

**SAMUT 2014 – Preliminary report**  
**Bérangère REDON, CNRS, UMR 5189, HiSoMA**

The 2014 campaign in the Samut district has taken place from January 13 to February 6. The two main sites excavated by our team are located at Bir Samut and North Samut (**fig. 1**), dating from the beginning of the Ptolemaic period (4th-3th c. BC).

- Bir Samut is a fortress located in a wadi, on one of the main road leading from the Nile Valley to the Red Sea. It probably had a well (“bir” in Arabic);
- North Samut is located at the heart of a gold exploitation area; it was the camp for the soldiers and the workers who were working inside the mine, and it contained the ore crushing work areas.

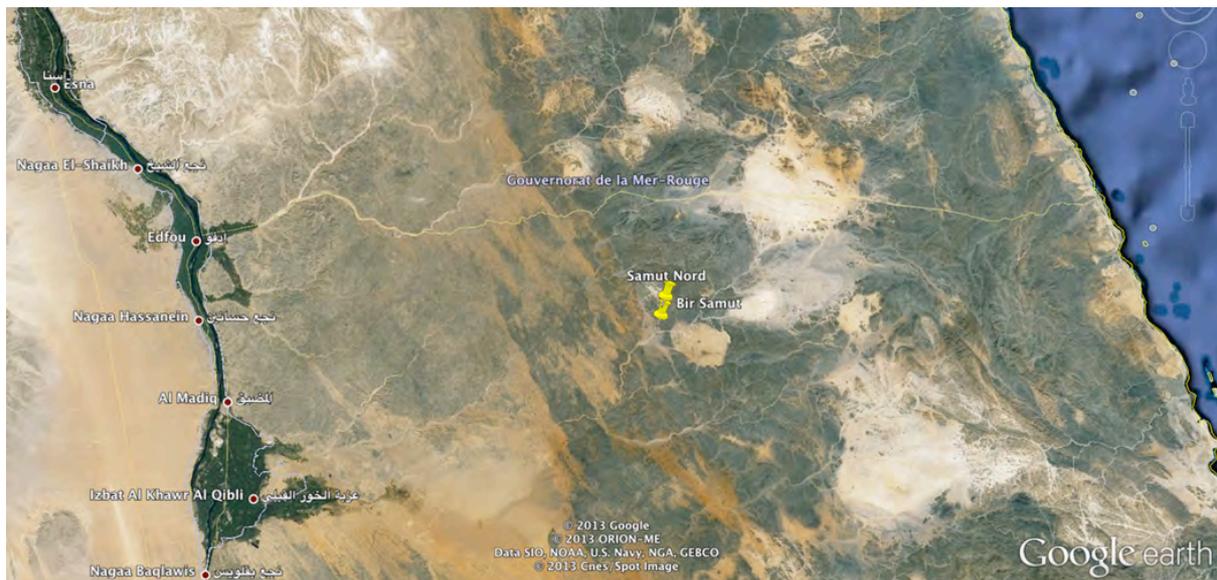


Fig. 1: Map of Eastern Desert (GoogleEarth view)

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## 1. BIR SAMUT (J.-P. BRUN, BURGHADADI MOHAMED ABDALLAH)

### 1.1. General Survey

The surveys and excavations at Bi'r Samut were carried on with a detached team under the direction of rais Baghdadi Mohammed Abdallah.

A general survey of the area around the fort discovered 15 archaeological sites (**fig. 2**).



Fig. 2: the area around Bir Samut (© J.-P. Brun, GoogleEarth view)

- A. The fort of Bi'r Samut
- B. Miners' huts and working area west of the fort
- C. Buildings with walls covered with plaster north of the fort
- D. 2 buildings of Roman date north of the fort
- E. Building dating from Roman period east of the fort
- F. 7 buildings along the western edge of the wadi north of the fort
- G. Roman cemetery East of the fort
- H. Possibly Ptolemaic cemetery North- East of the fort
- I, K, M, N, Q. Possibly Ptolemaic tombs West and East of the fort
- P. 2 buildings dated from Roman period, in a narrow wadi East of the fort.

In the fort itself, partially destroyed by a bulldozer of unauthorized people looking for gold, we excavated mainly the rubbish dumps located to the Northeast and to the Northwest of the fort, close to the two gates.

### **1.2. Northeast dump (fig. 3)**

In the Northeast dump, 6 squares measuring 5 x 5 m have been excavated with great attention. They revealed 32 layers of sand, organic material, ashes and sometimes stones, accumulated over a dune of sand. They were particularly rich in ceramics and ostraca.



Fig. 3. The northeastern dump (© J.-P. Brun)

### **1.3. Northwest dump**

The North-West dump has been partly excavated: 3 squares of 5 x 5 m that revealed 7 layers of ashes, sand and organic material covering the ruins of previous buildings, probably from the same period of buildings located in area B.

A preliminary study of the pottery shows that the construction and occupation occurred later than in the site of Samut North, certainly during the 3rd quarter of the 3rd c. BC and perhaps a slightly earlier and later.

## 2. NORTH SAMUT

### 2.1. Building 1 (Th. Faucher, B. Redon)

The main building of North Samut is building 1. It is a large rectangular building, measuring 58 x 36 m (**fig. 4**). It has been heavily destroyed recently (northeastern and northwestern corners) but two third of the building have been excavated.

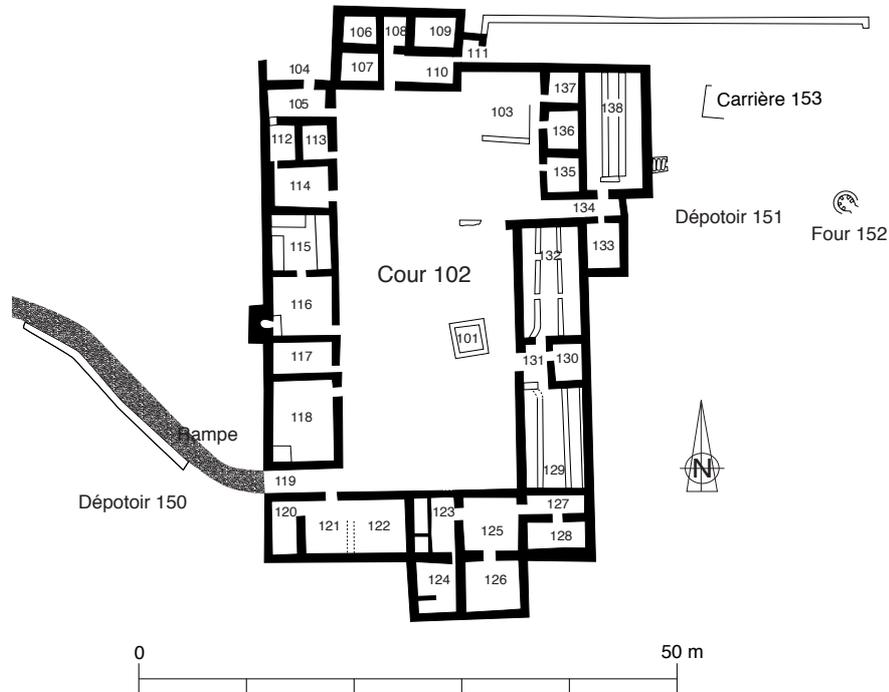


Fig. 4. Plan of building 1 (© MAFDO, J.-P. Brun with Th. Faucher and Fl. Téreygeol)

Part West: three rooms have been excavated (116-118), of which room 116 is the more interesting: it is the kitchen of the fort, equipped with three ovens in terracotta, and a big kiln partly built protruding outside the main wall of the fort (**fig. 5**).



Fig. 5: the kitchen of building 1 (© B. Redon)

Part North: two rooms have been excavated (109 and 110). They were filled with a big layer of demolition made of stones and sand, more than 1.70 m high. Under it, our excavations revealed the

floors of the rooms, made of mouna. The walls of the rooms were also covered by mouna. A kiln and two small basins have been found in room 109, but we were not able to determine the function of this area. The four other rooms (106-108 and 139) will be excavated next year in order to discover its function.

Part South: rooms 120-128 have been fully excavated. Rooms 120-122 were probably places for the storage of amphora; rooms 123 and 124 were equipped with grain storage places. A door, in wood, with nails in iron, has been found on the floor of room 123; its size indicates that it stood probably between room 123 and 127. Finally, room 126 contains a square mastaba built in the centre of the room; ashes have been found on it. We may suppose that this room could have been a chapel, since a votive foot of mouna has been found in room 123, next to it, which probably had a cultic role.

Part East: 6 rooms have been excavated. The two main rooms are 129 and 132, two large rooms (129: 9,37 x 5,43 m; 132: 10,27 x 5,33 m), divided into three spaces by small walls (**fig. 6**). Pottery and fragments of quartz have been found in that place, as well as a crusher and stone tools for the miners. These two rooms could have been the places where the workers were living and working to prepare the gold.



Fig. 6: room 132 in building 1 (© B. Redon)

## **2.2. Underground survey (A. Arles, J. Gauthier, Fl. Téreygeol)**

The main mine of the Samut area is located one hundred meters northwest to the Samut-North building 1. It consists in a quartz lode visible from the surface, exploited 277 meters long. Ancient works can clearly be seen, in the form of a trench made from the surface, the upper part of which is empty. Nevertheless, the lower part is full of stones and sand, and does not allow a complete vision of the ancient exploitation. Four shafts permit to explore the vein, to understand the techniques of Ptolemaic miners.

Shaft 1, situated at the extreme north of the lode, is 13 meters deep. Its north side is made of rock, whereas its south side is a continuous filling of sand which means a long stop after the abandon of mine, before a new exploitation in modern times (beginning of the 20<sup>th</sup> century). Two galleries begin at its lower point in the axis of the vein. One is 2 meters long to the North, the other 1 meter long to the South.

Shaft 2 is 48 meters deep. A small gallery close to the shaft has been excavated, revealing a working place associated with a niche for a lamp dug in the east wall (**fig. 7**). In the shaft, two galleries appear at the level – 28 m, one south, one north. They are only 1 and 1,5 meters long then stop in the rock. The pit is filled with water at 48 meters depth.



Fig. 7: the small gallery near shaft 2 (© Fl. Téreygeol)

Shaft 3 and shaft 4 present a same organization. They are connected by a long filled trench. Shaft 3 is 64 meters deep and shaft 4 is 33 meters.

Shaft exploration allowed to observe Ptolemaic works in the upper part of the shaft, between the surface and 18 meters depth. The trench is exploited from the surface continuously on 10 meters, and several galleries can be observed in the lower part. Under 18 meters, the works are definitely modern, probably made by English company which worked in Samut in 1903.

### **2.3. Area 3 and 4 (Th. Faucher, J.-P. Brun)**

Area 3 and 4 of Samut contains the buildings where the quartz stones, taken from the mine by the workers, were crushed and reduced to powder, before being washed and transformed into gold during the Ptolemaic Period. We have excavated a kiln that could have been used for the last step of the operation; it is located to the East of building 1, near an entrance leading inside.

To the West of building 1, the place where the tools of the workers, mainly in iron, were made and repaired has been excavated (rooms 402-403, **fig. 8**). Besides some dump iron material we have found a furnace with areas for the rapid cooling of metal and a stone were the objects were hammered.

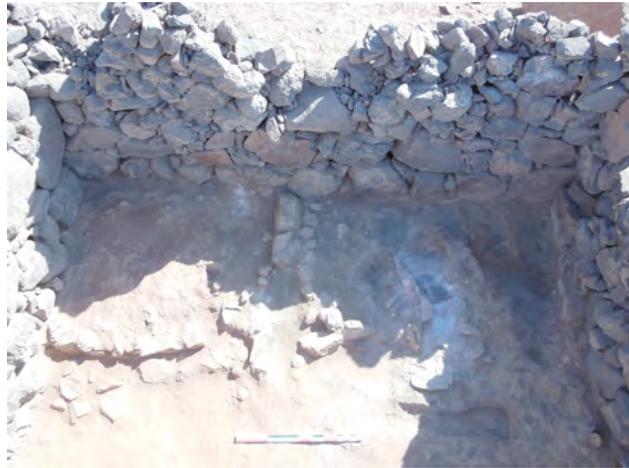


Fig. 8: the forge of North Samut (© Th. Faucher)

Zone 3 lies to the north of building 1, at approximately 100 meters. There were 5 buildings of which 2 were destroyed recently. Associated to these paved buildings, there were two round shaped buildings that proved to be ancient washing tables. The structures have not been completely excavated but it shows that the floor was paved with big stones and that the whole building inclined to the east, in order to let the water run on the top of the walls. Further digging should inform us better of the use of the structure.

### 3. OBJECTS STUDIES

#### 3.1. Greek ostraca (A. Bülow-Jacobsen, H. Cuvigny)

A total of 403 ostraca were registered, out of which 206 are Demotic, 190 Greek, 4 bilingual. Almost all of them were found in two rubbish dumps outside the fort at Bir Samut. Only 14 were found in North Samut, notably an amphora inscription indicating that the amphora contained 368 black figs sent to a banker (inv. 305). The palaeography of the ostraca from North Samut confirms the impression given by the ceramic about a datation in the early Ptolemaic period: 4 amphora inscriptions bear an epigraphic square *epsilon* (E), which is a mark of archaism in ink writing.

The main types of Greek ostraca are: letters (81), accounts and lists of names with quantities (55), inscriptions on containers (25), tickets with a name (15). The subject of these texts is mostly food and water distribution. Commodities frequently mentioned are wheat, barley, chaff, less often wine and beer. Strikingly, green fodder occurs several times, which is paradoxical in the desert (it is totally absent from the ostraca of the Roman *praesidia*). There is no hint to any activity linked with gold, but rather with building (mentions of smiths, carpenters, a stone-mason).

Many ostraca are broken and washed out, but time, rains and the loaders of gold-hunters who are scandalously destroying the fragile antiquities of the Eastern Desert and defacing the landscapes in general indifference, have spared inv. 363, the most beautiful Greek ostrakon of the season. It is an account of distribution of water to animals (among which five oxen) and persons.

#### 3.2. Demotic ostraca (M.-P. Chaufray)<sup>1</sup>

113 Egyptian ostraca were found, out of which one is a small fragment in cursive hieroglyphs (inv. 141) and six are inscriptions with Greek letters or words (inv. 47, 48, 50, 136, 168, 207). The other 106 ostraca are either accounts (37), receipts (4) pottery inscriptions (25) and fragments of letters (12). The nature of 28 ostraca cannot be identified because of their fragmentary state. 4 ostraca come from

<sup>1</sup> Marie-Pierre Chaufray has left the mission on January 31<sup>st</sup>. The report below thus concerns only the ostraca that she has seen (113 on 206 in total).

North Samut; the rest was found in the dump of Bir Samut. The mentions of dates are scarce (year 2: inv. 113; year 10: inv. 229) but one can infer from the paleography that all documents date from the Ptolemaic period. The accounts and pottery inscriptions concern mostly barley and wheat, but there is also one account of water (inv. 121). One striking feature is the high number of Greek and foreign names, next to typical Egyptian names in the region (theophoric names in Horos, Min and the falcon).

### **3.3. Plant remains analysis (Ch. Bouchaud)**

The work during the field campaign was focused on soil samples sieving and sorting in order to separate the plant remains (seeds, fruits, charcoals and woods) from the surrounding sedimentary matrix. The identification of these plant elements will allow characterizing food and fuel economy of the inhabitants of Samut North and Bi'r Samut.

Plant remains are mainly preserved by carbonization. Some of them are desiccated. Sediment samples and isolated elements (like wood elements) were picked by the workers in various areas of Samut North and Bi'r Samut. Wood elements were directly sampled for further analyses. Sediment samples were dry-sieved using 0.4 mm (fine fraction) and 2 mm (heavy fraction) meshes sieves. Some of the fine fractions samples were floated. Sieved sediment was simply poured into a bucket filled with water. Then the organic remains floated on the surface were recovered in a small sieve (0,375 mm mesh). The remains were sorted using a binocular microscope in order to separate the seeds, fruits, charcoals and the other kind of remains (food fragments and coprolites).

77 samples were processed representing 29 samples of wood elements and 48 samples of charcoals and/or seeds. All the samples have to be exported to the Ifao in Cairo to undergo a more detailed analysis.

### **3.4. Pottery (J.-P. Brun)**

The pottery of North Samut has been studied by J.-P. Brun, with the help of Khaled Zaza for the drawing. Around 250 complete vases have been studied and drawn, mainly cooking vessels and amphora. Four Greek imported vases have been found; the rest of the pottery is local. All the material seems to date to the end of the 4<sup>th</sup> c. to the beginning of the 3<sup>rd</sup> c. BC.

Jennifer Gates-Forster (university of Chapel Hill), who could not come during the mission, for personal reasons, will study the pottery of Bir Samut in the next months.

## **4. PHOTOGRAPHY (A. BÜLOW-JACOBSEN)**

From 17/1 to 7/2 Dr. Adam Bülow-Jacobsen was in charge of the photography of ostraca and objects. All ostraca were photographed twice, using both colour and in infrared technique. Infrared enhances the legibility of the ostraca and is completely harmless to the object, since it depends exclusively on the wavelengths of light that are absorbed by the camera, while the light used is ordinary daylight or electronic flash. The equipment used was two ordinary electronic flashes, a copy-stand and a Canon D5 Mk II with a 50mm Canon Macro-lens. Another Canon D5 Mk II specially adapted for infrared was used for the infrared exposures.

In all 920 photos of ostraca and 274 of objects and ceramic were taken (**fig. 9**).



Fig. 9 : fragment of a terracotta figurine (© A. Bülow-Jacobsen)

## 5. PROTECTION OF THE SITES

The two sites of Bir Samut and North Samut have been **seriously damaged** during the past year.

At Bir Samut in particular, we have observed many traces of trucks and excavators, and a big pit has been dug in the main entrance of the fortress (more than 2 meters deep); the gate itself has been destroyed (**fig. 10**). Besides, several places on the site were attacked by loaders. The southwest corner of the fort was totally removed by trucks, as well as a part of the dump next to it (**fig. 11**). Many strokes of bull-dozers are also visible in the northern part of the building.



Fig. 10-11: the pit in the main entrance of Bir Samut and the damages of the northwestern corner (© Th. Faucher)

These actions are clearly connected with the recent and illegal activity of the Bedouins, looking for gold, in the entire Eastern Desert, and in particular near the ancient sites (**fig. 12-13**).



Fig. 12-13: a Bedouin camp and a loader in the Eastern desert (© B. Redon)

All these destructions are **a great loss for the archaeology of Egypt**, and the site is clearly in danger of disappearance in the next year if no protection is given.