

## THE BIR UMM FAWAKHIR SURVEY PROJECT

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The Bir Umm Fawakhir Survey Project continued surface survey and mapping of the Byzantine gold-mining town at Bir Umm Fawakhir in the central Eastern Desert of Egypt with a short season from January 16 to 28, 1993 (fig. 1). The first goal of the 1993 season was to continue detailed mapping of the houses in the main settlement. This, with the results of the 1992 season, would give us a plan of half of an entire ancient community, without excavation. We also hoped to enlarge and improve the pottery sample and to investigate some specific problems about the site. In particular we were looking for features such as cemeteries, defenses, ostraca, and any remnants of the Ptolemy III temple. Finally, we wanted to expand the project to include a general survey of the surrounding area, particularly along the Roman road that leads to the northeast.

The team consisted of Dr. Carol Meyer, director; Dr. Steven Cole, photographer; Ahmed Gaber, Inspector; Dr. Lisa Heidorn, archaeologist; Mohammed Omar, geologist; Terry Wilfong, Egyptologist; and Abu Abdallah, driver. One major difference from the 1992 season was that we rented housing at the old British mining camp located a few kilometers to the southeast of the site, and for this we are grateful to Dr. Abdel Aziz A. Hussein and the Egyptian Geological Survey and Mining Authority, which now owns the camp. Thanks are due to Dr. William Sumner, Director of the Oriental Institute, and to those who supported the project—Mr. and Mrs. Jack Laws, Mr. and Mrs. Henry I. Meyer, Mrs. Catherine Novotny-Brehm, the Pennzoil Corporation, Dr. Robert K. Smither, and the Society of Woman Geographers; to Dr. Mohammed Bakr, Chairman of the Egyptian Antiquities Organization; to Motawiyah Balboush and Suzanne Kamel of the Egyptian Antiquities Organization; to Mohammed Salah, Director of the Egyptian Museum; to Mark Easton, Amira Khattab, and the American Research Center in Egypt; to Dr. Mohammed Sughair, Director of Antiquities of Upper Egypt; to Ahmed Gaber, Chief Inspector of the Red Sea Coast; to Rabia Hamdan and the Qena

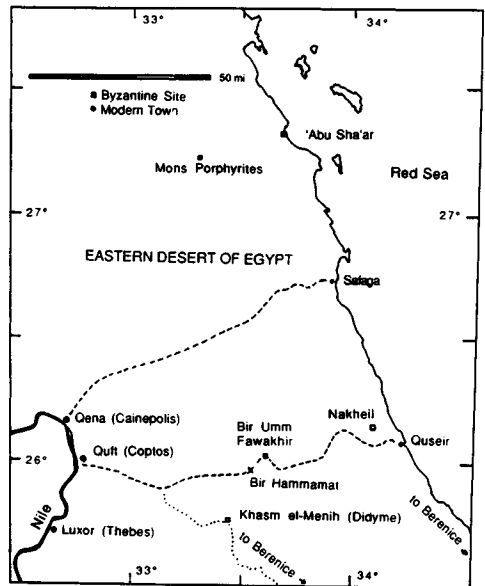
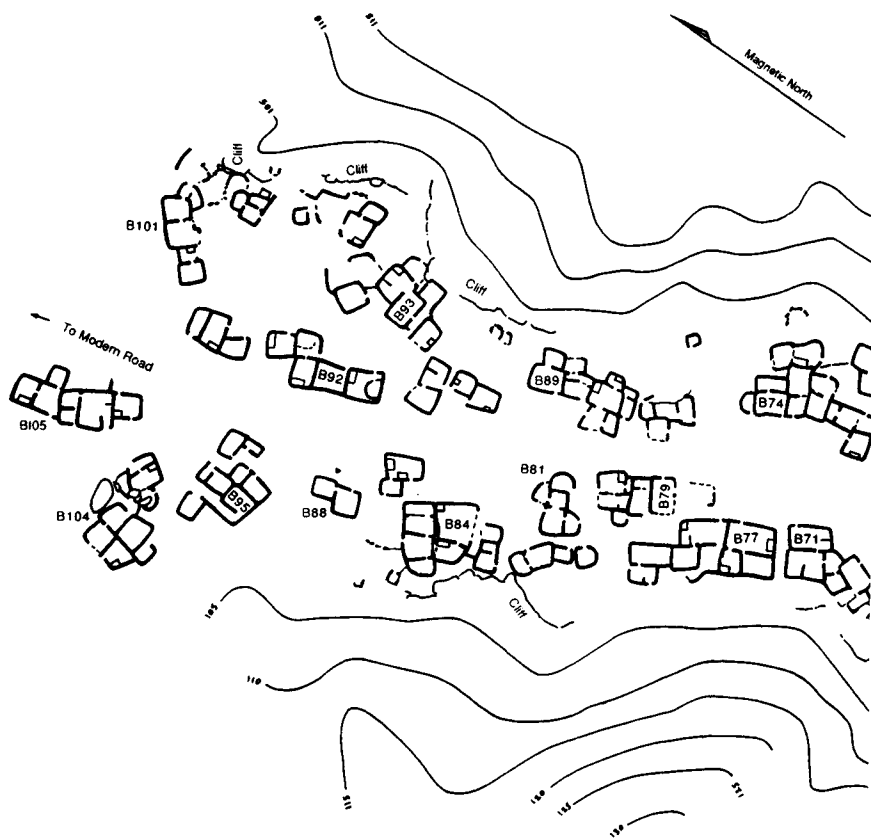


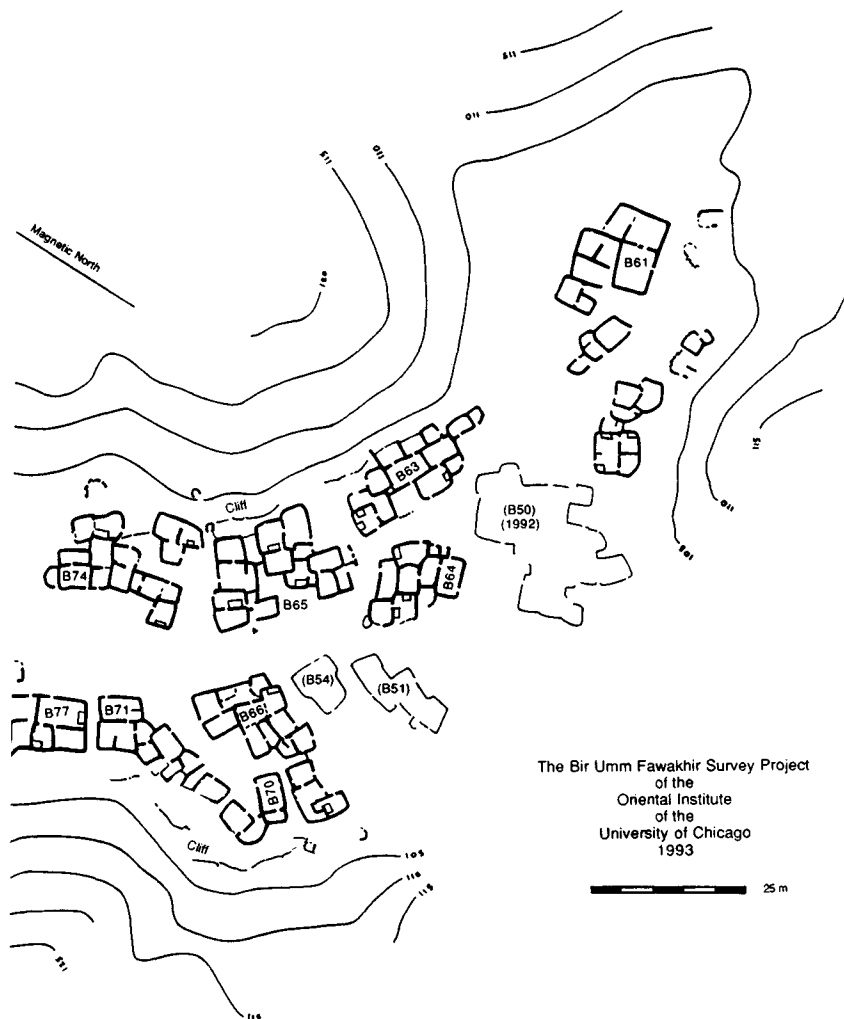
Figure 1. Map showing location of Bir Umm Fawakhir in the Eastern Desert of Egypt



**Figure 2.** Plan of buildings surveyed during 1993 season at Bir Umm Fawakhir (continues opposite)

inspectorate; to Dr. Henri Riad, Paul Bartko, Kathryn Dorman, Dr. Richard Jasnow, Christina di Cerbo, and Elinor Smith of Chicago House in Luxor; and above all to Dr. Peter Dorman, who generously assisted the project at all stages.

The detailed mapping of Bir Umm Fawakhir concentrated on the main settlement, a community with several hundred buildings in a long, narrow wadi not visible from the modern road and houses. In 1992 the project mapped fifty-five buildings and some of the steep cliffs enclosing the site; in 1993 the project resumed work and mapped Buildings 56 through 105 (fig. 2). Work began in 1992 at the farthest (southeastern) end of the site because this is the best-preserved part. In 1993 we continued to the northwest down the wadi bottom, which also serves as the main street of the ancient town. Again we were fortunate in borrowing the Lietz Set 3 Total Instrument Station from the Oriental Institute; we could never have accomplished so much mapping in so little time without that fine



piece of equipment. The fifty newly-planned buildings revealed much the same pattern as was found during the previous season's work: a basic house unit with two or three rooms (seventeen buildings), a larger unit with several such houses agglomerated together (eighteen buildings), and fourteen or fifteen one-room out-buildings (B99 has a straggling, uncertain plan). All of the buildings are dry stone masonry utilizing granite cobbles chinked with smaller stones or sometimes potshers. Although the construction is skillful, there is no cut stone, at least in this part of the site, and mudbricks are so rare they were marked individually on the master map. A number of the walls stand shoulder-high or higher, which at times made surveying somewhat more difficult. In these cases features such as doors, wall niches, bonding (or lack of it), and benches are readily visible, though in other places walls are badly tumbled or reduced to a single line of stones.

So far all the buildings appear to be domestic; their less than monumental character and the non-connecting pattern of doorways of even the largest of the

agglomerated buildings makes it difficult to consider them public or administrative buildings. Without excavation or further information, we can only suggest that the one-room outbuildings, both the roughly rounded and the slightly less irregular rectangular ones, may have served as storage, work places, shelter for animals, latrines, or in the case of B75 high on the cliffside, as a small watch post.



**Figure 3.** *Bir Umm Fawakhir Building 92 at lower left; open space surrounded by B92, B100, B101, B102, B98, B93 in center foreground; granite quarry #2 at foot of hill on left; wadi bottom/main street leading northwest towards wells and modern road. Photograph by Steven Cole*

The one possible exception to purely domestic use of buildings is B92 (fig. 3). One room (and perhaps a second) has a semi-circular rim of stones suggestive of a bake oven. A badly tumbled part of B66 with more ash than usual on the surface might conceivably have been another oven, but it would require excavation to clarify the question.

Some of the buildings open onto small side alleys, e.g., B66, B70, and B71, but this is partly a figment of the configuration of the wadi floor. In places it is constricted, and in others, spread open by faults, like the area around B61. The only group of buildings so far that seems to have any special coherence is B92, B93, B101, and their neighbors enclosing a central sandy area (fig. 3). What cannot show up on a map the scale of figure 2 is the small square feature in the center of the open area, a hearth or some such focal point.

Given that all of the work was surface survey, the most abundant finds were sherds and crushing and grinding stones. One advantage of camping in the desert was that it permitted us to take sherd samples to the house to draw in the afternoon rather than having to collect, sort, tabulate, and draw everything at the collection point. This resulted in a greatly expanded pottery corpus, which is now being prepared for publication by Lisa Heidorn and which has already given us the preliminary late fifth through sixth century A.D. date we are working with. As

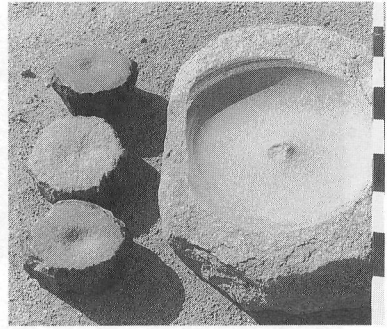
Bir Umm Fawakhir is virtually a one-period site, and probably not a very long-lived one at that, the corpus should also help clarify the pottery sequences at other more mixed and longer-inhabited sites.

Many more of the rotary querns and concave grinding stones used for reducing the gold ore to powder were recovered, but none were *in situ*. We do have some new insight on the use of the smaller (ca. 20 cm dia.) granite blocks with a pecked depression in the center (fig. 4). One was found sitting near a mine adit with chunks of white quartz ore scattered around it. Thus it seems that gold ore mined in darkness was immediately crushed at the mouth of the mine to get rid of useless matrix and pick out smaller pieces of quartz worth the considerable effort of further reduction. The gold is carried in white quartz veins injected into the granite country rock, and flecks of gold, chalcopyrite, or other minerals are visible to the naked eye.

The size of the ancient town at Bir Umm Fawakhir and the value of its product, gold, not to mention the logistical difficulty of supplying such a remote settlement all make it unlikely that the Byzantine government was not involved in administration and support. If nothing else, we would expect ostraca with lists of workmen, food supplies, or requests for goods to be sent from the Nile Valley. The 1993 season did in fact recover about forty ostraca, or more accurately, labels in Greek on the shoulders of wine jars of the type generally referred to as Gaza amphorae. Typically there is a large scrawled notation including a XP monogram of Christ and a date, plus a smaller notation with some information about the contents (fig. 5). All of the inscriptions are highly cursive and mostly fragmentary and faded. Terry Wilfong has the task of teasing out the letters and words, reconstructing the pattern(s) of the labels, comparing them to more complete amphorae from other sites, and preparing the inscriptions for publication. One piece of information we hope for is a date; the age of a wine is probably something the ancient consumers wanted to know.

Finally, we located a piece of the long-sought Ptolemy III temple mentioned by nineteenth and early twentieth century travelers but destroyed by modern mining activity. A segment of a rough column with a Ptolemy III cartouche now lies near the steps of a rest house close to the modern mosque, which is to say, it gives no further information about the original location of the little temple.

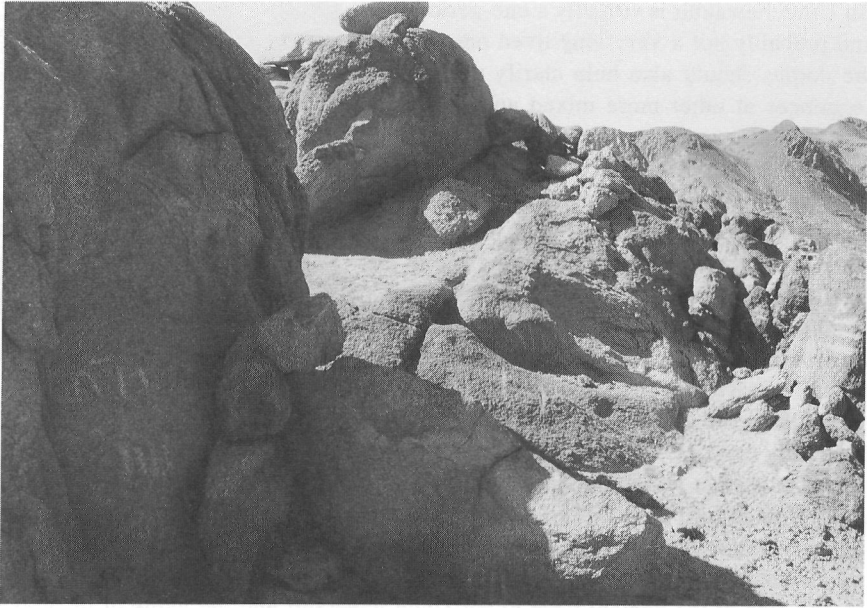
As shown in figure 2, we have a sizable town at Bir Umm Fawakhir, but as yet no administrative or public buildings, no church, and no animal lines. Searching for such fea-



**Figure 4.** Right, lower part of rotary grinding stone; left, three crushing stones for preliminary ore reduction. Photograph by Henry Cowherd



**Figure 5.** Two wine jar labels from Bir Umm Fawakhir. Left, with XP monogram; right, with notation on contents



**Figure 6.** Watch post with graffiti, overlooking Bir Umm Fawakhir. Photograph by Steven Cole

tures, the 1993 project included walking surveys of the ridges around the main settlement, the Roman road leading to the northeast (the modern road bends to the southeast), and the area between our camp and the main site. Some of the gaps in our knowledge were at least partially filled.

A number of cemetery areas were found on the ridges around the site. Consisting of natural clefts in the granite and covered with rough piles of stones, they are actually easy to overlook. All noted so far have been thoroughly looted and the bones smashed to pieces. Judging from the shortness of the burial pits (roughly 1.5 m or less) the bodies must have been flexed; that at least some of the burials were adult is indicated by long bones with well-fused epiphyses. The pottery scattered around, including some Gaza amphorae, points to the same date as the main settlement, but as all burials have been looted we cannot say whether the vessels were grave gifts or part of a funeral or commemorative ceremony.

The lack of formal defenses at a productive gold mine in a desert where security was often a concern is still surprising. The earlier Roman watering stations and quarries certainly had walled fortifications with towers and gates. We can only suggest that the nomadic tribes that figure so prominently in the history of Upper Egypt at this time either did not reach this far or had been accommodated or bought off somehow. The 1993 project did, however, locate a watch post high on a mountain top. The post has no elaborate structures—only some rough walls for shelter from wind or sun—but it is marked as ancient by some crude graffiti (fig. 6) and it does command a fine view of much of the main site, the wells and all three roads leading to them, the largest of the granite quarries (probably Roman), and two of the outlying clusters of ruins.

The survey of the part of the Roman road within the concession found more gold mines, granite quarries, and a previously unreported cluster of ruins in a

deep bay opening on the northern side of the ancient road. A narrow entrance leads to a broad sandy area, and the buildings, mostly two- or three-room houses like those at the main site, rim the foot of the surrounding cliffs. We already knew of two other outliers of ancient buildings within the concession, one badly ruined group behind the modern mosque and a well-preserved group beyond the wells at the point where the Roman road bends to the northeast.

In addition, a walking survey of the side wadis between the mining camp and the main site found four more clusters of ruins, labeled Bays 1–4 to distinguish them from Outliers 1–3 within the concession. Bay 1 is quite small, Bay 2 is extensive but much damaged by wadi wash, Bay 3 is far the largest with over fifty buildings, and Bay 4 connects by a path over a high ridge to the main settlement. The Bay 3 buildings lie in a long narrow wadi roughly paralleling the main settlement and show the same general layout, small buildings on either side of the wadi. The one puzzling construction there has massive, meter-thick walls that do not quite enclose a remote, steep-cliffed bay. The only building inside the enclosure has three massive parallel walls running out from a nearly vertical cliff face, some inner partitions, but apparently no front. Apart from this, all the buildings in all the Outliers and Bays have the same sort of architecture as the houses in the main site. The pottery is the same though much less abundant, grinding and crushing stones are present, and even inscribed Gaza amphorae sherds have been noted. We have no reason to think that we have located all the peripheral ruins, either; walking surveys should be continued to the west and southwest of the wells.

The question is what the outlying clusters of ruins represent. Are they short-lived expansions of the main site, failed suburbs in effect, or are they working areas for people whose dwellings and families were in the main settlement? Whatever the case, we now have to distinguish between the densely occupied and littered main town and the many outlying clusters of ruins.

At the end of two seasons of work at Bir Umm Fawakhir, what can we say about the site? For one thing, we have a very large settlement, one of the largest in the Eastern Desert and certainly the largest of its period investigated archaeologically. It is truly remarkable to see this much of an ancient town, room for room, doorway for doorway, down to the very trash heaps, without excavation. Only one other Egyptian town (vs. monasteries) of this period has been excavated, Jême at Medinet Habu, and this was planned and then cleared away to reach the mortuary temple of Ramses III. At Bir Umm Fawakhir we have an exceptionally complete site, even allowing for the (present) lack of churches, defenses, or public buildings. We have not only the detailed plan of half of the main settlement but also the general layout of peripheral parts that are often difficult to detect archaeologically: the cemeteries, a watch post, wells, ancient roads and paths, industrial areas at the mines, and numerous outlying clusters of ruins.

In the larger picture, Bir Umm Fawakhir is one of very few archaeologically documented Byzantine gold mines, and the question of the sources of gold for the Byzantine empire is a lively one. Finally, the increasing amount of archaeological activity in the Eastern Desert is revealing quite a few Byzantine sites (fig. 1), this from a period when the desert was believed to have been abandoned to nomadic tribesmen. We now have what can be loosely termed the military-indus-

trial complex in the desert: the fort at Abu Sha'ar near Hurgada, the continued use of the imperial porphyry quarries at Mons Porphyrites, the mines at Bir Umm Fawakhir and maybe Bir Nakheil, and the port of Berenice far to the south, served perhaps by way-stations like Khasm el-Menih. Soon it will be time to redraw the map of Byzantine exploitation of the Eastern Desert, and Bir Umm Fawakhir will not be the least of the evidence.

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