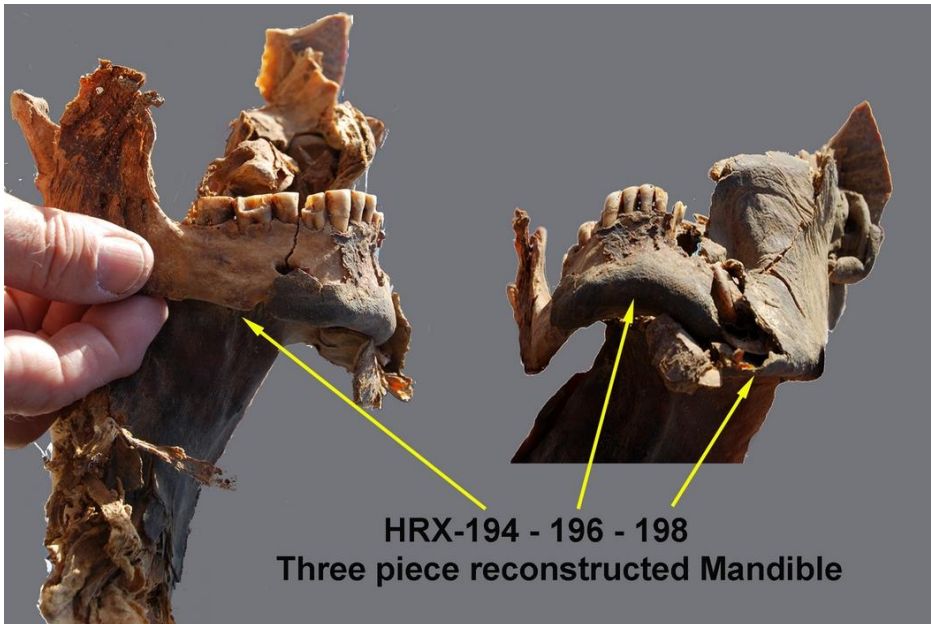


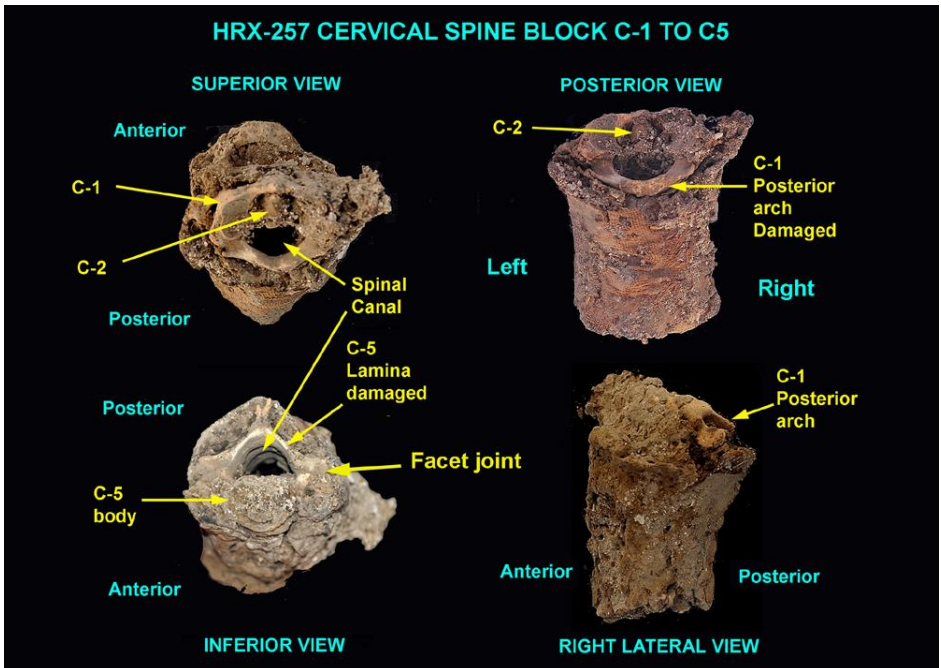
Figure 9-4b

jaw corresponds to a male and the state of dentition suggests a young adult individual. The skull vault is gone. The right temporal bone is also frag-

mented, the remaining pieces held together by skin. As on the left side, this temporal bone is shattered. The two petrous portions of the temporal bones, separated as they are, constitute the only remnants of the skull's middle fossa (base). The damage to these specimens denotes extremely vicious attack of the mummy.

SPECIMEN 2  
CERVICAL SPINE INJURIES

The specimen HRX-257 in mummy cloth wrapping (Fig. 9-5), displayed cervical spine injuries. The wrapped cervical area contained C1 through C5 vertebrae and all the neck desiccated soft tissues. Abrasion marks are evident on the top of the arch of the Atlas (C-1) and on the bottom of the lamina



**Figure 9-5: Cervical Spine Mummified Block**

of C-5, from traumatic detachment. The Atlas is separated from the base of the skull, probably from an anterior blow to the head. Separation at C-5 occurred at the intervertebral disc, as is typical in extension compression

## The Human Remains

injuries of the cervical spine by anterior blows to the face.

### CONCLUSION

In conclusion, during the excavation of Queen Tausret's Temple in West Luxor by the University of Arizona Egyptian Expedition, numerous human remains from intrusive burials were found. These materials were examined, catalogued and photographed. Most finds consisted of disarticulated and often fragmentary bones, but there were also a few anatomically contiguous body structures with extant mummification cloth. There was evidence of widespread post-mortem mummy destruction doubtless caused by tomb robbers in ancient times. The human remains suggest a minimum of 10 individuals, aged from early childhood to an adult of 35 to 39 years. From mandibular material we can only ascertain there were three males and three females. The best-preserved specimen is a distal forearm, wrist and hand which retained exquisite anatomical details. Evidence of pre-trauma deformity was found in one hand specimen. Pathological findings were limited to degenerative osteoarthritis in one hand and a thoracic spine with abnormalities suggesting ankylosing spondylitis.

### NOTES

- <sup>1</sup> See also Richard H. Wilkinson, "The Tausret Temple Project 2009 Season," *The Ostrakon* 20:1 (2009): 3-11 for the initial recovery of the material and preliminary distribution findings.
- <sup>2</sup> Wilkinson, "Tausret Temple Project 2009 Season," 6-8.
- <sup>3</sup> Tim D. White and Pieter A. Folkens, *The Human Bone Manual* (Burlington, MA: Elsevier Academic Press, 2005), 363-367.
- <sup>4</sup> White and Folkens, *Human Bone Manual*, 374-377.
- <sup>5</sup> White and Folkens, *Human Bone Manual*, 380-384.
- <sup>6</sup> White and Folkens, *Human Bone Manual*, 364-365.
- <sup>7</sup> William M. Bass, *Human Osteology* (Columbia, MO: Missouri Archeological Society, 1987), 217-218.
- <sup>8</sup> M.R. Feldesman, J.G. Kleckner and J.K. Lundy, "Femur/Stature Ratio and Estimates of Stature in Mid- and Late Pleistocene Fossil Hominids," *American Journal of Physical Anthropology* 83:3 (1990): 359-72.
- <sup>9</sup> Richard H. Wilkinson, "The Tausret Temple Project Report: 2008 Season," *The Ostrakon* 19:1 (2008): 3-8.

- <sup>10</sup> Arthur C. Aufderheide and Martin C. Rodriguez- Marin, *The Cambridge Encyclopedia of Human Paleopathology* (Cambridge and New York: Cambridge University Press, 2005), 96-104.
- <sup>11</sup> "Hand Anatomy, Boutonniere Deformity of the Finger," accessed 5/23/2011, <http://www.peakorthopedics.com/book/export/html/35>.



## 10 : REMOTE SENSING

Pearce Paul Creasman and Douglas Sassen

### INTRODUCTION

When William Flinders Petrie briefly examined the Temple of Queen Tausret in 1896, he observed the existence of tombs of a later date immediately west of the complex.<sup>1</sup> As Petrie focused on the Tausret components of the site, no complete investigation of these tombs was made at that time. Furthering Petrie's observations, the excavations at the western edge of Tausret's temple by the University of Arizona Egyptian Expedition (UAEE) revealed archaeological evidence of several (possibly three or more) Late Period tombs.<sup>2</sup> As the evidence for these features was discovered late in the UAEE's 2009-2010 field seasons the Expedition was only able to partially reveal the entrance of one of the features, whetting the appetite for later examination.

Therefore, a remote sensing (ground-penetrating radar) project was implemented to map this western area of interest (Figure 10-1) in order to define the size and extent of any archaeological features in the section. Ultimately, the goal of this non-invasive survey was to determine whether additional excavation outside the temple proper is warranted, and if so, how to plan going forward. The survey was conducted with the approval of the Supreme Council of Antiquities, between August 10<sup>th</sup> – 24<sup>th</sup>, 2011.<sup>3</sup>

### EVIDENCE AND DISCUSSION

The UAEE excavations at the northwest corner of Tausret's temple, near the base of the modern road embankment, revealed a mud brick wall extending away from the temple which appears to represent the entrance area of a tomb (see Chapter 8).<sup>4</sup> This is the area in which Petrie's incomplete investigation indicated tombs might be found.<sup>5</sup> The UAEE also uncovered indirect evidence of three or more tombs at the western edge of Tausret's temple complex. Large, similarly sized mounds of rock chips above the strata of the



**Figure 10-1: Aerial photo (Google Earth) of the study area with an overlay of the temple plan. The approximate location of the road embankment survey area is indicated.**

temple are interpreted as the primary evidence, whereas multiple factors seem to indicate a tomb at the northernmost corner, including: the large volume of the rock chip mound and its location; a mud brick wall with bricks that differ in size from those used in Tausret's temple; location and direction of the mud brick wall construction (outside of and away from the temple); and Late Period date of various items of material culture scattered around the area in which the mud brick wall is located. Here, the scattered remains of at least ten individuals (see Chapter 9), coffin fragments, and other objects from one or more burial assemblage/s provide further evidence of a possible tomb, its likely date, and of looting in antiquity.<sup>6</sup> Yet, the area around the two southern rock chip mounds yielded no indication of post-burial disturbance. For example, the 2008 season had found, in a stratigraphic layer above the remains of the temple, flakes from the nearby stone outcropping;<sup>7</sup> when the edge of the first tomb came to light (see Chapter 8), these flakes were realized to be the byproduct of tomb construction. If the southern chip mounds indeed

indicate nearby tombs, there is a possibility that they remain intact. Future excavation in these areas could prove extremely informative.

In order to establish the identity of these anthropogenic features, their purpose, and their condition, a non-invasive remote-sensing survey was undertaken using ground-penetrating radar (GPR). The topography of the site presents a physical challenge to the use of GPR due to the modern road embankment, which impedes upon the area of interest (Figure 10-2). This necessitated positioning the GPR grid and maneuvering the equipment along a very steep slope, which rises 5 meters above the excavation level and in some locations exceeds 30 degrees. While the authors have previously undertaken GPR surveys on steep slopes in Egypt, each site presents unique challenges that must be addressed and resolved individually.<sup>8</sup>

The road is constructed above a base material of rock and sand that forms a slope of critically stable material (i.e., the fill holds its general shape, despite the acute angle of the embankment) extending down to the current excavation



**Figure 10-2: A view of the road embankment looking south. The author is holding the radar antennas in place during data acquisition on the slope. The steel fence and buried utilities are potential sources of interference.**

limits. Presumably, this embankment covers the entrances to a number of tombs cut into the original sedimentary formations seen below and around the temple compound. Concern for the safety of the excavators and the fact that further disturbance of the embankment could endanger road stability contributed greatly to the decision to undertake a non-invasive GPR survey rather than excavation in this area.

## METHODS

GPR uses echolocation to investigate the subsurface: features with contrasting electromagnetic properties backscatter transmitted radar waves back to a recording receiver. With knowledge of the subsurface velocity and the total travel time to and from the contrasting target, the depth and geometry of subsurface features can be imaged in three dimensions. Strong variations in topography within the GPR survey area, as is the case with this location, necessitate the use of topographic migration to correctly image the subsurface.<sup>9</sup> Such advanced mathematics and methods are more commonly employed for seismic analysis, which can be adapted to an archaeological setting.<sup>10</sup> In brief, the methodology utilizes a topographic model of the area to calculate a migration template for each GPR data point to put subsurface features back to their correct location for image construction. These images allow us to interpret the geometry of anthropogenic features within an area such as the road embankment and to identify areas of potential interest for further excavation.

The GPR data were collected with a Pulse Ekko 100 system using 200 MHz antennas. Common mid-point gathers were used to estimate the velocity at 0.13 m/ns. The three-dimensional GPR survey was collected with a constant antenna offset of 0.5 m. The GPR data was acquired at discrete sampling points with a spacing of 0.4 m in the inline (uphill) direction, and a 0.5 m spacing between lines. The spatial sampling is a compromise between minimizing aliasing and the limited time available for this survey. The antennas were positioned with a polarization in the inline direction. This polarization was chosen to minimize the potential interference from a steel wire fence at the top of the slope and buried utilities running perpendicular to the line direction (Figure 10-2).

Prior to imaging, interfering signals, antenna ringing, and above-ground reflections were removed via filtering and muting. Antenna ringing was confined to a damped sinusoidal signal of approximately 180 MHz and was



removed with a digital notch filter. A low-pass filter centered at 200 MHz removed high-frequency noise. These filters had little effect on the quality of the data, as the recorded signals had a peak power at approximately 120 MHz and approached the noise floor at 180 MHz. Strong interference from the metal fence posts was deleted from the data when found, with the consequence of degrading the imaging resolution potential near the road. The data were corrected for geometric and material attenuation using a SEC gain.<sup>11</sup>

The topography of the site was surveyed at a 2 m x 2 m sampling grid, using a stadia rod and survey level. These topographic data were then interpolated for each of the 3,438 transmitter and receiver locations (Figure 10-3). The topographic migration algorithm used this topographic model to calculate the migration template for each data point during imaging. The resulting image represents the geometry and relative electromagnetic contrasts of the embankment (Figure 10-4). Following imaging, instantaneous

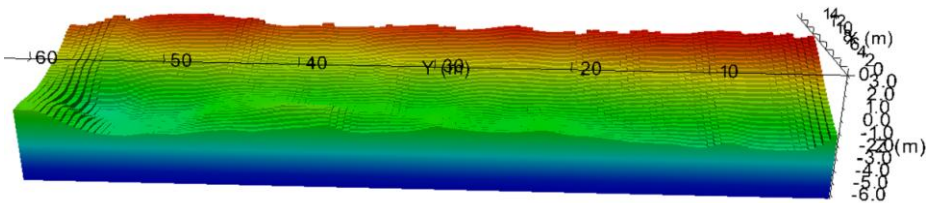


Figure 10-3: Topographic model used to calculate the migration template for subsurface imaging.

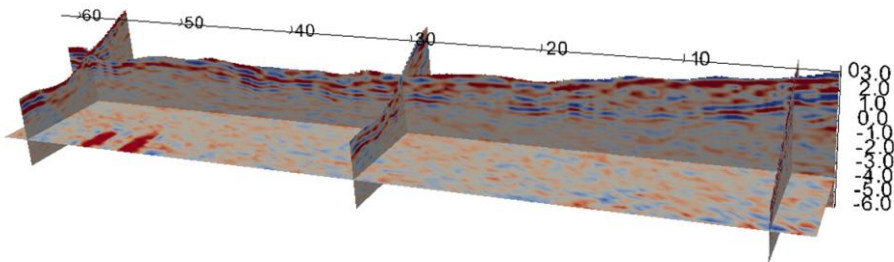


Figure 10-4: Three-dimensional perspective of the GPR image of the road embankment interior.

amplitude attributes were extracted using a Morlet Wavelet and the discrete wavelet transform.<sup>12</sup> In this particular case, this attribute was used to remove the oscillatory nature of the GPR wavelet from the data to simplify interpretation.

### INTERPRETATION

The main features of the road embankment are, first, the high-amplitude and unevenly textured upper layer interpreted as recent debris associated with the road, and, second, the low-amplitude, finely structured lower layer interpreted as the consolidated sedimentary material seen in and around the temple site (Figure 10-5). In the lower portions of the slope near the present-day limits of the archaeological excavation, several ancient features can be seen (Figures 10-6 - 10-9). At 3.9 m below the reference elevation (1.5 m below

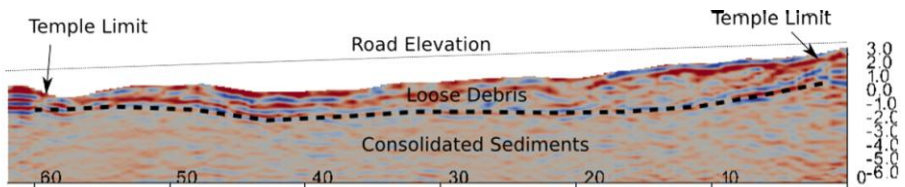


Figure 10-5: Profile view of the interior of the road embankment, 10 meters from the baseline, looking towards the road from the temple. The highly reflective and irregular upper zone is interpreted as loose debris associated with the road construction. The low-contrast, finely structured lower zone is interpreted as consolidated sediments seen below and around the temple.

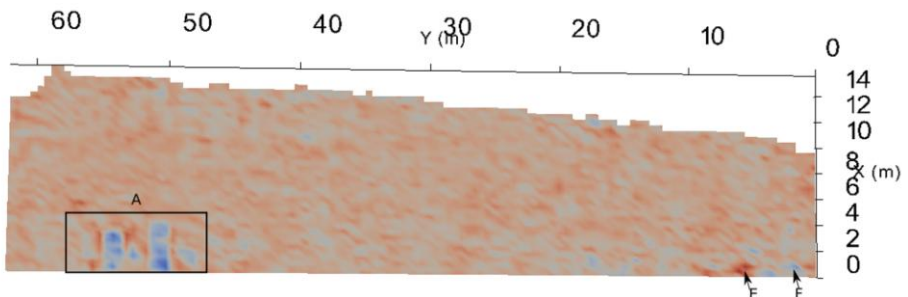
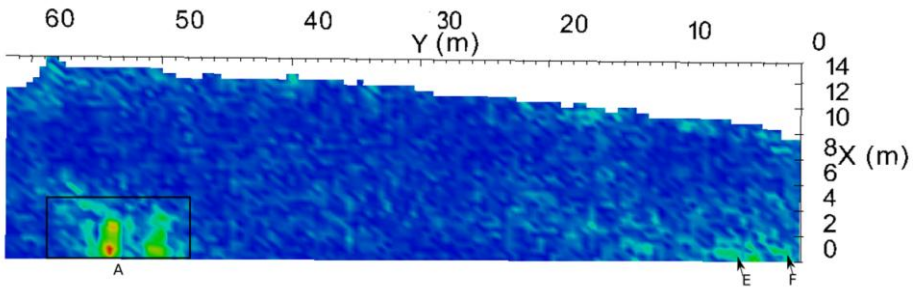


Figure 10-6 Depth slice at -3.9 meters, showing the most significant features within the road embankment. The blue rectangular features (A) are at a depth of 1.5 meters below the current limits of excavation. E and F are the edges of other highly reflective features.

current excavation levels), two strongly reflective rectangular features appear (Figure 10-6 A) with significant vertical extent (Figure 10-7 A). These rectangular features are likely associated with tombs; a surface expression of these features can be seen at the site (Figure 10-8). Both in cross section and in depth view, several other potentially anthropogenic structures can be seen close to the current extent of the archaeological excavation (Figures 10-9 and 10-10 B-F). The subsurface area near the road is devoid of any obviously anthropogenic features.



**Figure 10-7:** A depth slice at -3.9 meters, showing an instantaneous amplitude extraction. The rectangular features are seen in A. Other high amplitude features include E and F.

#### LIMITATIONS AND SUGGESTIONS FOR FUTURE INVESTIGATIONS

The interpretation of the GPR data in this case is limited to resolving features of sufficient size and contrast so as to separate them from the background material. With decreasing size, features of less than the dominate wavelength of the signal (~1 meter) become increasingly difficult to differentiate from the background. Additionally, differentiating structural features from modern or ancient debris (evident on the surface of the survey area) becomes difficult if the electromagnetic properties of the materials used in construction are similar to those of the background materials. This occurs, for example, if prior excavation, looting or construction activities have disturbed the structures in such a way that building material has become mixed with surrounding debris. Accumulation of small errors in data acquisition and image processing further complicates these limits. Features B though F (Figures 10-9 and 10-10) should be considered only potential targets for further examination. Other features lacking the size or contrast to be seen

with the GPR may exist within the road embankment and could also be revealed by subsequent excavation.



Figure 10-8: A view of the road embankment looking north the background. The excavated area in the foreground is the location of the rectangular pits seen in figures 6 and 7.

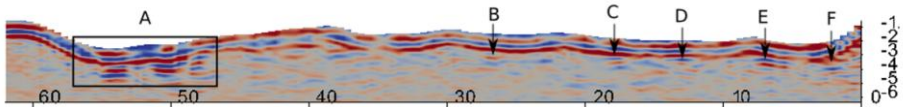
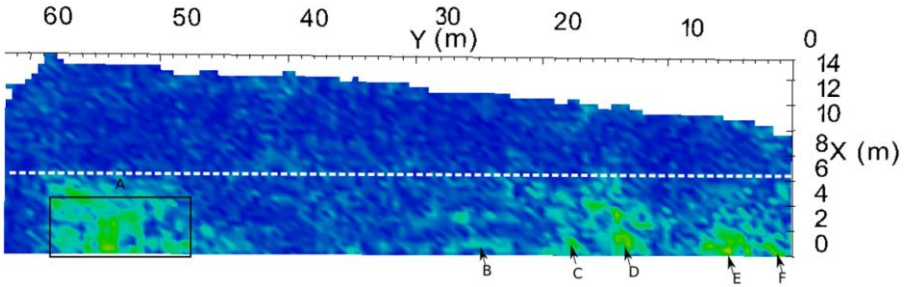


Figure 10-9: Profile view of the interior of the road embankment, 1 meter from the baseline, looking toward the road from the temple. Antenna coupling dominates the image for the first meter below the surface. The rectangular components of a feature are seen in the box labeled A. Other potentially anthropogenic features are labeled B-F.



**Figure 10-10: A depth slice at -3.5 meters showing an instantaneous amplitude extraction. The rectangular features are seen in A. Other high-amplitude features include B through F. The white dashed line is the interpreted limit of temple-related features for this horizon.**

NOTES

- 1 William M. F. Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897), 18.
- 2 Richard H. Wilkinson, "The Tausert Temple Project: The 2008 Season," *The Ostrakon: The Journal of the Egyptian Study Society* 19 (2008): 5; Richard H. Wilkinson, "The Tausert Temple Project: The 2009 Season," *The Ostrakon: The Journal of the Egyptian Study Society* 20 (2009): 6-9; Richard H. Wilkinson, "Six Seasons at Thebes: The University of Arizona Tausert Temple Project," in *Thebes and Beyond: Studies in Honor of Kent R. Weeks*, ed. by Zahi Hawass and Salima Ikram (Cairo: Supreme Council of Antiquities, 2011), 221-22.
- 3 This work would not have been possible without the kind permission of the Supreme Council of Antiquities; support from the members of the SCA Permanent Committee; and the help of the following individuals: Dr Mohamed Ismael, SCA Director of Foreign Missions; Mansour Boraik, Director of Upper Egypt; Mustafa El-Waziry, Director of West Bank Antiquities; Mohamed Hamdan, Director of the West Bank Missions Office; the American Research Center in Egypt staff, especially Mme Amira Khattab; SCA Inspector Mohamed el Azab; Reis Ali Farouk Sayed El-Quftawi; Reis Omar Farourk Sayed El-Quftawi. In addition, the following are thanked: Laboratory of Tree-Ring Research, the University of Arizona, Kathryn Michel, the Institute of Maritime Research and Discovery for support; and particularly Dr Mark Everett and Dr Rick Giardino of the Department of Geology and Geophysics, Texas A&M University.

- <sup>4</sup> Wilkinson, "The Tausert Temple Project: The 2009 Season," 8; Wilkinson, "Six Seasons at Thebes," 221-22.
- <sup>5</sup> Petrie, *Six Temples*, 18-19.
- <sup>6</sup> Wilkinson, "Six Seasons at Thebes," 18-19.
- <sup>7</sup> Wilkinson, "The Tausert Temple Project: The 2009 Season," 8.
- <sup>8</sup> Pearce Paul Creasman et al., "Ground-Penetrating Radar Survey at the Pyramid Complex of Senwosret III at Dahshur, Egypt, 2008: Search for the Lost Boat of a Pharaoh," *Journal of Archaeological Science* 37 (2010): 519-21.
- <sup>9</sup> When significant undulations in surface topography exist, such as in the survey area, certain algorithms can be used in combination with basic surveying data collected on site to help provide cleaner and more accurate interpretations of the GPR data.
- <sup>10</sup> Frank Lehmann and Alan G. Green, "Topographic Migration of Georadar Data: Implications for Acquisition and Processing," *Geophysics* 65 (2000): 836-48. Creasman et al., "Ground-Penetrating Radar Survey," 519-21.
- <sup>11</sup> Ozdogan Yilmaz and Stephen M. Doherty, *Seismic Data Processing* (Tulsa: Society of Exploration Geophysicists, 1987).
- <sup>12</sup> Satinder Chopra and Kurt J. Marfurt, "Seismic Attributes for Prospect Identification and Reservoir Characterization," in *SEG Geophysical Developments*, ed. S. J. Hill, Series 11 (Tulsa: Society of Exploration Geophysicists, 2007).



## 11 : HISTORY OF THE TEMPLE

Richard H. Wilkinson

The evidence for the history<sup>1</sup> of Tausret's temple may be best seen in terms of the stages that the UAEE excavations have discovered regarding the monument's construction, its eventual destruction, and later activity at the site. Many questions still remain in this regard, but we are now in a position to understand the key aspects of the temple's history, at least in outline, and especially the construction of the structure. While some elements of the temple may have been constructed contemporaneously with others in the course of the building program, the phases<sup>2</sup> described below are generally sequential and follow the history of the temple itself.

### CONSTRUCTION OF THE TEMPLE OF TAUSRET

#### *PHASE I: AN INITIAL MUD BRICK TEMPLE*

It has often been presumed that before beginning a large stone temple Tausret first built a small mud brick structure<sup>3</sup> for herself – perhaps even as early as when she acted as regent during the reign of Siptah, or at least at the beginning of her sole rule. Direct archaeological evidence for this early brick temple is lacking, however. Although we have found large amounts of New Kingdom mud brick throughout the temple area, we now know that – apart from the brick-built foundation trench walls – the brick walls built up on surface areas are almost all part of post-New Kingdom features of the temple site for which the bricks were probably taken from the mud brick storage magazines apparently constructed on the north side of the temple in Tausret's time (see Phase IVB below). We had originally thought that the large mud brick mass situated at the rear of the courtyard (S1) in the front portion of the temple might represent the remains of a large wall or pylon from an initial mud brick structure. In 2010, however, we excavated several test trenches across the mud brick mass, and it proved to be composed mainly of bricks and stones thrown up on the surface from the large foundation trench that

spans the rear of the courtyard, as most of the trench walls in that trench were missing. The sondages we cut through the S1 mass did reveal traces of several small walls at ground level beneath the jumbled bricks and stones, but it is not clear whether these residual walls were part of a New Kingdom structure or made later from reused New Kingdom bricks.

In any event, if an early brick temple did exist, most if not all evidence of that structure was doubtless removed when the later and larger stone structure was constructed. We can only say that our excavations have not found any clear evidence of this, but there are other indications that such an early brick temple did exist. A graffito found in the Temple of Thutmose III at nearby Deir el-Bahari and dated to the second month of summer in Tausret's seventh year specifically mentions a visit of the god Amun's statue to the queen's temple during the Beautiful Feast of the Valley.<sup>4</sup> As we now know that the foundations for Tausret's stone temple were not even begun till a full year later – in her eighth year – we can only presume that the visit mentioned in the graffito was to an earlier brick temple that was already in place.

Although we have no archaeological proof of this first phase of construction, there are, then, reasons to believe that it did occur and that a brick-built structure was later replaced. Another suggestion that an early brick temple had been built may be seen in Phase II.

#### *PHASE II: MAKING SPACE FOR A LARGER TEMPLE*

In what was surely a second phase, probably before the building of a stone temple was begun, or at the latest concurrent with its building, a section of the rock escarpment which rises behind the temple site was cut back. As Petrie noted in his summary report,<sup>5</sup> the Temple of Tausret was positioned in such a manner that a section of the escarpment running along the west of the temple site had to be cut away to accommodate the northwest corner of the temple structure. This cut is clearly visible in early aerial images of the site (Figure 11-1) as a notch or angle in the otherwise straight rock wall.

In 2010 part of this cut-back area was excavated (our Test Trench 6) in order to confirm this situation, and the cut was examined directly. It is extremely unlikely that this time-consuming and work-intensive cut was made for an initial mud brick temple – which is by definition an economical structure and which could simply have been built further out from the escarpment. In the same manner, a stone temple being built in an open area





**Figure 11-1: An early satellite image of the Tausret temple site showing (at the arrow) the cut made in the western rock scarp to allow building of the northwest corner of the temple.**

could have been positioned so as to avoid the necessity of cutting back the cliff. It is perhaps more likely that this cut was made to accommodate the enlargement of an original mud brick temple as an expanded stone structure. In any case, the cutting away of a section of the surrounding escarpment rock wall must be seen as a separate construction phase preparatory to Phase III.

### *PHASE III: FOUNDATIONS FOR A STONE TEMPLE*

Deep and well-cut foundation trenches were next dug over the whole site. These trenches varied in depth – being deeper on the sides of the temple and both before, alongside, and behind the courtyard area, where the highest walls would be built – but were in most cases at least 1.5 meters in depth. There is no question that these trenches were large enough to hold substantial foundations capable of supporting large stone superstructures, and that the cutting of the network of foundation trenches was completed.

At this point, a number of foundation deposit pits were cut and stocked

with plaques, amulets and various other offerings at what appear to have been symmetrically chosen points around the site. As noted in Chapter 4, Petrie's plan shows many but not all of these pits. Small amulets and beads were sprinkled not only around the pits (as Petrie stated), but also throughout most of the temple's foundation trenches, sometimes in small groups or clusters.

Also, at some point before or after the placing of foundation deposits, the small, trench-spanning Type A mud brick walls (with bricks possibly being reused from an earlier mud brick temple) were built every 1.5 - 2 meters throughout the foundation trenches, probably to stabilize the foundation sand that would be poured into the trenches, as already suggested. This stabilizing function of the walls is perhaps confirmed by the fact that most of them were built from the rock floor of the trenches up only as high as the top of the layer of sand placed in them. The only areas where we did not find these walls were disturbed areas where Petrie's men evidently removed the walls in the course of digging for foundation pits. And in those areas, scattered mud bricks – clearly the remains of the walls - were usually found in the debris that we removed.

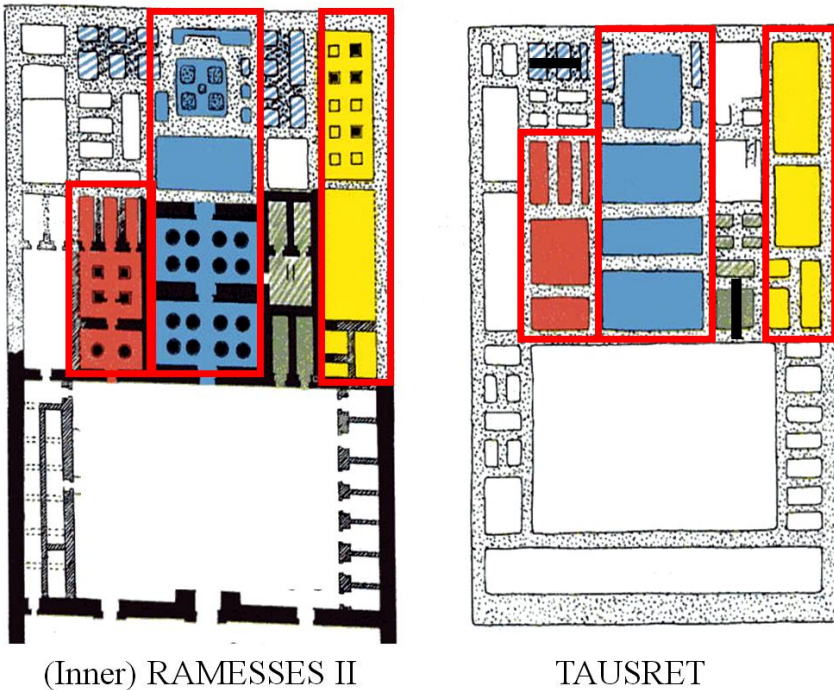
Once these walls were in place, a deep (c. 1 meter) bed of clean sand was placed in all the trenches to receive foundation stones. No excavated trench areas were found without evidence of sand having been placed in them, although in areas probed by Petrie's men the sand was, not surprisingly, found to be mixed with dirt and other debris.

Large foundation blocks would then have been placed in all of the trenches throughout the temple. Because we have found whole, partial and fragmentary foundation blocks throughout the trenches, as we have excavated them, we are confident that all the trenches did indeed receive foundation blocks, although most seem to have been removed at a later time (see Phase V). The complete foundation blocks we have uncovered are of substantial size (c. 2.00 x 1.00 x .70 meters) similar to those found in stone temples of the Theban area and commensurate with the size necessary for the heavy load-bearing of large stone walls. Two important inscriptions found on these foundation blocks (see Chapter 7) and dated to Tausret's eighth regnal year clearly position Phase III as having occurred in the independent reign of Tausret as Pharaoh.<sup>6</sup> This delay beyond the beginning of her independent rule would certainly mesh with an understanding of Tausret rebuilding and expanding an earlier brick temple.

## History of the Temple

### PHASE IVA: BUILDING THE STONE TEMPLE

The network of foundation trenches which now form the major remains of Tausret's temple clearly reveal the monument's plan. Petrie compared the plan of the temple with that of Merneptah, its closest neighbor to the south. This comparison is certainly correct regarding some aspects of the two temples' sizes, as Petrie noted regarding the size of the entrance pylon of Tausret's temple: "This pylon would have been 110 x 20 or 24 cubits, against 120 x 20 in Merneptah's [temple], or 132 x 20 in the Ramesseum."<sup>7</sup> The overall



**Figure 11-2: Comparison of the plan of the Temple of Tausret (After Hölscher, based on Petrie's plan of 1897) with the plan of the inner Ramesseum. Two sample corrected areas of the Tausret plan show the greater similarity between the two structures, obscured by Petrie's published plan.**

area of Tausret's temple also closely approximated that of Merneptah's monument, as Petrie noted, too.<sup>8</sup> But Petrie's faulty mapping of the Tausret

temple's foundation trenches obscured the fact that Tausret's stone temple was not copied on Merneptah's monument. Our excavations have revealed that Tausret actually copied far more closely the innermost area of the core of the Temple of Ramesses II (See Figure 11-2) and its alignment<sup>9</sup> – just as she emulated that king's cartouches and, apparently, his statuary.<sup>10</sup>

Figure 11-2 compares the plan of the Temple of Tausret and the innermost area of the temple of Ramesses II by means of a drawing modified from Hölscher.<sup>11</sup> The red rectangles outline key areas of similarity in the suites dedicated (left to right) to Osiris, Amun and Ra. The two small black bars on the plan of Tausret's temple represent trenches and correct Hölscher's plan in two sample areas which show the similarities between the two structures even more closely.

Although it has long been presumed that no more than the foundation trenches were constructed on Tausret's temple site, with a very few foundation stones being placed in them, there is now considerable evidence for the completion or near-completion of this phase.<sup>12</sup> Petrie does not mention the presence of superstructure building stones on the site – only “a few foundation blocks”, but we found a complete building stone (some .70 x .52 x .26 meters)<sup>13</sup> sitting on top of a foundation block in one undisturbed area and many apparent fragments of building blocks throughout the site. A number of these chunks of broken stone have two or more corner angles at distances showing they could not be parts of the much larger foundation blocks and that the blocks from which they came were, in fact, commensurate with the size of building blocks. Considering that most of the large foundation stones were apparently pried from the trenches and removed (Phase V), the smaller size, accessibility, and relatively easy extraction of building blocks explain why virtually none of these blocks would have remained on the site.

A key indicator of the advanced completion of the building of a stone structure is found in the areas of what modern Egyptians call *dekka* – mud-gypsum flooring - found in patches on many of the floor surfaces we have uncovered (and still visible if largely destroyed on others), indicating that walls had already been built around these areas, as the *dekka* floor surfaces would have been destroyed in the building process if they had been put in before the walls were built.

In addition to the presence of mud-gypsum flooring of surface areas, plaster found on and around many of the stone chunks we have uncovered would also seem to indicate that walls and other features were built and plastered before being later demolished for their stone. The presence of

## History of the Temple

plastered walls would indicate roofing was in place on the temple, as no one would plaster a wall before the roof was built.<sup>14</sup> Most of the plaster is undecorated, however, suggesting that while the temple had been largely structurally completed, decoration had perhaps only been begun in a few areas before the work was halted.

### *PHASE IVB: CONSTRUCTION OF THE ANCILLARY TEMPLE STRUCTURES*

It was shown in Chapter 5 that our analysis of satellite images of the site<sup>15</sup> suggested the possible presence of several outlying ancillary structures around the core of the Tausret temple. For example, directly along the side of the temple at the northwest, the outline of features resembling mud brick magazines seems to be apparent. Limited physical investigation carried out in our 2009-10 and 2010-11 excavation seasons confirmed the corners and edges of mud brick structures – most likely magazines – in this area, and it is hoped that a further remote sensing survey (see Chapter 10), utilizing ground penetrating radar, will identify other features that may be present in the temple site. These other possible sub-surface features suggested by straight lines and angles on the satellite images (and hopefully to be clarified by remote sensing) might include a water source (i.e., for the priests' ritual ablutions and other needs for water) and another clearly rectangular feature a little to the south of the temple proper but apparently connected to the main temple structure by a straight path. Although we have not fully investigated these ancillary structures, their presence as parts of the temple site seems clear.

### **DEMOLITION OF THE TEMPLE AND LATER HISTORY OF THE SITE**

#### *PHASE V: DEMOLITION OF THE TEMPLE*

Damage to the edges of the walls at the ends of many of the foundation trenches would appear to indicate that a number of large foundation stones were pried and dragged out of their trenches over much of the site. This damage is especially noticeable on both sides of the temple courtyard where the underlying conglomerate bedrock appears to be weaker and where the trenches were more deeply cut to receive the more substantial foundations for the front of the temple. We have found a number of abandoned foundation

stones in precisely this area which were broken or stuck at incongruous angles within the trenches after unsuccessful efforts to remove them.

Beyond the evident removal of the foundation blocks, both an initial surface survey carried out in our first season and our ongoing excavations have revealed the presence of thousands of dressed stone fragments over the whole site. Although many fragments were found at surface level, many more were found in the upper fill. Many of these stone fragments have two or more corner angles at short distances or bear plaster on one surface, indicating that they are parts of building blocks from the constructed temple. The fragments are invariably broken (not cut) from larger dressed stones, indicating that stone features were anciently forcefully demolished on the temple site on a widespread basis. Widespread damage to the *dekka*-coated floors of the temple's rooms is commensurate with this event. Because decoration of the temple's walls had apparently only just begun, reused blocks from this site would unfortunately not be recognized in other buildings. Thus, whether the stone foundation and building blocks of Tausret's temple were robbed by her immediate successor Sethnakht, by his son Ramesses III, or by some later individual monarch – or several monarchs over time – is not clear. The usurpation of Tausret's tomb in the Valley of the Kings by Ramesses III for the burial of Sethnakht makes the earlier king's appropriation of the stone from the queen's funerary monument seem perhaps unlikely, and no temple is known for Sethnakht. It is perhaps more likely that the Temple of Tausret was demolished by Ramesses III for use in the building of his own great temple at Medinet Habu, though later kings may have also contributed to the destruction. The notably different degrees of exposure weathering exhibited by the inner and outer temple areas might possibly suggest that two stages of demolition (Phases VA and VB) were involved, but this is difficult to ascertain.

#### *PHASE VI: LATER INTRUSIVE STRUCTURES*

The site of Tausret's temple was apparently viewed as a sacred area long after the monument's destruction. Petrie recorded the presence of three "late" tombs cut into the escarpment at the rear (west) of the temple, and our excavations have brought to light a great deal of evidence of one or more of these tombs (see Chapter 8). We have found not only the disarticulated remains of ten or more mummified individuals,<sup>16</sup> but also a good deal of material from their associated burials in an area of the temple site where the

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contents of one or more of the tombs were apparently divided by robbers at some time in the past. The pottery and funerary fragments from these assemblages are of the Late Period,<sup>17</sup> hundreds of years after the building of the temple itself, and show that the temple site – even though long destroyed – could still have been regarded as a sacred area, close to the gods, for the purposes of burial.



**Figure 11-3: Example of the remains of a mud brick wall built above the New Kingdom level in association with Late Period tombs. These post-New Kingdom features were constructed on surface areas S30, S35, S41, and probably on other surface areas not yet excavated.**

In the same area in which we discovered these remains, close to the entrances of the tombs themselves, a number of surfaces that we examined at the rear of the temple have mud brick structures (Figure 11-3) well above the level of the New Kingdom floor surfaces (see Chapter 4), and these structures seem to represent the remains of Late Period funerary chapels, courts and other buildings associated with the burials, though some of these structures

were constructed with New Kingdom bricks (see Chapter 4). More work needs to be done to better understand this evidence, but it is clear that a sixth phase of the temple's history involves intrusive burials and their associated structures dating to well after the demolition of the temple.

*PHASE VII: THE ROMAN PERIOD*

Long after the reign of Tausret, and even the intrusive Late Period structures in her monument, there was apparently still activity in the area of the temple site during Roman times. Our ceramicist<sup>18</sup> identified a number of sherds of Roman ware across a wide area and especially in the northwest quadrant of the site, perhaps indicating some activity in or near that area which is now no longer traceable. These sherds are difficult to date precisely and some of them, such as the "toes" of amphorae, range in date from the first to the seventh century A.D. We know quite a lot about Roman activity on the East Bank at Luxor during this era, though virtually nothing of specific Roman activity in the area of the Tausret temple and its immediate surroundings.

*PHASE VIII: THE ISLAMIC ERA*

Beyond the late Roman era, much evidence has been found dating from the Islamic era, c. 641 A.D. onwards. The scattered and limited nature of the extant evidence precludes any detailed assessment of actual activity on the site during that long period, however - beyond that which can be generally inferred from the remains of pottery scattered across the site and at shallow depths beneath the surface. Although one of the longest periods in the site's history, it appears that there was no specific ongoing habitation or other activity on the site and what artifactual evidence there is may well be merely the result of humans crossing or briefly stopping on the site at various times.

*PHASE IX: EARLY MODERN TIMES*

The Islamic era includes, of course, modern times and two distinctly discernable phases of activity at the temple site. The first definite activity which can be ascertained in recent times is seen in the traces left by Petrie's workmen of their 1896 excavations. This limited but important excavation - or perhaps better "exploration" is discussed in Chapter 2. Petrie's men not



## History of the Temple

only left “footprints” on the site in terms of the areas of disturbed soil and the several foundation pits which they discovered and emptied, but also in a more direct manner in terms of small items doubtless dropped or left by them, often at depths below the modern surface of the site. One such “footprint” was almost literal in that our excavation found a broken and discarded shoe<sup>19</sup> apparently belonging to one of Petrie’s workmen.<sup>20</sup> The shoe represents a clear and very human link with the 19<sup>th</sup> century examination – limited though it may have been – of Tausret’s temple site.

### *PHASE X: RECENT MODERN TIMES*

Like many archaeological sites in the vicinity of human settlements, Tausret’s temple site bears marks of recent activity. At the eastern end of the temple homes were built in recent times, and at some point the eastern end of the temple courtyard (S1) was scraped by heavy machinery and a channel cut through the southeast corner of the temple for a cable taking electricity to the new homes. Today the site also bears the evidence of our own archaeological work (see Chapter 4) carried out over eight years from 2004 to 2011 – including protective fences, cleared trenches and surface areas, and carefully reconstructed and stabilized sections of the site’s trenches and walls.

### **THE RECOVERY OF TAUSRET’S “TEMPLE OF MILLIONS OF YEARS”**

Although not all details are clear, we are now in a much better position to understand the history of Tausret’s temple and its subsequent disappearance. The excavation conducted by the UAEE has firmly established that Tausret’s temple site was not properly investigated by Petrie in 1896 and that any conclusion regarding the unfinished nature of the temple based on Petrie’s work is unfounded. This recent work has also led to an understanding of the developmental stages in the history of the temple that are described above. The evidence upon which these phases are based points to the clear probability that Tausret’s temple was far more developed than has previously been believed, and that the monument was doubtless completed, or nearly completed, then demolished for its stone by Sethnakht, Ramesses III, or another king or kings after Pharaoh Tausret disappeared from view. It is only now, in the first decades of the 21<sup>st</sup> century, that this history has finally come to be understood.

## NOTES

- <sup>1</sup> For the pre-temple history of the site itself, see Chapter 1.
- <sup>2</sup> The term “phase” is used here in the general sense of a stage in the overall history of the Tausret temple site, rather than in the broader archeological sense of a regional phase of related components.
- <sup>3</sup> See, for example, the reconstruction on the University College London site. [Online] available at <http://www.digitalegypt.ucl.ac.uk/thebes/Tausret/index.html> [accessed December 2011].
- <sup>4</sup> K. A. Kitchen, *Ramesseum Inscriptions: Historical and Biographical*, Vol. 4 (Oxford: Blackwell, 1968-1990), 376-377; M. Marciniak, *Les inscriptions hiératiques du temple de Thoutmosis III* (Warsaw: PWN-Editions scientifiques de Pologne, 1974), 59-61, nr. 3.
- <sup>5</sup> W. M. Flinders Petrie, *Six Temples at Thebes* (London: Bernard Quaritch, 1897), 13.
- <sup>6</sup> It should also be noted that the objects found in the foundation pits made for the temple mention only Tausret and that Siptah is not mentioned at all.
- <sup>7</sup> Petrie, *Six Temples*, 13.
- <sup>8</sup> Not only was the first court “. . . which was here 75 x 50 cubits, just the same size as that of Merenptah”, but also the overall area of the two temples was the same: Petrie, *Six Temples*, 13.
- <sup>9</sup> The azimuth of the Temple of Tausret is 132.5 degrees compared to 131.5 for the Ramesseum and 122.5 for the Temple of Merenptah. Mosalem Shaltout and Juan Belmonte, “On the Orientation of Ancient Egyptian Temples: Upper Egypt and Lower Nubia,” *Journal of the History of Astronomy* xxxvi (2005): 273-297.
- <sup>10</sup> See Richard H. Wilkinson, ed., *Tausret: Forgotten Queen and Pharaoh of Egypt* (Oxford: Oxford University Press, 2012).
- <sup>11</sup> Uvo Hölscher, *The Mortuary Temple of Ramesses III*, Part I, Vol. III of *The Excavation of Medinet Habu* (Chicago: University of Chicago Oriental Institute, 1941). Note that in this comparison graphic columns have been removed from the court of the Ramesseum to stress similarities in room layout.
- <sup>12</sup> The evidence summarized in Chapter 5 clearly demonstrates that Petrie’s examination of Tausret’s Temple site was not sufficient to form any conclusions regarding the level of completion achieved in the development of the structure.
- <sup>13</sup> These smaller stones may well have been utilized in dual rows for the construction of the temple’s walls.

## History of the Temple

- <sup>14</sup> This point was stressed by Dr. Horst Jaritz, who excavated the nearby Temple of Merenptah, in his comments made in response to our presentation on the Temple of Tausret at the international conference on "The Temples of Millions of Years" organized by the Supreme Council of Antiquities and held at Luxor in January, 2010. I am very grateful to Dr. Jaritz and also to Dr. Christian Leblanc and Dr. Angelo Sesana for their helpful comparative comments.
- <sup>15</sup> These features are clearest on specially obtained high-resolution satellite images, but some may be seen on relatively low-resolution images available on internet sites such as Google Earth.
- <sup>16</sup> This number, consisting of adult and juvenile individuals, is based on the analysis of the human remains by Dr. Gonzalo Sanchez, the Expedition's medical expert (see Chapter 9).
- <sup>17</sup> In earlier publications we had dated initial artifacts from this area to the Third Intermediate Period based on some confusing and misidentified traits. It is now clear that the intrusive burials are of Late Period origin.
- <sup>18</sup> Rexine Hummel of the Royal Ontario Museum working with Lyla Pinch-Brock (see Chapter 6).
- <sup>19</sup> This artifact was discovered during our January 2009 season in an area clearly worked by Petrie's men. It was catalogued as artifact TB12:14-1 in our object registry.
- <sup>20</sup> I thank Dr. André Veldmeijer for kindly helping to establish the date of this artifact through the expert analysis of Elizabeth Semmelhack (Bata Shoe Museum, Toronto), Inge Specht-den Boer (Dutch Leather- and Shoe Museum, Waalwijk) and June Swann (Northampton Museum).



## 12 : VIRTUAL RECONSTRUCTION OF THE TEMPLE

Aaryn S. Brewer

### THE VIRTUAL TEMPLE OF TAUSRET

In recent years, great strides have been made in the effective production of archaeological reconstructions using virtual-reality models. To date, most digital reconstructions have been based on monuments that are largely intact, and the question of how (or whether) to reconstruct a monument that is almost wholly destroyed, such as the Temple of Tausret, has been a difficult one to answer. Based on a careful synthesis of limited archaeological data, contemporary comparisons, and inductive reasoning, however, the digital reconstruction of this temple is indeed possible using modern modeling software and techniques.

From 2000-2002 Narushige Shiode, on behalf of the University College of London, produced digital reconstructions for the Petrie Museum of Egyptian Archaeology of the six temples Petrie excavated in 1896, including that of Tausret.<sup>1</sup>

Shiode's reconstruction of the Tausret temple appears to have been rigorously produced. It is, however, based primarily on Petrie's work, which envisioned the temple as little more than foundation trenches and a modest mud brick shrine. As a result, Shiode's reconstruction, like Petrie's site report, has now become obsolete.

The virtual reconstruction presented here incorporates the more recent data recovered in the University of Arizona excavations of the temple and was primarily produced using the 3D modeling software program Autodesk Maya. It offers a *hypothetical* interpretation of how the temple may have appeared in its final building phase.

### EXCAVATED EVIDENCE

The excavated evidence at the Tausret temple is little enough, the majority of it coming from the foundation trenches dug for the temple. The trenches

## Virtual Reconstruction of the Temple

themselves offer the floor plan of the building and the size and shape of the rooms. The rooms defined by these trenches still retain the remnants of high quality flooring. Detritus of the building's destruction, in the form of fragments of shattered blocks and scattered mud brick, was found throughout the site. Satellite photography shows faint mounds and depressions in the adjacent terrain, suggesting the locations of unexcavated features. Taken together, the evidence available to Petrie offered little reason to believe that a massive building had once stood on this site. Nevertheless, the careful and detailed examination of this evidence, in conjunction with contemporary comparison, is enough to produce a virtual reconstruction of a completed New Kingdom temple.

### COMPARATIVE EVIDENCE

After extrapolating whatever data could be assumed through deduction based on excavated remains, the reconstruction artist then made comparisons, considering the site in question in relation to other specific sites, and the general architectural and aesthetic character of the region and era. When Tausret built her temple, the peak of western Theban temple building—from the late 18<sup>th</sup> Dynasty to the early 19<sup>th</sup> Dynasty—had recently passed, but the practice was still strong. These “Temples of Millions of Years” were inherently associated with the religious, rather than the secular, and given that the pharaoh was believed to become a god himself after his death, it is not surprising that so little separation was made between the realm of the god and that of the pharaoh. Perhaps it is this lack of distinction which determined the structure of the temple; while no two temples are the same, there is no single characteristic or group thereof which sets the class of “memorial temple” or Temple of Millions of Years as they are more properly called, apart from the class of “divine temple.” Because of this indivisibility of divine and memorial temples, comparanda for the virtual model of Tausret's temple were taken from both sources, emphasizing era over title (New Kingdom vs. divine).

### THE TEMPLE PLAN AND ITS COMPONENT PARTS

The Temple of Tausret, like that of her near forebear, Merenptah, whose temple lies just south, was one of very few that drew on the earlier model—in

this case Ramesseum. No doubt Tausret, at least, hoped to hearken back to the grander and more prosperous times of Ramesses the Great (see Chapter 11). The similarity of the plan of Tausret's temple to that of the inner Ramesseum is useful for the reconstruction of the Temple of Tausret. In the same manner, because Merenptah's temple is also very similar to the Ramesseum but employs a more modest reach and smaller scale, Merenptah's temple also makes a useful comparison to that of Tausret. (Merenptah's Temple and compound are just over half the size of the Ramesseum,<sup>2</sup> and the actual floor plan of Tausret's temple is roughly the same size as that of Merenptah, due to the many small rooms which were built as mud brick magazines in Merenptah's complex but were included in the stone building of Tausret's monument.<sup>3</sup>)

Because the virtual reconstruction of Tausret's temple was based upon the floor plan mapped out by the UAEE team, it is important to explain the methodology used to create this plan. So little of this site actually remains, and what does remain is so degraded, that what is excavated is often far from regular due to degradation over time. Thus, in order to produce a regularized plan, an image from the surveyed (and precise) AutoCAD map of the site was exported into Adobe Photoshop, and the surfaces, extrapolated and regularized, were drawn onto a second layer. That regularized site map became the basis for the virtual model of the temple.

#### *FOUNDATION TRENCHES*

Once the site map was established, a model of the trenches could be created. First the line drawing of the site plan (itself extrapolated from the AutoCAD map) was projected onto the grid-plane in the  $xy$  axis of a Maya file. A polygonal plane with the exact dimensions of the outer edges of the site plan was then created, with rectilinear faces at the location of the surface units (or rooms). These faces were extruded up, as surface units, to give them depth. The extent of the extrusion was based on the depth of the trenches; the UAEE excavation roughly measured these at between 1.5 meters and 1.75 meters deep,<sup>4</sup> while Petrie, based on his limited excavation, recorded "a depth of about five feet".<sup>5</sup> Using these estimations as guides, the digital trenches were set at an average between the two UAEE estimates, at 1.625 meters (5' 3.97") deep. At this point in the reconstruction, the bulk of what was actually excavated has already been virtually reproduced, and it is from here that the reconstructor was obliged to rely on deduction and comparison in order to produce an interpretation of the original temple.

Virtual Reconstruction of the Temple

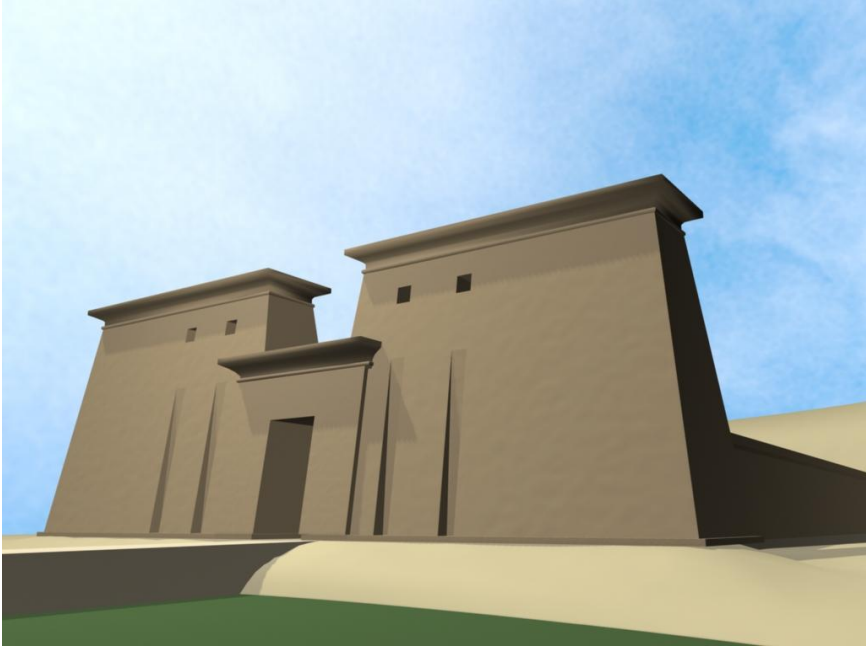
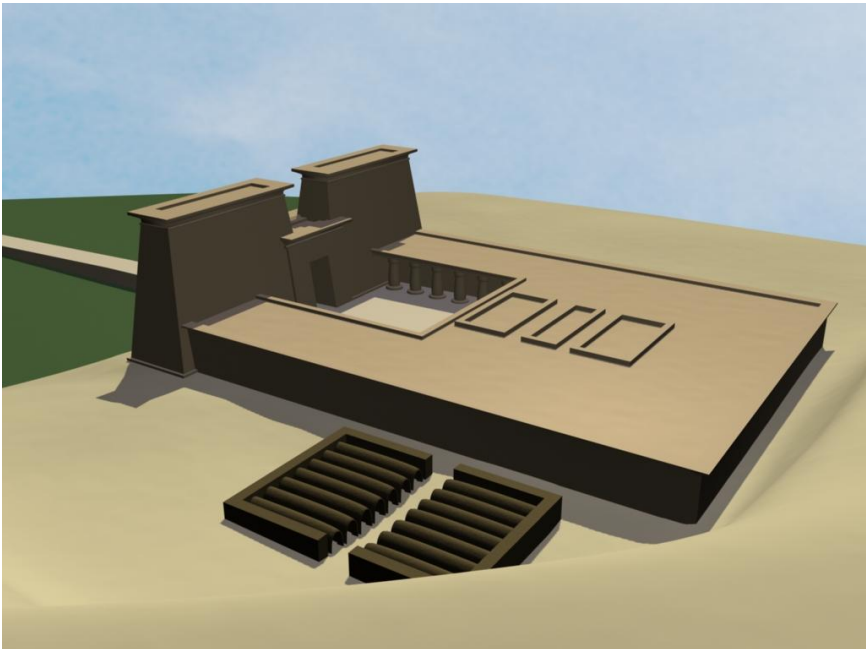


Figure 12-1 above; Figure 12-2 below



## PYLON

The pylon, or the monumental double-towered gateway, is the most distinctive feature of an ancient Egyptian temple. Although, visually, the pylon mirrors the form of the symbolically important *akhet*, or horizon, hieroglyph, etymologically this word comes from the verb meaning “to be vigilant,” and the temple pylon is indeed both actually and symbolically defensive.

In the Old and Middle Kingdoms, temple pylons were built out of mud brick, with only the frames of the gateways themselves in stone. New Kingdom temple pylons, however, were typically built as an outer casing of immense stones, filled with rubble and irregular, broken, or stolen stone. The pylon of Tausret’s temple, however, was hollow. This is ascertainable because, as Petrie observed, there were no foundations cut for the middle of it.<sup>6</sup> Using a hollow pylon allowed Tausret to have the status of an impressively large structure, without expending as many resources. Tausret’s pylon was quite large—equally as deep as those of Merenptah and Ramesses II, and only 8.33% and 16.667% less wide than the pylons of Merenptah and Ramesses II, respectively (see Figure 12-1).<sup>7</sup>

Before creating the pylon in the virtual reconstruction, a decision had to be made about how tall to make the gateway. The height of the gateway, along with the height of the towers, is the major variable factor, since we have the footprint of the pylon that tells us with some certainty how wide and deep it was. Relatively few New Kingdom pylons remain standing, and those that do are not consistent in proportion. Nevertheless, our best chance at representing the actual historical height of this pylon is to consider the proportions of nearby New Kingdom pylons. Dividing width by height, the pylon at Medinet Habu, temple of the 20<sup>th</sup> Dynasty pharaoh Ramesses III, yields a ratio of .369. The pylon at Luxor Temple, built by Tausret’s perennial role model, Ramesses the Great, may be an even better model, at .389 (since so many other aspects of Tausret’s temple are based on another temple erected by Ramesses the Great; the Ramesseum). The pylon of the Tausret temple site measures at about 60 meters wide by 13.5 meters deep at the outside, and if the Luxor Temple ratio (of Ramesses the Great) is applied, it would stand 23.34 meters high—as does the digital temple pylon.

Tausret’s “Temple of Millions of Years” was built of sandstone, as were most temples in western Thebes after the mid-18<sup>th</sup> Dynasty. Therefore, the pylon was textured with a stock texture with the appearance of sandstone,



## Virtual Reconstruction of the Temple

applied to all constituent objects and counterchecked against actual images of the surface of building blocks found on the site.

During the New Kingdom, niches for securing flagpoles became a standard feature of the pylon and so these features are also included in the Tausret reconstruction. These niches have been sized and situated in proportion with those of the Ramesses II pylon at the Luxor Temple.

In a completed real-world temple, the passageway through the pylon would also have been closed with wooden or copper-gilded wooden doors. There is no way, however, of knowing if these doors had been put into place in Tausret's temple, and because there is no evidence to suggest their existence, they have been omitted from the digital reconstruction.

### TEMPLE WALLS

In addition to their critical physical function, walls were symbolically very important to the ancient Egyptians, as is clear from the abundance of words in their language for "wall." The inscribed stone wall of a temple serves to delineate the sacred space of the temple itself from surrounding land. For determining the dimensions of the virtual reconstruction of this wall, there is enough of the footprint of Tausret's temple to extrapolate *where* the external temple walls should go, but it was necessary to make an educated guess as to how tall to make the walls, as for the first pylon. Certainly, Egyptians designed in three dimensions, taking account of harmonic and symbolic principles for volume as well as outline. Dieter Arnold, a scholar who specializes in ancient Egyptian architecture, has observed that the height of a wall is typically between two and a half and three times its thickness.<sup>8</sup> The foundation trenches for the outer walls of Tausret's temple are about 3 meters wide (only a rough estimate can be made, because the decay of the *gebel* is such that the trenches do not maintain an even width), and allowing for approximately 0.5 meters of space around the foundation blocks (25 cm of sand on each side of the foundation, which serves to help shift foundation stones into trenches, but does not support the weight of walls above), the walls at the front of the temple should stand somewhere between 6.25 and 7.5 meters tall. The walls of the digital reconstruction thus rise to an average of these two numbers, at a height of 6.875 meters. The walls at the rear, however, cannot rise as high as those at the front; for symbolic reasons, the roof and other architectural elements in Egyptian temples gradually decrease in height as they approach the back of the temple, while the floor concurrently rises.

Although based on measurements taken with the total station, the *floor* of Tausret's temple does not seem to have risen toward the back of the temple, nevertheless the ceilings should have grown gradually lower. Thus, a gentle decline in height to the west has been postulated.

A cornice was also produced for the outer lip of the virtual temple, as well as for the forecourt, like the cornices atop the pylon. A sandstone texture was then applied to complete the temple proper. Because *dekka* flooring found throughout the temple would have been laid *after* heavy stone roof slabs were placed, it can be inferred that the temple roof was complete. This reconstruction thus postulates a roof for the entire temple, barring the forecourt—a hypothesis which, based on excavated *dekka*, is nearly certain for all but the room immediately to the west of the forecourt, S23, which will be discussed later in this chapter.

#### FORECOURT

Behind the entrance of a “standard” Egyptian temple, there was generally a colonnaded forecourt, which was an open space for semi-public ceremonies. The key to the forecourt lies in its use as a *transitional* space, which both joined and separated the public (outer) and private (inner) areas of the temple and temple complex.

The forecourt of Tausret's temple, which has been designated S2 by the UAEE, is the same size as that of Merenptah's temple.<sup>9</sup> This virtual temple already has a modelled and textured forecourt, but in order to complete this room, columns and doorways into side rooms had to be added. Although no column bases or other column fragments were found on the site, none of the surfaces which can be expected to have once boasted such columns have been excavated. Both forecourts and hypostyle halls would have held stone columns, which were vitally important to a temple's symbolic program as well as its structure. Remote sensing may help to determine whether columns had yet been erected on this site.

During the New Kingdom, papyriform columns were the standard for temples. Although papyriform columns are found in both single and multistem (or bundle) varieties, the single stem style was popular from the 18<sup>th</sup> Dynasty on, and rapidly became one of the most widely used types of column in Egypt. During the 19<sup>th</sup> Dynasty, these columns typically had a heavily simplified and stylized appearance. In temples, the capitals appear closed (as “buds”) in the outer courts, and open in the inner courts. Therefore,

## Virtual Reconstruction of the Temple

in the virtual model, the columns in the forecourt, in the easternmost room of the temple, were modeled as stylized single-stem bud-capital papyriform columns.

A column must sit on a base, or plinth, and be surmounted by an abacus. Atop the column, the abacus, which connects the column to the architrave, is a squared block placed atop the papyriform bud. Beneath the column, the plinth is found in several different varieties, but the plinth form usually found in association with simplified bud columns of the Ramesside Period is described by Dieter Arnold as “tall, rounded off at the top and bottom like a cushion.”<sup>10</sup> Because these are the most likely abacus and plinth shapes to be associated with Tausret’s forecourt columns, they were created thus in the digital model.

To include doorways, the plan of the temple was used to infer where doors were necessary in the forecourt for access to the small rooms on the north and south. Since we do not know how large these doors would have been, we must infer by comparison and Egyptian harmonic standards of design, which, according to scholar Alexander Badawy, suggest that the 8:5 triangle played a central role in determining door proportions.

### *HYPOSTYLE HALLS*

In architecture, a hypostyle hall is a room with a flat roof supported by columns. One common—but not ubiquitous—feature of Egyptian temples is the placement of one or more hypostyle halls to the immediate west of the forecourt. Tausret’s temple probably incorporated hypostyle halls; S27 and S36 (the two rooms to the east of the sanctuary, along the central axis of the temple) can be safely assigned this function. Because temples such as this sometimes exhibit a second forecourt, however, the designation of the room S23 (just to the west of the forecourt along this same central axis) is less secure. The surface of this unit has not been excavated, and the room S23 cannot with surety be known to have been a roofed hypostyle hall until remote sensing or excavation can indicate the presence and/or location of *dekka* or column bases. (*Dekka* would indicate that the room was once roofed. Columns edging the room would suggest a forecourt, while columns evenly spaced throughout the room would suggest that they once held up a roof.)

Barring such evidence, we must again look to comparison. The Ramesseum has two large open courtyards, one large hypostyle hall, and three small hypostyle halls. Merenptah’s temple has two proportionately

large open courtyards and two medium/small hypostyle halls. Tausret's temple has one large room, S2, and three small rooms roughly equal in size. The plan of Tausret's temple, furthermore, appears to be extremely close to the plan of the inner part of the Ramesseum with the second courtyard and first hypostyle hall removed. If the functions of the rooms were patterned after the Ramesseum, as the shapes and sizes of the rooms clearly were, then this might best be treated as a hypostyle hall—and for the purpose of the digital reconstruction, roofed. This evidence is strong enough that the hypothetical reconstruction offers S23 as a hypostyle hall. To indicate the locations of the three hypostyle halls in the roofed reconstructions, their presence has been indicated with a raised ledge on the roof, following the convention adopted by other temple modelers such as Shiode. (Shiode's reconstructions of the Ramesseum and Merenptah's temple, as well as a now-obsolete version of Tausret's temple, can be found online at [www.digitalegypt.ucl.ac.uk/3d/thebes.html](http://www.digitalegypt.ucl.ac.uk/3d/thebes.html).)

#### FLOORING

The exterior floors of stone buildings such as temples were paved in one of two ways; either the upper surface of foundation stones formed the paving, or paving stones were laid on top of the foundations and pushed against the wall. Because the forecourt, like the other surfaces on the Tausret site, was cut out of the *gebel* substrate, it is reasonable to assume that the paving in this case, if present (the *gebel* here is particularly smooth, and may not have required paving) would have been placed directly on the *gebel*.

Dieter Arnold lists only one specific paving stone measurement: stone slabs 2.5 meters long and 13 cm thick. Although these measurements are taken from 1<sup>st</sup> Dynasty royal tombs at Abydos (an example far distant from our site in both time and space), he notes that paving slabs were not produced to any standard, being dependent on available material and work progress,<sup>11</sup> and as such these measurements are sufficient as an example suggesting Egyptian paving.

#### ANCILLARY STRUCTURES

Egyptian temples—on the east bank or the west—were not intended to stand alone. Generally, the temple building itself was surrounded by a number of subsidiary structures, and the entire temple complex constituted

## Virtual Reconstruction of the Temple

the estate of the deceased king. These standard features might include storage magazines, a sacred lake or a well, a palace for the use of the pharaoh, schools, artisan workshops, and other structures, all surrounded by a real and symbolic enclosure wall.

It was vital that the temple complex include storage, both to hold the goods produced by workers on the estate and to hold the offerings made by visiting worshippers. As a rule, temple storage magazines were made out of mud brick and tended to be vaulted. (The vaulting was also erected in mud brick.) Vaulting, an architectural device which became common in administrative buildings such as these during the New Kingdom, is known to have adorned the magazines of the temples of both Ramesses the Great and Merenptah. Based on other parallels with these temples, we can reasonably assume vaulted magazines in the reconstruction of the Temple of Tausret. In the last two seasons of excavation, the southern edge of Tausret's storage magazines, which had been postulated based on satellite imagery, were excavated in the test areas of TT4 and TT5.

Because of their vaulting, the magazines, like columns, are not ideally suited to virtual recreation with polygonal objects. These features instead were modeled by lofting curves, a more efficient method which sets out a framework of curved lines, and then stretches a vector-based "skin" between them. This allowed for a smooth arch and provided the wall volume (which, for Tausret's magazines, was approximately 19 cm to reflect the depth of a standard New Kingdom mud brick found on the site). The inner diameter of Merenptah's storage magazines are 1.73 meters,<sup>12</sup> and this example was used as a guideline for the size of each of Tausret's magazines. The total area of the magazine region has not been determined by excavation and can for the moment only be guessed at, although ground penetrating radar (see Chapter 10) may provide a final answer to this question. Because Tausret's temple is relatively small, a conservative reconstruction of the extent of the magazines was deemed best.

A texture was then applied to these mud brick magazines. Because the texture of these brick walls has more actual depth than the *gebel* (with crevices between the bricks sometimes penetrating several centimeters), the virtual presentation of that texture required more than a simple texture map; the effect of the additional depth can be achieved with a 3D bump map. A sample of New Kingdom bricks from this site measure between 36 cm and 40 cm in length and roughly 12 cm high. By adjusting the size and frequency of the bump map, the effect of bricks of this size can be produced using a tiny

fraction of the memory that would be required to actually reproduce the bricks individually (minimal memory usage is a crucial factor in the smooth operation of the virtual model). A texture then placed on top of the bump mapping helps to suggest the surface of the actual bricks, which were made of wet Nile mud, chopped straw, and sand in a process similar to the way in which bricks are still made in the Nile Valley today.

The water source was another feature present in many temple complexes. Merenptah had one, which, despite Petrie's initial assignation as a "sacred lake",<sup>13</sup> is now known to be a well. This well, which played an important role in the cult of the temple, was used as a source of water for offerings and purification rituals. Satellite images obtained by the UAEE show a possible feature in the earth located in a similar place relative to the Tausret temple as the well at Merenptah's Temple complex. Merenptah's well was a sunken area, dug deep down to the level of the water table. A depression which can be seen in satellite images of the Tausret temple site suggests that Tausret, too, may have built a water source into her temple complex, and the size and location of this apparent well can be roughly assessed using this photograph imagery. High-quality bump maps approximating water are readily available in the Maya software presets, and after applying this and a "water" color in the Tausret model (in this case, a slightly stagnant appearance was effected, since the water does not have a running source), the model of the water source was complete.

The Egyptian temple complex was usually surrounded by an enclosure wall. During the New Kingdom, they were especially common. Enclosure walls, however, might have been a late step in construction of the temple precinct, as satellite imagery of the Tausret site does not reveal any clearly defined temple area, and this type of wall seems not to have been present here. For this reason, no enclosure wall was included in the virtual model. Future remote sensing may determine more conclusively whether such walls existed around the Tausret temple complex, and if they are found to have once existed, the model can be readily amended at that point.

A final important feature of the temple precinct was the processional causeway. This path led from the pylon at the entrance to the temple to a road that ran along the edge of cultivation from north to south (for easy access between Theban temples), and possibly also to a landing quay on the bank of the Nile. Unlike features such as the temple enclosure wall, which may not yet have been built when construction on the site was abandoned, this causeway unquestionably existed in some form, for not only was this route

## Virtual Reconstruction of the Temple

meant for religious procession, it also would have been utilized by priests, workers, and for the transport of building materials. As such, it would have been one of the very first aspects of the temple precincts to come into being. In the virtual model, the walkway was created using a long narrow hexahedron, leading from the gateway of the first pylon down to the water's edge. It is not known how the processional path leading from Tausret's temple to the Nile would have been defined, and it may not have actually been completed with paving. For clarity, however, the same bump map and material selections have been assigned to this path that were given to the paved floor of the forecourt, treating the path as a stone-paved walkway.

### SETTING THE SCENE

The site of Tausret's "Temple of Millions of Years" is situated on the elevated ground of the desert, along the edge of cultivation, as is the standard for temples. Although so many temple-building traditions were rooted in religious and mythological symbolism, this placement at cultivation level is probably more a function of practicality (adjacency to agricultural resources and the Nile, which functioned as Egypt's main interstate) than of religious symbolism. A steep scarp rises several meters in the background of the site. The ground on which this temple was built is flat, leveled before Tausret's time for some other purpose.<sup>14</sup>

For the purposes of the virtual reconstruction, the ground was modeled using a very large single plane, although in the area of the temple it contains enough polygons to create a realistic-looking landscape with a steep rise to the west and north, indicating the scarp, and a small but sharp drop to the east. A stock texture, layered with a "water" bump map, was added. This texture creates the illusion of windblown sand. A flat green color has been assigned to the cultivation level to signify its status as "cultivation" without distracting from the more important features of the reconstruction.

### A FINAL RECONSTRUCTION

The Tausret temple can be reconstructed in various, if limited, ways. From the trenches dug into earth over three thousand years ago, and other evidence, we can determine the original measurements and appearance of the temple with relative certainty (see Figure 12-3). We know the simple room layout, that is, the plan of the temple, which was significantly different in

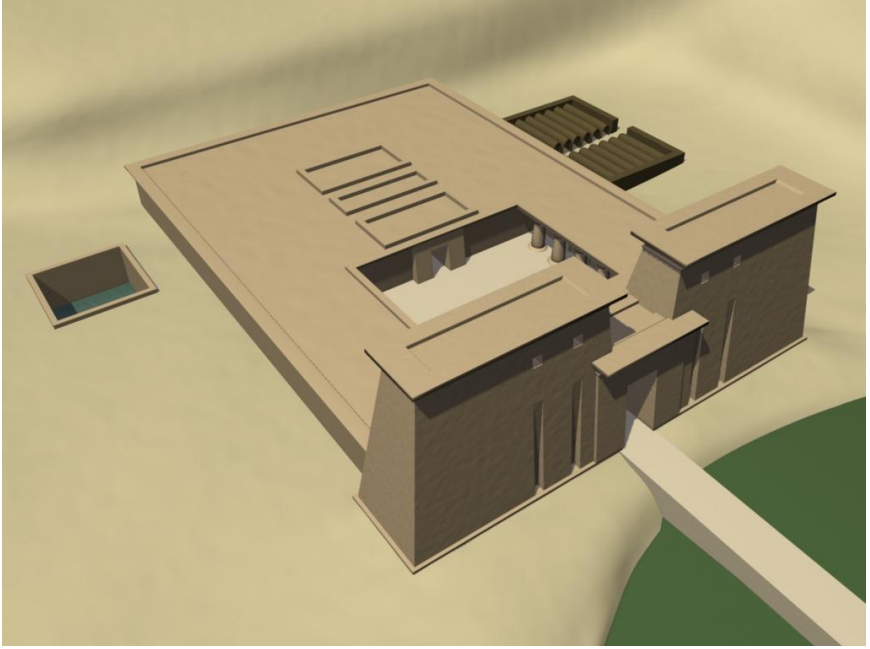
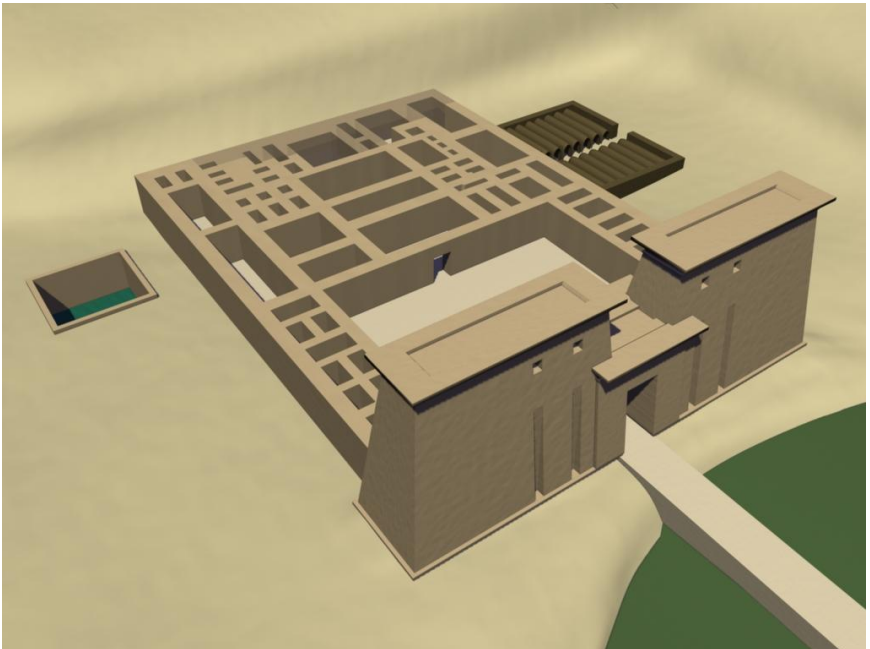


Figure 12-3 above; Figure 12-4 below





## Virtual Reconstruction of the Temple

detail from what Petrie postulated (see Figure 12-4).<sup>15</sup> We know that the main structure of the temple, including a roof and remarkably high-quality flooring, was complete. We can be reasonably sure of the general height and appearance of both the temple itself, and the twin-towered entrance pylon and gateway, although the precise measurements, barring an ancient text outlining them, can never be certain. We can ascertain the most likely form and general size of the temple columns, if indeed columns had yet been installed. We know, of course, that doorways must have existed between the forecourt and the small rooms to the north and south, since there must have been some access to these rooms, but we cannot know where exactly or how many they were. We have indications of the existence and location of a possible well as a water source for the temple, as well as the existence and location (though not yet the extent) of mud brick storage magazines outside the temple core.

Despite all this, much remains uncertain. Although the permutations of these unknown factors offer opportunity for copious digital reconstructions, most alternates would be so similar that they do not warrant separate versions (even an extra meter in pylon height is actually difficult to discern from the scale at which we are examining this temple), and there is a danger of losing the point of the project when inundating the viewer with minor detail. A few questions are, perhaps, worthy of more focused consideration, such as whether a second pylon existed (although this aspect was considered, it is unlikely, and was not addressed in this chapter), and whether S23 might be defined as a forecourt, rather than a hypostyle hall. Alternate interpretations such as these are worthy of consideration, but because they have been deemed less likely, this digital reconstruction of the Tausret temple does not model these alternate interpretations, offering instead only the *most probable* interpretation of the evidence.

A stone-paved causeway and forecourt has been postulated, and the enclosure wall, for which we as yet have no evidence, omitted. The exact dimensions of the architraves, number and placements of columns, locations of doorways in the forecourt, height and dimensions of the pylons, and the height of the temple itself have all been hypothesized. These reconstructions do not indicate any decoration, both because excavation has not found evidence that decoration had begun, and because it would overextend acceptable hypotheses to commit to specific designs and motifs. The most probable reconstruction of this temple offers a simple wall, rather than a pylon at the rear of the temple courtyard and treats S23 as a hypostyle hall.

Future remote sensing may assist in conclusively determining the function of S23, as well as whether columns were present, the extent of the temple magazines, and whether or not work had yet begun on a temple enclosure wall when construction on the temple ceased.

Although there are a number of hypotheses and suppositions in this reconstruction, they offer an educated guess as to the appearance of the temple in its final stages, and effectively convey a plausible interpretation of a synthesis of archaeological evidence, contemporary comparison, and logical deduction. A brief comparison between the UAEE Tausret temple reconstruction and Narushige Shiode's version of Petrie's projected mud brick temple, placed on the foundations of an uncompleted stone temple ([www.digitalegypt.ucl.ac.uk/3d/thebes.html](http://www.digitalegypt.ucl.ac.uk/3d/thebes.html)), describes, in an instant, the progress that has been made by the UAEE excavation on the site of the Temple of Tausret.

The UAEE reconstruction will be utilized in conjunction with a 3-D GIS model that can afford the user complete access to all excavation, conservation, and reconstruction data from this site, with textual, photographic, and statistical interpretations. Such a holistic approach to information dissemination offers a glimpse of the site both as it was found and as it once may have been.

## NOTES

- <sup>1</sup> Stephen Quirke, manager. "Digital Egypt for Universities," University College London, 2000. Accessed November 2010, <http://www.digitalegypt.ucl.ac.uk/>.
- <sup>2</sup> Richard H. Wilkinson, *The Complete Temples of Ancient Egypt* (New York: Thames and Hudson, 2000), 187.
- <sup>3</sup> William M. Flinders Petrie, *Six Temples at Thebes: 1896* (London: Bernard Quaritch, 1897), 14.
- <sup>4</sup> Richard H. Wilkinson, "The Tausert Temple Project: 2004 and 2005 Seasons," *The Ostrakon: The Journal of the Egyptian Study Society* 16:2 (2005): 8.
- <sup>5</sup> Petrie, *Six Temples*, 13.
- <sup>6</sup> Petrie, *Six Temples*, 13.
- <sup>7</sup> Petrie, *Six Temples*, 13.
- <sup>8</sup> Dieter Arnold *et al.*, *The Encyclopedia of Ancient Egyptian Architecture* (Princeton, NJ: Princeton University Press, 2003), 256.

- <sup>9</sup> Petrie, *Six Temples*, 13.
- <sup>10</sup> Arnold, *Encyclopedia*, 53.
- <sup>11</sup> Arnold, *Encyclopedia*, 171.
- <sup>12</sup> A. J. Spencer, *Brick Architecture in Ancient Egypt* (Warminster, Wilts, England: Aris & Phillips, 1979), 86.
- <sup>13</sup> Petrie, *Six Temples*, 12.
- <sup>14</sup> Petrie, *Six Temples*, 13.
- <sup>15</sup> The small shaded area at the very back of the temple as depicted in Figure12-4 represents the remaining unexcavated area of the temple, much of which still is covered by the modern road. The exact plan of the temple rooms in this small area is, therefore, subject to confirmation.



## APPENDIX 1 : STAFF AND WORKFORCE

Stephanie Denkowicz

This Appendix lists the staff,<sup>1</sup> inspectors and workforce members who labored on the Tausret Temple Project from its inception in 2004 through 2011.

### 2004 SEASON (MAY – JUNE)

#### STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Richard Harwood	Photographer, Colorado Springs, Colorado
Karin Kroenke	Registrar, University of California, Berkeley
Dr. Teresa Moore	Epigraphist, University of California, Berkeley
Dr. Suzanne Onstine	Section Leader, University of Toronto
Damian Greenwell	Section Leader, University of Arizona
Ashleigh Goodwin	Assistant Surveyor, University of Liverpool
Jennifer Harshman	Assistant Registrar, University College London
Max Farrar	Surveyor, London, England

#### INSPECTORS

Mostafa Mohammad Sugheyer

#### REIS<sup>2</sup>

Reis Ali Farouk Sayed El-Quftawi  
Assistant Reis Omar Farouk Sayed El-Quftawi

#### WORKFORCE – MASTERINE AND BASKETMEN

Sayid Mahmoud Ibrahim	Ramadan Mohammed Mahmoud
Mohammed El-Azib Mohammed	Sayid Ali Handaqa
Saad Abu El-Wafa Mohammed	Abd El-Satar Nagdi
Salim Genawi Abd El-Ati	Sabri Hassan Hussein
Mahmoud Rifaa'i El-Azib	Heraji Sayid Ahmed
Hassan Mohammed Ahmed	Ahmed Mahmoud Hassan
Saleh Sayid Saleh	Hassan Ahmed Altaya
Hamada Hassan Mohammed	Tataat Mohammed Handaya
Amto Badawy Salem	Khaled Ahmed Hassan
Mahmoud Mohammed Rostom	Mohi Ali Abead

#### WORKFORCE – OTHER

Azib El-Joora (boatman)  
Ibrahim Mohammed Tahha (water carrier/tea)

## Appendix 1: Staff and Workforce

### 2005 SEASON (MAY – JUNE)

#### STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Richard Harwood	Photographer, Colorado Springs, Colorado
Karin Kroenke	Object Registrar, University of California, Berkeley
Dr. Teresa Moore	Epigraphist, University of California, Berkeley
Dr. Suzanne Onstine	Section Leader, University of Toronto
Damian Greenwell	Section Leader, University of Arizona
Ashleigh Goodwin	Surveyor, University of Liverpool
Jennifer Harshman	Assistant Registrar, University College London
Heather Kelly	Excavation Assistant, University of Arizona
Katie Kullhavy	Excavation Assistant, Arizona State University

#### INSPECTOR

Susan Sobhy Azer

#### REIS

Reis Ali Farouk Sayed El-Quftawi  
Assistant Reis Omar Farouk Sayed El-Quftawi

#### WORKFORCE – MASTERINE AND BASKETMEN

Saleh Sayid Saleh	Ramadan Mohammed
Ramadan El-Ariahn	Yussif Ahmed Yussif
Sayid Mohammed Ibrahim	Mohammed Hassan Mohammed
Saad Abu El-Wafa	Mohammed Abdulla
Mahmoud Rifahi El-Azib	Hassan El-Ariahn
Nahdi Mohammed	Mohammed Mahmoud Nahdi
Ahmed Mahmoud Husein	Said Hajaj Mohammed
Mohammed El-Azib Amam	Ahmed Ibrahim Husein
Salim Genawi Abd El-Ahti	Talat Mohammed Hanahga
Tegi Ahmed Ali	Mohammed Mahmoud Rostem
Ali Ahmed Ali	Ashari Yasim
Khalid Ahmed Hassan	Mohammed Mahmoud
Mohammed Jooma	Mohammed Ahmed Ismaayl
Abd El-Satar Nejdi	Mohammed Ahmed Mohammed
Yussif Zayahn	Ahmed Shazli
Ali Abd El-Basset	Omar Nayjah
Ahmed Hussayn Abd El-Rassool	Bedawi Ahmed
Hussayn Sayyid Hassan	Mohammed Mahmoud Ahmed
Ahmed Mahmoud Hassan	Yasser Ahmed
Mahmoud Ahmed Ali	Fadell Sayyid
Mohammed El-Azib Ahmed	Mohammed Sayyid Hassan
Ahmed Hussayn Moh. El-Aeyed	Mahmoud Mohammed Alayi

Sahbaroh Mohammed Sayid  
Ali Anajar Abd El-Adel  
AbdEl- Nabi Mohammed  
Ahmed Mahmoud Shiba  
Mahmoud Abd El-Hafez

Hassan Mahmoud Ibrahim  
Mahmoud Mohammed Husein  
Ahmed El- Adili  
Mahmoud Yussif  
Ibrahim Mohammed Tahha

WORKFORCE – OTHER

Mahmoud (driver)  
Ibrahim Mohammed Tahha (water carrier/tea)  
Azib El-Joorra (boatman)  
Jahlan El-Joorra (boatman)

**2006 SEASON (MAY – JUNE)**

STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Richard Harwood	Section Supervisor, Colorado Springs, Colorado
Damien Greenwell	Section Supervisor, University of Arizona
Karin Kroenke	Registrar, University of California, Berkeley
Rexine Hummel	Ceramicist, Royal Ontario Museum
Lyla Pinch-Brock	Artist, Royal Ontario Museum
Erin Nell	AutoCAD Specialist, University of Leicester
Ashleigh Goodwin	Surveyor, Avondale, Arizona
Jennifer Harshman	Excavation Assistant, University of Arizona
Heather Kelly	Excavation Assistant, University of Arizona
Danielle Phelps	Excavation Assistant, University of Arizona

INSPECTOR

Zaneb Ali Mohammad

REIS

Reis Ali Farouk Sayed El-Quftawi  
Assistant Reis Omar Farouk Sayed El-Quftawi

WORKFORCE – MASTERINE AND BASKETMAN

Saleh Sayid Saleh	Mohammed Jooma
Sayid Mohammed Ibrahim	Talat Mohammed Hanahga
Saad Abu El- Wafa	Mohammed Ahmed Ismaayl
Mahmoud Rifahi El-Azib	Hassahn El-Ariahn
Mohammed El-Azib Amam	Hahsan Ahmed El-Ariahn
Tegi Ahmed Ali	Hani Hassan
Kamal Helmy	Njar AbdulAh
Hassan Mohammed Gaderub	Rajab al Hasayni
Mohammed Mahmoud Rostem	Awass Ahmed
Salim Genawi Abd El-Ahti	Rarfrem Gaber Ibrahim

## Appendix 1: Staff and Workforce

Ali Ahmed Ali	Mahmoud Ahmed Ali
Khalid Ahmed Hassan	Mohammed Ahmed Hassan
Ramadan Sayid	Hajaj Abu El-Mizd
Hussein Mohammed Mahmoud	Hassan Ali Yunis
Meduha Ali	Mahmoud Mohammed Ghalayi
Khalid Abalmudjuda	Saber Mustafa
Abdullah Faraj	Hajaj El-Zahr

### WORKFORCE – OTHER

Mahmoud (driver)
Ibrahim Mohammed Tahha (water carrier/tea)
Azib El-Joora (boatman)
Jahlan El-Joora (boatman)

### 2007 SEASON (MAY – JUNE)

#### STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Ashleigh Goodwin	Surveyor, University of Liverpool
Damian Greenwell	Section Leader, University of Arizona
Danielle Phelps	Object Registrar, University of Arizona
Stephanie Ratcliffe	Excavation Assistant, University of Arizona
Linda Regan-Gosner	Excavation Assistant, University of Arizona
Christopher Schafer	Photographer, University of Arizona

#### INSPECTORS

Zaneb Ali Mohammad
Asma Kamel- El-Adin Ahmed

#### REIS

Reis Ali Farouk Sayed El-Quftawi
Assistant Reis Omar Farouk Sayed El-Quftawi

#### WORKFORCE – MASTERINE AND BASKETMEN

Saleh Sayid Saleh	Njar Abdulah
Sayid Mohammed Ibrahim	Ali Ahmed
Saad Abu El-Wafa	Talat Mohammed Hanahga
Mahmoud Rifahi El-Azib	Rajeb al Hasayni
Mohammed El-Azib Amam	Ibrahim Jaber
Tegi Ahmed Ali	Salim Genawi Abd El-Ahti
Kamal Helmy	Mahmoud Ahmed
Hassan Mohammed Gaderub	Mohammed Ahmed Hassan
Mohammed Mahmoud Rostem	Hassan El-Ariahn
Mohammed Jooma	Ahmed Hamadan

Khalid Ahmed  
Ramadan Sayid  
Khalid Abalmudjuda  
Saber Mustafa  
Hajaj Alzahr  
Hajaj Abu El-Mizd

Azraf Yessin  
Hassan Ali  
Mohammed Ismal  
Kamal Ibrahim  
Saber Hassan  
Ahmed Ali

WORKFORCE – OTHER

Mahmoud (driver)  
Ibrahim Mohammed Tahha (water carrier/tea)  
Azib El-Joora (boatman)  
Jahlan El-Joora (boatman)

**2008 SEASON (JANUARY)**

STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Ashleigh Goodwin	Surveyor, University of Liverpool
Damian Greenwell	Section Leader, University of Arizona
Richard Harwood	Section Leader, Colorado Springs, Colorado
Kehaulani Kerr	Photographic Assistant, University of Arizona
Danielle Phelps	Object Registrar, University of Memphis
Linda Regan-Gosner	Section Leader, University of Arizona

INSPECTOR

Zahara Ragab Mahmoud

REIS

Reis Ali Farouk Sayed El-Quftawi  
Reis Omar Farouk Sayed El-Quftawi  
Assistant Reis Kamal Helmy

WORKFORCE – MASTERINE AND BASKETMEN

Khalid Ahmed Hassan	Ahmed Ali
Saad Abu El-Wafa	Hare Sib
Ali Ahmed	Khaled Abalmud
Majar Jadalal	Mohammed Said Zugglibi
Khalid Abdul	Abi Book Hammed
El-sabdtla Ali	Ramadan Mohammed
Mahmoud Rifahi	Goom saan Said
Rajeb al Hassayni	Mahmoud Hodri
Mohamoud Semil	Ahmed Assan Atuhami
Mohammed Mahmoud al Gamal	Mahmoud El-Azeb El-Hawi
Salah Sayid Saleh	Hamdi Ibrahim



## Appendix 1: Staff and Workforce

Khaled Rifahi	Mohammed Ali Pestalwi
Jahat Mohammed Alizib	Ahmed El-Beduwy
Ramadan Assan	Mahmoud Saod Abdubasa
Hassen Alzid Salah	Asharraf Hasen
Hussin Said Hussin	Saber Mustafa
Mohammed Mohammed Hisseri	Mustafa Mahmoud

### WORKFORCE – OTHER

Ahmed (driver)
Ibrahim Mohammed Tahha (water carrier/tea)
Azib El-Joora (boatman)
Jahlan El-Joora (boatman)

### 2008-2009 SEASON (DECEMBER – JANUARY)

#### STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Richard Harwood	Section Leader, Colorado Springs, Colorado
Kevin Johnson	Photographic Assistant, University of Memphis
Danielle Phelps	Object Registrar, University of Memphis
Aaryn Brewer	AutoCAD Specialist, University of Arizona
Linda Regan-Gosner	Section Leader, University of Arizona
Adam Cirzan	Mapping Assistant, University of Arizona
Mark Wilkinson	Excavation Assistant, University of Arizona

#### INSPECTOR

Omar Ahmed Abuzaid

#### REIS

Reis Omar Farouk Sayed El-Quftawi  
Assistant Reis Kamal Helmy

#### WORKFORCE – MASTERINE AND BASKETMEN (DECEMBER 2008)

Saad Abu Rufa	El-majelly Hassan Abdullah
Nadjar Jadala	Ahmed Teggy Ahmed
Ali Ahmed Ali	Abdusalem Mohammed Quinawy
Fader Said Ahmed	Ahmed Mohammed Hassan
Mohammed Mahmud Ramadan	Abdullah Mohammed Ahmed
Khaled Addjy Raadi	Ahmed Mohammed Quinawy
Hassan Arian	Mohammed Marazzi Mohammed
Mahmud Mohammed Rostum	Adnajar Taia Mohammed
Ahmed Mahmud Hessen	Khaled Mustafa Mohammed
Mustafa Ali Ramadan	Ahmed Said Jala
Ramadan Hassan Mohammed	Ahmed Nusfa Ahmed Hessin

Mahmud Ali Ahmed	Mustafa Ahmin Mohammed
Ahmed Hassan Mohammed Ahmed	Mohammed Said Ahmed Musry
Hassan Mahmud Ibrahim	Mahmud Said Hosney
Mohammed Ahmed Mohammed Taia	Mohammed Taia Mohammed Ahmed
Ahmed Mohammed Ahmed Hassan	Adnajar Taia Mohamed Hassan
El-raip Mohammed Yusef	Hassan Mohammed Taia
Ahmed Mohammed Hessin	Aid Hassan Abdulahem
Hessin Mohammed Mahmud	Ahmed Mahmud Shiva
Khaled Yusef Mahmud	Allah Hassan El-Kaib
Ahmed Ali Said	Mahmud Said Mohammed Mahmud
Mahmud Ahmed Hodory	Ahmed Mohammed El-Azib Ataia
Mohammed Ahmed Hessin Ali	Allah El-Abdiry Ahmed
Ahmed Mohammed Allifa	Hassan Mohammed Ahmed Hessin
Hassan Mohammed Hessin	Adullah Mohamed Ahmed
Hassan Moh. Mahmud Abu Zed	

WORKFORCE – OTHER

Ahmed (driver)  
Ibrahim Mohammed Tahha (water carrier/tea)  
Azib El-Joora (boatman)  
Jahlan El-Joora (boatman)

WORKFORCE – MASTERINE AND BASKETMEN (JANUARY 2009)

Saad Abu Rafa	Ahmed Mohammed Quinawy
Nadjar Jadala	Mohammed Marazzi Mohammed
Ali Ahmed Ali	Adnajar Taia Mohammed
Fadar Said Ahmed	Mustafa Ahmin Mohammed
Mohammed Mahmud Ahmed Ramadan	Mohammed Said Ahmed El- Masary
Khaled Abduraddi	Mahmud Said Hosney
Hassan Arian	Mohammed Taia Mohammed Ahmed
Mahmud Mohammed Rostum	Hassan Mohammed Taia
Ahmed Mahmud Hussien	Aid Hassan Abdulahem
Mustafa Ali Ramadan	Ahmed Mohammed Hessin
Ramadan Hassan Mohammed	Ahmed Yusef Ahmed
Mahmud Ali Ahmed	Khaled Yusef Mahmud
Ahmed Hassan Mohammed Ahmed	Ahmed Ali Said Mahmud
Ahmed Mohammed Ahmed Hassan	Mahmud Ahmed Heder
Elraip Mohammed Yusef	Mohammed Ahmed Hessin Ali
Mohammed Mahmud Said-Zuglug	Ahmed Mohammed Hessin Addar
Ahmed Teggy Ahmed	Hassan Mohammed Ahmed Hessin
Abdubsalam Mohammed Quinawy	Hassan Mohammed Hessin Mohammed
Abdullah Moh. Ahmed Abatruki	Hassan Mohammed Mahmud Abuzait

## Appendix 1: Staff and Workforce

Allah Hassan De'ib	Aid Hassan Abdulahem
Allah El-Bidry Ahmed	Hosni Mohammed Hosni Ahmed
Mahmud Said Mohammed Mahmud	Hussein Moh. Mahmud Mohammed
Ahmed Mohammed Halifah Said	Hamadi Nubi Mahmud
Khaled Sallah Ahmet	Mohammed Mustafa Mohammed
Ahmed Mohammed El-Azib Taia	Mohammed Ahmed Mohammed
Mohammed Ataiab Mohammed	Mohammed Said Hassan Ahmed
Ahmed Mahmud Shiba	Abdullah Mohammed Ahmed Masor

### WORKFORCE – OTHER

Ibrahim Mohammed Tahha (water carrier/tea)  
Azib El-Joora (boatman)  
Jahlan El-Joora (boatman)

### 2009-2010 SEASON (DECEMBER – JANUARY)

#### STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Richard Harwood	Section Leader, Colorado Springs, Colorado
Damien Greenwell	Section Leader, University of Arizona
Danielle Phelps	Object Registrar, University of Arizona
Aaryn Brewer	AutoCAD Specialist, University of Arizona
Linda Regan-Gosner	Section Leader, Brown University
Dr. Gonzalo Sanchez	Medical Consultant, University of Arizona
Dr. Ahmed Fahmy	Archaeobotanist, Helwan University
Christopher Schafer	Photographer, University of Arizona
Mark Wilkinson	Excavation Assistant, University of Arizona

#### INSPECTORS

Ali Reda Mohammad Soliman  
Ahmed Hassan Iberd

#### REIS

Reis Omar Farouk Sayed El-Quftawi  
Assistant Reis Kamal Helmy  
Assistant Reis Mahmud Mohammed Rostem

#### WORKFORCE – MASTERINE AND BASKETMEN

Said Ahmed Tahar	Said Hassan Mohammed Ahmed
Khaled Salah Hemekh	Taiya Hassan Sayed Hassan
Ahmed Mohammed Ahmed Hassan	Ali Said Ahmed Mohammed
Najar Abdul Said	Said El- Ad El-Ahmed
Al Tayib Tahar Hassan	Abd Jaber Abdullah Hassan
Nasar Mohammed Ibrahim	Mahmud Said Ahmed Ahmed

Mahmoud Sayid Mohammed	Mohammed Ahmed Nasar
Ahmed El- Azib Mohammed Tayib	Ahmed Hassan Mohammed Ahmed
Ahmed Hussein Mohammed Awat	Alam Mahmud Mohammed
Mohammed Teggy Ahmed	Hassan Mohammed Hassan
Ahmed Hussein Abd Samir	Radwan Ahmed Radwan
Ramadan Hassen Mohammed	Khaled Yosef Mahmud
El-Azib Ali Araf	Ahmed Tayib Ahmed Salim
Hussein Ali Hossein	Ali Aziz Ahmed Hassan
Hassan Mahmoud Ahmed	Khaled Abd El-Hamid Hassan
Mahmoud Ahmed Jalan	Mohammed Hussein Hassan
Mohammed Hamad Abu Hajaj	Hassan Mohammed Adeyiah Abu Bak
Ahmed Ali Badri Ahmed	Ahmed al Rajib Mohammed
Mohammed Ramadan Moh. Hassan	Ahmed Mohammed Ahmed Tege
Mahmud Ahmed Mohammed Hassan	Hassan Nubi Ayad
Mohammed Ali Hassan Mohammed	Mahmud Mustafa Ismail
Omar Mohammed Omar	Amr Ali Ad El-Ibrahim
Mahmoud Mohammed Rastum	Mohammed Ali Mahmud Ali
Abdullah Moh. Abdullah Mohammed	Ahmed Said Nur El-Din
Ahmed Jaber Hamzaya	Ahmed Ali Said
Hammader Hassan Mohammed	Hassan Ali Said al Omar
Mahmud Mohammed Qenawy	Mahmud Mohammed Ahmedr Qesa
Mohammed Hussin Ahmed Hussin	Mohammed Hassan Taya
Mustafa Hassan Ahmed	Mohammed Ahmed Mahmud al Badyin
Mohammed Abd Saber El-Tayib	Ali Hussin Abd Ruckman
Hassan Najar Hassan	Ahmed Najar Mahmud Adle
Jabr Nasser Jabr	Mocklis Adley Najarshed
Mohammed Ali Tayib	Husan Al-Azib Hassan
Ahmed Abdul Nasar	

WORKFORCE – OTHER

Ibrahim Mahmud (driver)  
Ibrahim Mohammed Tahha (water carrier/tea)  
Azib El-Joora (boatman)  
Jahlan El-Joora (boatman)

**2010-2011 SEASON (DECEMBER – JANUARY)**

STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Rexine Hummel	Co-Director, Ceramicist, Royal Ontario Museum
Lyla Pinch-Brock	Artist, Royal Ontario Museum
Dr. Robert Demarée	Hieraticist, Leiden University
Richard Harwood	Section Leader, Colorado Springs, Colorado

## Appendix 1: Staff and Workforce

Damian Greenwell	Section Leader, University of Arizona
Danielle Phelps	Object Registrar, University of Arizona
Ashleigh Goodwin	Mapping Specialist, Edmonds, Washington
Linda Regan-Gosner	Section Leader, Brown University
Dr. Gonzalo Sanchez	Medical Consultant, University of Arizona
Suzanne Vucobratovich	Photographer, University of Arizona
Matei Tischindlein	Excavation Assistant, University of Arizona
Donald R. Kunz	Excavation Assistant, Phoenix, Arizona
Stephanie Denkowicz	Project Recorder, Manhasset, New York

### INSPECTOR

Yasser Youssef Ahmed

### REIS

Reis Ali Farouk Sayed El-Quftawi  
Reis Omar Farouk Sayed El-Quftawi  
Assistant Reis Kamal Helmy

### WORKFORCE – MASTERINE AND BASKETMEN

Mohammed Foyad	Nadjar Ali Said Mahmud
Khaled Adul Abduradi	Ahmed Tayeb Abd El-Rahman
Salah Hafuze Abduradi	Mahmud Abduhami
Mahmud Sahlam Abduradi	Mohammed Jabar Mohammed Mahmud
Hasham Mohammed Oasis	Ali Said Ahmed Abduajar
Mohammed Abdurakman	Ahmed Mohammed Abdusalam
Sadek El-Adley	Khaled Hassan Ali
Abduhaldi Ahmed Ababed	Ahmed Jaban Ali
Karem Hatim Ali	Omar Mohammed Omar
Mahmud Abdumalti	Fatihed Mahmud Assman
Altayeb Mohammed El-Tayib	Mohammed Al-Tayeb
Abdulah Mohammed Batruki	Mohammed Ahmed Salam
Ahmed Taya Ahmed	Said Hassan Mohammed
Abduraman Lazaib Chahata	Mahmud Sabit Ali
Abdurminum Mohammed Mahmud	Ahmed Hassan Mohammed Ahmed
Hassan Mahmud Ahmed	El-arib Mohammed Yusef
Mustafa Hafza Aduradi	Ahmed Hussein Mohammed Awad
Wael Fathi Mahmud	Mahmud Abdumati
Khaled Rafari	Mohammed Said Husein
Salah Ab al Hami Mahmud	Khaled Yusef Mahmud
Mohammed Abdu al Hami	Ramadan Hassan Mohammed
Mandour Hassan Tayeb	Hassan Mohammed Hussein Mohammed
Mohammed Teggy Ahmed	Hussam El-Azib Hassan
Abu Zabou El-Ayazib	Ahmed Said Hassan
Mohammed Ali Hassan Abuhajar	Mohammed Ibrahim Ahmed

Abduman Ahmed Ibrahim  
Hamdi Hassan Mohammed  
Alaha Trajeb Yusef  
Mahmud Moh. Said Mohammed  
Hassan Ahmed Hassan

Ali Hazi Ahmed Hassan  
Ahmed Said Hussein  
El-tahar Amina Tarhar  
Khaled Salah Hamid  
Abduhnasar Ahmed

WORKFORCE – OTHER

Ibrahim Mohammed Tahha (water carrier/tea)  
Jahlan El-Joora (boatman)  
Azib El-Joora (boatman)  
Ahmed Mohammed (driver)

**2011 SEASON (AUGUST)**

STAFF

Dr. Richard H. Wilkinson	Director, University of Arizona
Dr. Pearce Paul Creasman	Field Director, University of Arizona
Dr. Douglas Sassen	Geophysicist, Lawrence Berkeley National Laboratory
Damian Greenwell	Assistant to the Director, University of Arizona

INSPECTOR

Mohamed El-Azib

REIS

Reis Omar Farouk Sayed El-Quftawi

WORKFORCE: No workmen were hired for this remote sensing season. Drivers and extra helpers were arranged by Reis Omar as necessary.



**Figure A1-1: Site survey and mapping, one of the many roles filled by project staff members**

NOTES

- <sup>1</sup> The staff listed in this appendix are field staff only; the Expedition also acknowledges the help of team members who were not present on site during the field seasons, but who also participated in project research and analysis.
- <sup>2</sup> Reis Ali, Reis Omar and Assistant Reis Kamal, all members of the same family, are direct descendants of members of the famous “Qufti” workforce who were originally recruited and trained by Petrie. These specialized workers, who originally came from the town of Quft in Upper Egypt, were Petrie’s core workforce for almost his entire career. Petrie used Qufti workers in combination with local workers from Qurna when he excavated the six temples, including Tausret’s temple, in 1895-1896. See Stephen Quirke, *Hidden Hands, Egyptian workforces in Petrie excavation archives, 1880-1924* (London, Duckworth, 2010) 21, 238-239, 252-254. We do not know if the ancestors of our Reis actually worked at Tausret’s Temple during the brief period of its excavation by Petrie; however, it seems fitting that their descendants were an instrumental part of the team that continued the work begun by Petrie over 100 years ago.



Figure A1-2: Part of the excavation team (2009-10 season)

**STAFF FOREMEN**

**Reis Ali Farouk (A1-3, left)**

**Reis Omar Farouk (A1-4, below)**

**Asst. Reis Kamal Helmy (A1-5, lower left)**







## APPENDIX 2 : SITE SURVEY AND MAPPING

Ashleigh D. Goodwin

The Temple of Tausret site (Figure A2-1) was surveyed<sup>1</sup> and mapped using a total station electronic theodolite integrated with an electronic distance meter.<sup>2</sup> For the purposes of mapping the site, four control points were established<sup>3</sup> inside and outside the temple precinct, with a fifth control point added in 2010.<sup>4</sup> These control points were given the prefix “TCP” for “Tausret Control Point”. TCP01 and TCP02 were located south of the temple, just north of the northern wall surrounding the Temple of Merenptah, and were mainly used in the first two seasons to map the perimeter of the UAEE concession. TCP03, TCP04 and TCP05 were established inside and just outside the temple proper. Mapping from these control points allowed an easier line of sight between the total station and the prism. For the majority of our excavation seasons, TCP04, located in the temple courtyard (S2), served as the main control point for mapping the temple’s structures and key artifacts.<sup>5</sup> In order to see the prism during excavations along the northwestern boundary of the temple, TCP03, located just north of S15, was used for mapping before the surface units in the northern section of the temple were cleared. Once the accumulation of dirt and mud brick was removed from these surface units, mapping could continue from TCP04.

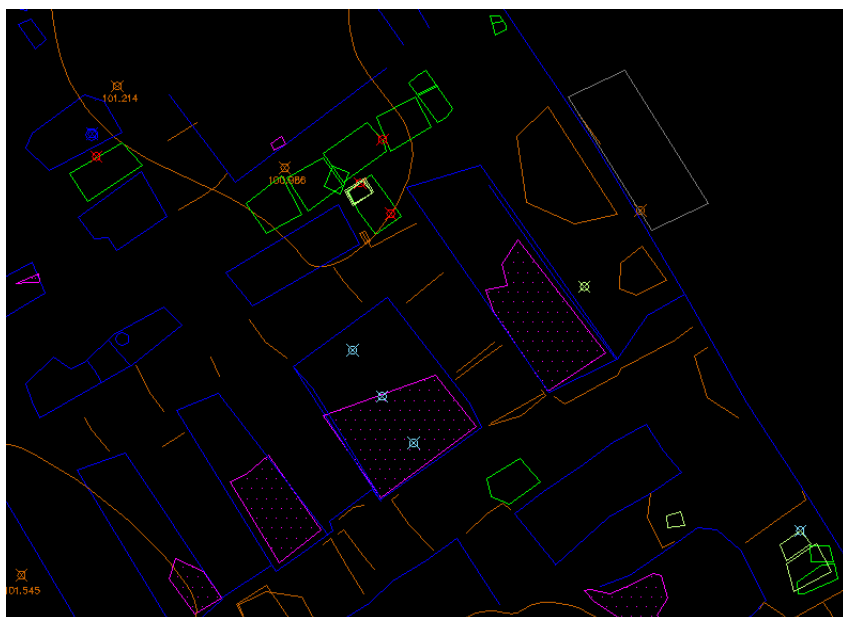
### FOUNDATION TRENCHES AND SURFACE UNITS

The two primary types of terrain mapped within the core of the temple were its network of foundation trenches (exposed when the temple was robbed of its stone) and the surface units (the temple’s courtyard and rooms).

The foundation trenches were divided into 2 meter units further split into 1 meter squares.<sup>6</sup> Trenches running from east to west across the temple were designated as “TA” trenches to which the specific trench and unit number were added (i.e., TA1:4 would represent Trench A1 Unit 4). Trenches running south to north were designated “TB” trenches. Surface units were recorded as a single unit assigned a number (i.e., S1), then subdivided as necessary when the area was excavated.



Figure A2-1, above. Figure A2-2, below.



## Appendix 2: Site Survey and Mapping

Trenches and surface units were mapped individually, as discrete areas rather than broken up within a standard grid, for the purpose of material remains analysis. Material remains found within a trench or on a surface unit can often only be understood in terms of their distribution in similar locations throughout the site. By keeping trench and surface units separate, we were able to utilize database analysis of the find loci of artifacts and thus to create a clearer and more meaningful picture of artifact distribution.

### SURVEY POINTS AND AUTOCAD MAP

Coordinates for features and artifacts to be mapped were recorded in a notebook in the field and were later transferred to AutoCAD. Figure A2-1 is a general view of the AutoCAD plan of the temple, and although it is small scale, it shows the extent of the UAEE excavations as mapped. Figure A2-2 shows a close-up of a section of the northern side of the temple (TB6-TB8) and provides an example of how different archeological features and material remains are color-differentiated. Surface units and the temple perimeter are recorded in blue. Mud brick walls found within trenches as well as walls and mud brick masses found on surface units are recorded in brown. Test trenches are recorded in grey. Foundation stones are indicated in green with inscriptions found on the stones signified by red points. Other colored points represent key elevations and section markings. Areas of surface units retaining the original *dekka* flooring are outlined in pink and these areas filled in with dots.<sup>7</sup> A further detailed example from the AutoCAD map showing artifact as well as feature distribution can be found in Chapter 8 (Figure 8-1).

### SITE GRID

Despite the use of the non-grid system described above, in the final season a grid using a standard alpha-numeric naming convention was created in order to establish equal units throughout the temple. This grid enabled mapping and recording of artifacts and features found outside the core temple area of trenches and surface units. The grid was divided into 10 meter squares with its datum point located at the northwest corner of the wall surrounding Merenptah's Temple directly south of the Tausret temple site. During the 2010-11 season, several test trenches were cut within the temple courtyard as well as outside the temple proper, therefore the 10 meter squares were further divided into 5 meter units in those areas in order to

better locate artifact find spots. The grid was also created in preparation for completing a remote sensing survey of areas that we do not plan to clear. Finally, this standard grid with its established datum point<sup>8</sup> will allow our site map to be tied into other larger grids such as the Theban Mapping Project's survey of the Theban West Bank. It will thus be possible to locate any point within Tausret's temple in reference to those larger grids.

## NOTES

- <sup>1</sup> Survey points were mapped and recorded by Max Farrar (2005), Ashleigh Goodwin (2005-2008, 2011), Adam Cirzan (2009) and Aaryn Brewer (2009-2010).
- <sup>2</sup> The total station used in all seasons was the Topcon GTS-300.
- <sup>3</sup> The Tausret Control Points TCP01 - 04 were created by Max Farrar in 2005: TCP01 (1000.00, 1000.00, 100.00), TCP02 (966.418, 1020.913, 99.585), TCP03 (1048.494, 1124.123, 100.369), TCP04 (1022.519, 1084.100, 100.486).
- <sup>4</sup> TCP05 (1052.703, 1118.915, 100.888) was established in 2010 after the location of TCP03 had been compromised by the removal of the rebar that had been used to mark its exact location.
- <sup>5</sup> Key features and artifacts for which coordinates were recorded include: mud brick walls, mud brick masses, mud bricks with stamped cartouches, shabtis, beads, offering pits, mummified human remains, painted plaster, foundation stones and blocks, inscriptions, blueware pottery, *dekka* flooring and the remains of mud brick magazines.
- <sup>6</sup> Individual trench units were sometimes less than 1 meter in size when a trench would suddenly end before a 1 or 2 meter mark. In many cases these less-than-whole units were simply treated as extensions of the previous whole unit and given the designator "B" (e.g., TA1:4B).
- <sup>7</sup> All feature and artifact types are, of course, color indexed in the full site AutoCAD model.
- <sup>8</sup> The GPS UTM coordinates for this point at the northwest corner of the Merenptah Temple wall are: 0460486 2845348.



## APPENDIX 3 : PHOTOGRAPHY

Richard S. Harwood

The primary purpose of archaeological photography is to record the geographic context, features and artifacts of a site as clearly, accurately and completely as possible. Once the site has been altered by excavation and the artifacts removed to a magazine or other storage facility, the photographs taken during the excavation will be the only remaining visual record of the project's progress.

Prior to beginning the actual excavation, the Tausert temple site was photographed as it existed in May 2004. These photographs provide a record of the general topography of the area. Due to the easily recognizable features of the landscape – the public road embankment to the immediate west, the escarpment topped by the mud brick pylon of the Temple of Khonsuirdis on the north, the Temple of Amenhotep III to the east, and the Temple of Merenptah to the south—there was no need to include compass directions in the overall site photographs.

General photographs of the entire site were also taken at the beginning and end of each field season, the former to document any man-made or natural alterations that may have occurred to the site during our absence and the latter to document the progress made during that particular field season. Other general photographs were taken during the course of each field season to document the excavation's progress, particularly as large mounds of fill or rubble were removed and as new architectural features were revealed.

Much of the project's work involved the clearing of the temple's foundation trenches. Due to the relatively narrow walls of these trenches and the intensity of the sunlight, care had to be taken to photograph the trenches with as little deep shadowing and over-exposure as possible. Similarly, we had to be aware of the shifting light during the day, trying whenever possible to take photographs in the early morning before the flatter light of midday obscured many of the site's details. Another constant concern was the clouding of the air caused by the wind and by the workmen's digging. Photographs often had to be taken before or after the day's work, or during the midmorning lunch breaks.

It was crucial to photograph artifacts of potential or obvious importance *in situ* in order to record the context in which they were found and their

association with other artifacts in the immediate vicinity. After an object was partially uncovered and its exact location measured and plotted, it was photographed from several angles, with both a north directional arrow and an appropriate scale (meter stick, centimeter ruler, ranging pole or human figure) clearly visible in the picture. Whenever possible, we also included a chalkboard in the image that indicated the project name, date and excavation unit in which the artifact or architectural feature was found. Many objects, such as important potsherds, human remains, mud bricks stamped with a cartouche, shabtis, and worked pieces of stone, once recorded in the artifact log, were cleaned to reveal colors and textures, and re-photographed on a plain background before being placed in an artifact box for storage in a magazine.

An excavation is not just about the physical properties of the site and the artifacts uncovered. It was therefore important to record the human aspects of the project: our Egyptian workmen clearing the trenches, at rest during lunch breaks, and celebrating when an important artifact was discovered; the project's team members supervising the workmen, extracting and cleaning artifacts, surveying, and recording or drawing the artifacts that were recovered. Photographing people during an excavation is often more difficult than photographing objects and landscapes. We tried to capture images with as many faces visible as possible but without a posed appearance, and to have the activities shown in the photographs easily understandable.

All photography was done with digital cameras (see Table A3-1). In most cases, photographs were taken in RAW or JPEG Fine format to ensure high quality. Each photographer had access to a laptop computer onto which his or her photographs were downloaded each day in order to have backup copies of each image. After deleting photographs that were out of focus or otherwise worthless, each photographer transferred copies of the images to a thumb drive and gave that to the Project Director every day. The Project Director downloaded all of the images to his computer for later review, organization, editing, permanent retention and possible publication.

Photographs were recorded using the image designator numbers from each camera (see Table A3-1). In some cases, the photographer augmented his or her image designators with a brief description of the subject matter and the date on which the photograph was taken.

Several of the photographers used computer software to crop their photographs and to improve contrast and exposure. The object of archaeological photography, however, is to maintain as true a record of the

### Appendix 3: Photography

excavation and its discoveries as possible. Therefore, each photographer was particularly diligent when editing and manipulating photographs not to use computer enhancements that distorted the color, texture or fidelity of the photograph's subject matter.

Although all cameras had interchangeable lenses, most of our photographers used a single telephoto lens for almost all of their photographs, with effective ranges from 18 to 135 mm. The zoom and macro functions of the lenses were utilized in photographing small artifacts when it was necessary to completely fill a frame without the distortion sometimes caused by standard lenses.

For the majority of photographs, we found that the cameras' automatic program settings worked admirably. Close-up photographs of smaller artifacts occasionally required a manual or aperture-priority setting to enable greater depth of field and precise focusing. All of our photographers relied on their cameras' internal light meters rather than separate meters or gray cards. Bracketing exposures when photographing smaller and detailed artifacts ensured at least one high quality image of those objects. Flash photography was used sparingly during the excavation although fill-flash proved helpful on occasion, particularly to reduce shadowing in trenches and depressions such as foundation pits.

All cameras were equipped with UV ("skylight") filters to reduce the bluish cast in shadows and to protect the main lenses from damage by sand-dust. The intensity of the natural light on the rock and sand at the excavation site often required the use of polarizing filters, which also served to darken the blue sky and added contrast and clarity to landscape features in panoramic shots. Lens hoods were useful in avoiding flare and sunspots on the photographs. The combination of high temperatures and the large number of shots taken each day made carrying spare camera batteries a necessity.

Particular care was used when photographing artifacts after they had been excavated and cleaned. We found that placing potsherds and other small objects on a black cloth background, laid on a level table set up in the shade, worked well. For larger artifacts and especially for human remains, we used adjustable-height tripods set over collapsible photo light boxes with interchangeable black and gray backgrounds. These light boxes helped diffuse the harsh light of the Egyptian sun and define details of the objects being photographed. Tripods with clearly marked panning delineations made it easier to stitch together panoramic shots of the excavation site.

Our photographers had to be constantly mindful of the climate and weather conditions in the Luxor area. Especially during the late spring and early summer seasons of 2004–2007, when temperatures often reached 40°C (104°F) by noon, cameras had to be placed in the sparse shade when not being used. The pervasive dust and fine sand particles that frequently filled the air sometimes caused cameras to jam; cameras cases were helpful, caps were kept on working lenses between shots, and front and rear caps were necessary on all lenses whenever they were off a camera. Thorough cleaning of camera bodies and lenses at the end of each work day helped avoid many problems.

Photography was coordinated by the present writer assisted by a total of seven other team members over the course of the project's field seasons (see Table A3-1).

Field Season	Photographer	Camera Used	Lens Used	Beginning Image Designator
2004	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
	Richard H. Wilkinson	Olympus E-10	Olympus 9–36mm	P101010
2005	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
2006	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
2007	Christopher Schafer	Nikon D-80	Nikkor DX AF-S 18–135mm	TA001
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001





### Appendix 3: Photography

Field Season	Photographer	Camera Used	Lens Used	Beginning Image Designator
2008–2009	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
	Kevin L. Johnson	Canon Rebel XS	Canon EF-S 18–55mm	IMG_
	Kehaulani Kerr	Nikon D-80	Nikkor DX AF-S 18–135mm	001
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
2009–2010	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–135mm	DSC_0001
	Gonzalo M. Sanchez	Nikon D-80	Nikkor DX AF-S 9–135mm	HRX
		Nikon D-5000	Nikkor DX AF-S 55–200mm	HRX
	Christopher Schafer	Nikon D-80	Nikkor DX AF-S 18–135mm	TA001
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001
2010–2011	Richard S. Harwood	Nikon D-70	Nikkor DX AF-S 18–135mm	DSC_0001
	Gonzalo M. Sanchez	Nikon D-80	Nikkor DX AF-S 9–135mm	HRX
		Nikon D-5000	Nikkor DX AF-S 55–200mm	HRX
	Suzanne Vucobratovich	Leica Digilux-2	Leica DC Vario 28–90mm	L10
		Panasonic DMC-LX3	Leica DC Vario 24–60mm	L10
	Richard H. Wilkinson	Nikon D-70	Nikkor DX AF-S 18–70mm	DSC_0001

**Table A3-1: Photographers and equipment used for the Tausert Temple Project**



## APPENDIX 4 : CONSERVATION

Adam Cirzan

Effective conservation and preservation is essential to the field of archaeology not only for the safeguarding of heritage artifacts and sites, but also because archaeologists do not currently hold the answers to every question posed by the archaeological record. By carefully recording the context of all finds and preserving the current state of sites and monuments, it becomes possible for future archaeologists to study and learn from artifacts and sites already excavated. This is of the greatest importance, as many sites and objects have been compromised due to less than perfect conservation efforts, and many possible discoveries have been lost forever. Since the University of Arizona Egyptian Expedition (UAEE) began its work excavating the Temple of Tausret in 2004, special attention has been paid to maintaining the current state and condition of the site and its archaeological features.

### THE CONDITION AND CONSERVATION DATABASE

During the inaugural excavation season, in 2004, a computerized database was created in order to accurately record the physical condition of all features found within the site.

The network of foundation trenches which had been cut into the site by the ancient Egyptians was divided into two meter sections as each trench was excavated, and each section further divided into one meter units. The condition of the bedrock side walls and floor areas of these trench units was examined carefully along with any man-made features such as walls or pits. The condition of each linear meter of trench wall/floor and of any architectural feature within the given unit was recorded in the database as being 5: intact, 4: good, 3: fair, 2: poor, or 1: destroyed – based on the percentage of damage visible.<sup>1</sup> Recording and organizing the condition of all the features of the site in this way not only allowed the team to document the condition of each one-meter unit, but also allowed for units of comparable condition to be easily grouped together for the purpose of carrying out parallel measures for their preservation and conservation.

The creation of the condition and conservation database allowed for the condition of further areas and features of the site to be quickly and effectively

## Appendix 4: Conservation

assessed and recorded during future seasons of the project. Throughout the first three seasons of the excavation of the temple, most recording efforts focused on the foundation trenches and the mud brick walls and other features found within them as these were uncovered. During the fourth dig season (2007), more attention was focused on assessing and recording the state of the surface areas comprising the courtyards and rooms of the temple. The same system of assessment used for the trenches was utilized, and each surface area was labeled as being intact, good, fair, poor, or destroyed. Using common terminology to describe the condition of both trenches and surface areas allows the entire database to be searchable using the same terms and allows trenches and surface areas to be grouped together based upon similar conservation needs.

### TRENCH RESTORATION AND STABILIZATION

During the 2007 and 2008 seasons the UAEE also created a prioritized list of areas within the site which were in need of conservation efforts to be undertaken during following seasons. Each recorded unit was assessed and categorized based upon its conservation needs as follows: 1 – very unstable, needs treatment soon; 2 – somewhat unstable, should get treatment in the near future; 3 – fairly stable, might need treatment in the future; 4 – stable. In the course of this process, two specific aspects of the site were identified as needing special consideration. The sides of some of the foundation trenches located in the outer areas of the temple were found to be especially weathered and damaged and in need of special attention. Several of the mud brick walls constructed within the trenches by the Egyptians - which seem to have been an important aspect of the construction of the temple - were found to be have become partially broken down in several areas. Starting in the 2007 season, many of these brick walls were stabilized and reconstructed to preserve these important architectural elements.

Throughout the 2009 dig season, priority was placed upon stabilizing those areas of the foundation trenches which needed additional support or reconstruction. The main foundation trenches located on the northern and southern sides of the courtyard surface area (labeled on the site map as S2) seem to have been significantly damaged at the time their foundation stones were robbed, sometime following the reign of Tausret. These trenches were exposed to the elements at that point in time and have since been subject to a considerable amount of erosion. The *gebel* walls in these trenches were

successfully stabilized during the 2009 dig season by packing the undercut areas of the trench walls with stones and then backfilling these areas with sand to support the walls and protect the eroded areas from further deterioration. Figures A4 -1-3 show this process of restoration and stabilization as utilized in sections of foundation trenches TA 1, 2, and 3. The same process was also employed in sections of TA 12, 13, and 14 where needed.

#### SITE PROTECTION AND THE RECONSTRUCTION OF BRICK WALLS

In addition to the restoration and stabilization of damaged areas of the site's features, as early as 2005 the construction of a fence around the exposed perimeter areas of the site was undertaken in order to protect the excavated areas during those parts of the year when the UAEE team was not present on site. Unfortunately, this extensive and expensively produced fence proved to be ineffective. The fence was routinely knocked down by local people during the off-season in order not to have to walk around its perimeter, and children were allowed to play in the area and even collect the mud bricks from within the foundation trenches to construct borders for their soccer field located on a level area adjacent to the temple. After repeated attempts to repair the fence and discussions with local residents, the UAEE decided to reconstruct the mud brick walls located in the foundation trenches and bury them with sand, leaving at most only the top surfaces of the uppermost course of mud bricks visible or lightly covered. This prevented the local children from moving the bricks and causing further deterioration of these important architectural elements of the temple. Of course, the walls were all recorded on the site map and AutoCAD model, so there is no danger of losing the location of the walls due to their being buried.

Excavations during the 2009 season also began to yield remains of superstructure walls found on surface areas of the temple site. These walls were also buried in sand after being recorded and added to the AutoCAD model of the site at the end of the dig season in order to preserve them from attack and deterioration. The Expedition continued to bury these walls along with the mud brick walls located within foundation trenches at the conclusion of each dig season.

Appendix 4: Conservation



Figures A4-1 - A4-3:

Stages in the restoration and stabilization of weather bedrock trench walls in Trench TA:3



The UAEE has actively sought the advice of various specialists concerning any features of the temple site that required technical restoration efforts, but since the Temple of Tausret was dismantled in antiquity, and most of its stone removed, the site has not yielded any decorated blocks or other temple remains in need of specialized conservation efforts. Most conservation and preservation accomplished during this project has therefore focused upon the site itself and the few remaining architectural elements of the temple. Although the Expedition was discouraged from backfilling excavated areas of the site, vulnerable features and areas have routinely been protected with a covering of sand. By keeping accurate records of the temple site and taking measures to reconstruct and preserve all areas that have suffered, or are now in danger of suffering, degradation, the UAEE has been able to successfully gain a great deal of information regarding the site without compromising its contextual integrity and accessibility for future generations.

#### NOTES

- <sup>1</sup> The evaluation was based on the following scale of estimated intactness:  
5: 100-90% = Intact; 4: 90-60% = Good; 3: 60-30% = Fair; 2: 30-10% = Poor;  
1: 10-0% Destroyed, 0: Not present.