Kuwaiti-French Expedition in Faïlaka. The Hellenistic Fortress (Tell Saïd). Preliminary Scientific Report 2009

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PREFACE

by Shehab A. H. Shehab

North-east of the peninsula of the Arabian Gulf, the State of Kuwait is rich of a remarkable cultural heritage ; one of the most important part, represented by numerous archaeological sites, concerns the prehistorical and historical periods. Faïlaka island, located in the Arabian Gulf about 20 km NE of Kuwait City, occupies a special position with 13 identified sites. One of them, the Hellenistic fortress, is presented in this publication by the French expedition, as the results of the 2009 campaign.

HERITAGE AND HISTORY

The National Council for Culture, Arts and Letters, through the Department of Antiquities and Museums, carries out an action of studying, preserving and presenting the archaeological vestiges, as well as an action of diffusion all over the world by publishing the results and exhibiting the discovered objects. To extend this diffusion, the State of Kuwait works in collaboration with different archaeological expeditions, inviting scholars from the best international scientific institutions and universities.

The results of theses researches showed a continuous chronology of occupation from the Prehistory to the Islamic periods.

Traces of the prehistorical periods were found in different sites spread all over the mainland. Several cut flints have been discovered at Al Wafra, Wara, Tell As-Sulaibaikhat, Burqan and As-Sabiyah. Archaeological sites belonging to the Mesopotamian period were found. The period was, in particular, revealed by the discovery of the most ancient boat representation of the world, a terracota belonging to the Ubaid civilisation.

The Middle Bronze age (2^{d} millennium) is well represented on several sites, especially in Faïlaka island. For the Hellenistic, Parthian and Sassanian periods, Faïlaka, Um An-Namel and Akkaz are the most representative. In Um An-Namel, a necropolis of the Hellenistic period was uncovered along with with terracotta figurines.

The Islamic period is present in Wadi al Baten, Um Al-Aish and As-Sabiyah with pottery and metal artefacts, in Akkaz and in Faïlaka island.

FAILAKA ISLAND

On Faïlaka island, the Dilmun civilisation has been recognized in Tell Saad, Al Khidr and Tell F6, revealing habitations, copper forge, temples and an administrative residence from 1800 BC. Artefacts have been found as pottery, sculptures, and an exceptional collection of seals representing administrative, religious and civil scenes ; some inscriptions have also been found.

To the pre-Hellenistic period belongs a small temple in Tell Al-Khazne.

For the Hellenistic period, a fortress has been discovered in 1958 with a continuous occupation from the 3rd century BC until the 1st century AD. This impressive fortification system of the Seleucid soldiers has been founded by Antiochos the 1st, son of Seleucos. The fortress is particularly famous from its "A temple", characterized by its mixed style merging a typical Greek plan and ionic capitals, with Achaemenid bases : it represents the union between Orient and Greece, initiated by Alexander the Great.

In the middle of Faïlaka island, Al Qusur is an example of a Christian installation with a monastery dated from 7th-9th centuries, surrounded by habitations established on a large surface, extended on about 1,8 km.

For the Islamic period, eight sites have been discovered on the island, like villages, fort and necropolis.

THE ARCHAEOLOGICAL EXPEDITIONS IN FAILAKA ISLAND

In Faïlaka, since 1958 expeditions from eight nationalities (Danish, American, Italian, French, Greek, Slovak, Georgian and Polish) contributed to the study of the history of the island. The French expedition, lead by Dr O. Callot and Dr J.-F. Salles, from the National Centre of Scientific Research, worked from 1985 until 2009 on the Hellenistic fortress and on Al Qusur, with a long interruption between 1990 to 2004 due to the war. These successful researches and exchanges lead to the discovery of two churches and many artefacts.

The new French-Kuwaiti archaeological expedition

Since 2011, the new French-Kuwaiti archaeological expedition in Faïlaka, under the scientific direction from Dr M. Gelin (CNRS) and Sh. A. H. Shehab (DAM), took over and developped the research problematic of the Hellenistic fortress and Al Qusur. A convention has been signed in Damascus on the 2d January 2011, between F. Burgat, director of the French Institute for the Near East (IFPO) and Sh. Al Shehab, director of the Department of Antiquities and Museums in Kuwait, representing the National Council for Culture, Arts and Letters in Kuwait. The team is constituted by members and researchers from different nationalities, including French, Lebanese and Syrian (IFPO being established in these countries).

The main programs of the expedition are : on the Hellenistic fortress, the study of the chronology of the installation, with a special attention on the fortifications and on the relations between the main axes of circulation and the fortress walls ; on Al Qusur, the understanding of the general organisation of the buildings and the links between the churches and the habitations, first by drawing up a precise map of the remains, then by excavating locations defined by the study of the map.

Today, this publication on the preliminary results from the 2009 campaign in the Hellenistic fortress is based on work of the former expedition. This work on the fortifications was conducted by Dr M. Gelin with the same team of researchers, who constitute the new French-Kuwaiti archaeological expedition, authors of this publication.

We are pleased to present this work and to have, from now on, a new team with whom we hope to proceed to establish the best scientific collaboration.

INTRODUCTION

by Mathilde Gelin

GENERAL PRESENTATION

The Hellenistic settlement in Faïlaka (≈280-150 BC) has been set up by Seleucids in order to establish an advanced defense for the mainland, a control point for trading routes and an implantation for Macedonian and Greek settlers. A fortress[1] has been built on the south part of the island, close to the bank.

This fortress represents a remarkable occasion to study an antic Greek installation in the East, especially in a region, the Arabic Gulf, where these kinds of occupations are not well known. The fortress makes a very good link between the better known installations in other parts of the Seleucid Empire, like Mesopotamia or Central Asia, and is fundamental for our knowledge of the history of the site and of the region. It provides also a better understanding of building techniques. And, as the site has not known any important reoccupation, it is possible to reach directly the preserved antic levels.

The site has been excavated by a Danish expedition from 1958 to 1964, then during two campaigns by an American expedition and, during also two campaigns, by a Greek one. The French expedition works since 1983[2].

Since 2007, under M. Gelin's supervision[3], the excavations have been lead in the north-west corner of the Hellenistic fortress of Faïlaka, with one main purpose : the understanding of the different occupation phases of the fortress and their chronology, since its foundation until its late north extension. To reach these results, we mainly concentrate on the study of the fortifications. Since 2009, the south part of the fortress has been included in our study.

Difficulties for the archaeologists, inherent to the fortress

The results obtained in 2007 and 2008 showed that the chronology and the occupation phases of the north part of the fortress and its ramparts were more complicated than those established previously. For example, the first rampart has known several phases characterized by erosion or destruction, restoration and reinforcements, but we ignore if they are due to violent action or abandonment. The links between this first rampart and the towers n°2 and 3, and with the so-called second phase represented by the bent-axis walls, are not clear. Not clear neither is the link between the last rampart and an antic excavation, made in almost all the north-west part of the site (see 2007 and 2008 reports[4]). Moreover, the previous work made on the fortress did not lead to establish a clear chronology between the successive phases of the rampart. For example, the antic reinforcement which lines the towers and the one which surrounds the curtines between the towers, are alternatively and contradictory mentioned in publications to belong to a second or to a third phase[5].

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1 About 60 m square.

2 *Fouilles françaises de Faïlaka*, directors : J.-F. Salles then O. Callot, from CNRS Lyon.

3 In 2007, O. Callot, director of the French expedition, asked me to study the fortifications of the fortress, in order to complete and to publish it.

4 Non published.

5 To the 2d phase : K. Jeppensen, *The Sacred Enclosure in the Early Hellenistic Period. Ikaros, The Hellenistic Settlements* 3, Aarhus-Kuwait, 1989, legend of fig. 17, p. 20. To the 2d phase, due to local, non-Greek people : O. Callot, J. Gachet-Bizollon, J.-F. Salles, "Ikaros, de la conquête d'Alexandre au Ier siècle après J.-C.", *L'île de Faïlaka, Archéologie du Koweït*, dir. G. Galliano, Lyon, 2005, p. 68. However, in the same publication p. 69, the south gate is said to have been condemned during the 3rd period. But the fact is that it has been condemned by the reinforcement itself, so, after the authors, during the 2d one.

One of the biggest difficulties is that the ancient excavations made trenches along the walls, destroying the links between the stratigraphy and the architecture. This is one of the particularities of the archaeological work, to destroy what it studies, but the problem here is a lack of information in the different publications. This led us to open large areas, to extend these old trenches, in order to reach intact levels and trying to reconstitute the lost layers. However, in several places, as the north gate, the gate of the tower 2 and in the sectors of towers 3 and 4, much information is irremediably lost.

These ancient excavations also created steps with different levels in every sector. Nearly all the levels are represented from the surface to the "virgin soil", and all the construction states coexist. The difficulty is that it perturbs the reading and the understanding of the ruins, and not only for the non-specialists. This is also a reason why we try to excavate the ensemble in the same level. The temptation is great to reach immediately the lower levels in order to get quicker information as, for example, the link between the bases of the first rampart, the tower 2 and the bent-axis wall in A1 sector. We resist on it and this is why, in our places of work, still appear deepening zones from previous excavations ; they will disappear progressively with the advance of our work. But, this year, we had to sacrifice too to this "step-making", after the discovery of the mud brick walls (M343 and M344) in A1, which we kept, first. These two walls represent the most recent phase of the fortress occupation but, as they are characterized, photographed and drawn, and as they continue to the west outside our work limits (so a testimony of these walls will still exist), we hope we will be allowed to remove them. This is the lecture of the whole ensemble in the north-west sector which would be simplified, and the stratigraphy between the first and the last rampart would be complete and easily readable.

Technically, it is not easy to assert when we reach the virgin soil, which brings another problem. In fact, we say, in the fortress, that we are in the virgin soil as soon as we don't find anymore ceramic or human material. But, if I'm not wrong, no sounding has been lead really deep, to check if there was a possibility of a more ancient construction. As several Bronze Age establishments are already present in the surroundings, it could be possible that such an occupation occurs in lower layers, covered by sand accumulations. So, maybe it could be a test to do it in some place which doesn't disturb the buildings or the work and, also, to make comparisons with the level of the virgin soil in the Bronze Age excavations in F6.

At last, we are in the fortress of Faïlaka confronted to another big problem, which seems sometime unsolvable : the white cement restorations lead at the end of the 1980s are more often an obstacle to the study of the remains[6]. They hide the junctions between the walls, give them false altitudes (tops and bases) and, sometimes, even invented walls have been built. For example, top parts of the walls have been rebuilt until invented heights ; in the location of disappeared walls (because destroyed since their discovery), new have been built and nothing from the ancient remains, so it is impossible to know if the dimensions and altitudes of the new ones are correct or not ; ancient baulks have

[6] This work is also a true danger for the ancient buildings : very often, the top of the walls has been rebuilt with a concave or "V" profile (the level is higher on the faces than on the centre), leading the water inside the masonry. One of the basic rules in restoration is, on the contrary, to evacuate water and humidity from the walls, for example with a convex or "Λ" profile on the top. Finally, the white cement put on the faces creates a barrier for air and humidity circulation, giving a great risk to rot the inside masonry.

even been built as walls. The result is catastrophic because it is sometimes impossible to determine what is ancient or new in every wall, and which wall existed before the other[7].

In other places in the site, the ancient trenches, which have not been filled after work, represent a lot of holes where the water and the humidity stagnate. As they have been dug on the bases of the walls and, sometimes, deeper than the walls themselves, the result is that these walls are now destabilized and may fell down.

Publication of the results

In order to inform the scientific community about this new work in Faïlaka, and to answer to the demand of the Kuwaiti Department of Antiquities and Museums, we publish this preliminary report, as it was at the end of the 2009 campaign[8]. However, we hope to publish the results obtained since the beginning of our work in 2007, as soon as we will get more informations, especially when the study of the ceramics will be completed.

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7 In the following text, the use of the term "cemented" for a wall, means with modern cement.

8 We sincerely thank Mr. R. Yassine and Mr. A. Eid, from the Presses de l'IFPO, for their help, teaching the way to use the software for edition, and Mrs. J. Abdul Massih for translating the Arabic parts.

Localization of the fielworks and towers numbers. After O. Callot.

THE 2009 WORK

FIELDWORK LOCATIONS

To have the best view as possible of the whole fortress fortifications, to establish links between the buildings from north to south and from east to west, and to allow us to understand the site's history, it was necessary to extend our activities. This has been made not only in the previous sectors of work as decided in 2008, but also in some of the most important points of the fortifications. This is the reason why we decided to extend our excavations in the northern part, to work on the south gate, and to make punctual verifications along the ramparts. These places have strategic importance, because situated in the fortress gates, or in points not too much damaged by the ancient excavations.

The fieldwork sectors got new names, in order to simplify their designation. The whole north-west sector became sector A, with division between the area located north-west of the first north gate, which became sector A1, and the area located south-west and south of the same gate, which became sector A2. The south gate (tower 6) and surrounding soundings, east and west of the tower, became sector B, and the operations of verifications on the fortifications became fieldwork C (C1 east of tower 4, C2 south of tower 4, C3 on the supposed tower 3).

The towers also have new designation, instead of different numbers for every wall of every tower, as it was. The north-west tower of the first rampart became the tower 1 and the numbering continues as clock running. The tower 3 is located immediately east of the first rampart's north gate, even if it subsists only with one wall ; the supposed tower in the middle of the east rampart has not been considered because, except an interruption in later reinforcements, no remain is visible. The last rampart NW tower became tower 9.

THE 2009 TEAM MEMBERS

To follow the objectives of this season, in addition of the expedition director O. Callot and the field director M. Gelin, the team has been increased including archaeologists already known for their work on stratigraphy and fortifications, A. Deb, J.-M. Gelin, Sh. Al Shbib, and a specialist of Hellenistic pottery, A. Ala El Dine. We worked with a true collaboration, with common reflexion on the general objectives and common discussions on the discoveries. The team members travelled from 1st November to 10th December.

We got help from H. David for the material drawings, from E. Laroze for the architectural drawings, and from F. Bernel for the objects pictures. We also benefited from M. Y. Guichard's aerial pictures, asked by the Kuwaiti Department of Antiquities.

We worked in good conditions, mainly due to the Kuwaiti organization and will ; we are deeply grateful to the Department of Antiquities and Museums, especially to M. Shehab Al Shehab, Director, and to M. Khaled El Ali, for their constant help and friendship, and to M. Bader Al Rifaï, General Secretary of the National Council of Culture, Arts and Letters, who invited and discussed with all the foreign archaeologists present in Kuwait (three teams at this time). We also thank M. Olivier Deseez, French Cultural Advisor for the French embassy, for his support.

We worked in the same period than the Danish expedition, and were very pleased to share time, reflexions and friendship with all the members. We specially thank the director M. Høljund for his help, particularly for the Danish ancient pictures of the work in the fortress he allowed us to use.

And, at the beginning of the campaign, the archaeological teams enjoyed the visit of the journalist Nujud Ibrahim, who wrote an article published in the Kuwaiti newspaper *Al Isbua*, on the 14th of November.

WORK DELAYS

Unfortunately, our work suffered from different delays, imputable to human and natural elements.

Concerning the ceramic, the 2008 material has been previously classified by a French student in 2008[9]. In 2009, a specialist, A. Ala El Dine, took in charge this study[10]. Unfortunately, as he could stay only two weeks, the study of the 2009 ceramic is to be realized later.

On the fieldworks, some technical difficulties led us to limit the sectors of work during the first weeks. For example, the sector A2 was not touched before the 15th of November, and had only ten days of effective work ; the size of the sector B had to be strictly limited to the tower n°6 when it was possible to lead different soundings in the surroundings.

During three days at the end of November, violent rains stopped the work, leading us to evacuate the water and to create new water paths avoiding our soundings[11]. Then, the archaeological soils were too fragile to walk on and to work in, during two whole days. After that, as the humidity deeply penetrated in these soils, it became sometimes impossible to distinguish the colours of the archaeological levels. Finally, a complete week has been lost, because it was technically impossible to work in good conditions[12]. Then several days were necessary to realize the drawings and to complete the observations, to fill the soundings and to protect the archaeological remains we dug.

MAIN RESEARCH RESULTS

The first rampart building techniques and materials

The foundation layers

In spite of the distance separating our fieldworks and their repartition in each place of the fortress, we discovered in every sector the same previous phase, associated to the construction of the first rampart. It appears as a single rubble layer[13] (stones linked with sandy earth) located under the walls (rampart and tower) and following their line. It juts out the limits of the walls from 20 to 100 cm.

[9] Aline Langlois.

[10] See his report *infra*.

[11] These strong rains damaged some parts of the vestiges in the fortress, and also some baulks of the ancient and new work, as in B1 sounding. These destructions due to the rain are another problem for the conservation of the fortress, especially in the ancient soundings not refilled.

[12] Until our departure from the island on the 9th of December, the humidity was still visible in many parts of the soundings.

[13] This has been partly uncovered by ancient missions but not identified.

Above, between this rubble layer and the base of the ramparts, appears a sand layer. This sand layer, which is natural, covers a great part of the sector of the fortress and surroundings[14], and seems to have been dug only in the line of the rubble layer. After the building of this rubble layer, the sand has been put back above on a regular level. At the south gate, the rampart, west of the tower, lays directly on the rubble layer. However, the sand layer is most of the time so thick (up to 40 cm) that we first thought that it had nothing to do with the rampart : structurally, if the rubble layer was to support the pressure of the upper wall, the thickness of the sand layer would absorb it and the rubble layer would be useless. But, the fact that the line followed by the rubble layer is exactly the same as the first rampart's, leaves no place to hazard : the both are linked.

So, to understand what was exactly the rule of this rubble layer, we took several levels in all the fieldworks and discovered that it has, in all the places we uncovered it, a regular altitude at its base : a difference of 18 cm maximum has been noticed. But the most remarkable is for the fortifications of the first rampart : the levels of the walls and towers bases are the same (a difference up to 7 cm only), even for points distant until ≈ 60 m[15]. This means that the sand layer is very important, because it sustains the fortifications and plays the rule of adjustment (or foundation course). Filling the irregularities of the soil and of the rubble layer, it erases them and regulates the level, to offer a horizontal surface for the construction of the wall. It also distributes the weight and pressure of the wall. Then, the rubble layer has been installed in order to maintain the sand layer under the construction, to avoid it to move under the pressure of the upper structures.

The use of a sand layer in foundations of a building appears to be a usual practice in antic constructions from Arabian Peninsula, as in Shabwa in Yemen, and generally in sandy areas, as in Egypt[16]. It takes the appearance of a unique layer, thick or not, specially put for this purpose. But the combination of the rubble layer with the sand one, in the limits of my knowledge, has not been seen before : either the sand layer exists, alone, or a rubble layer exists directly under the wall, alone. It seems that this could be a particularity in Faïlaka. And another particularity is that here, this sand layer is naturally present, probably put by the sea, and seems to have been exploited just because it was naturally thick and with a regular horizontal level, as it is seen in the east part of the site[17].

What can be said at this point is that the first rampart has been built with great care : no matter the size of the fortress or the thickness of the walls, it was a solid structure. The elevation of the fortifications, which is of mud bricks, could be established on the stone foundation without risk of slide. The Macedonian builders and engineers gave the fortress occupants the way to have a true defensive wall.

Another interesting point is about the chronological and architectural informations given by this foundation course. Indeed, we noticed that the rubble layer respects the line of the tower 4, because it exists under and follows its east wall. However, coming

[14] The sand layer continues on a regular level outside the limits of the fortress ; it has been noticed on 2 m east of the rampart, just south of tower 4, and stands all around the tower 6.

[15] Altitudes of the base of the rubble layer : in C1 = 3,47 to 3,55 m ; in C2 = 3,54/3,63 m ; in B inside the tower = 3,62 m, B outside the tower = 3,65 m ; in A2 = 3,60 m ; in C3 east of north gate = 3,62 m. Altitudes of the base of the fortifications : tower 4 = 3,83 to 3,88 m ; rampart south of tower 4 = 3,83 m ; tower 6 = 3,85/3,87 m ; rampart west of north gate = 3,86 ; rampart east of north gate = 3,90 m.

[16] Bessac J.-C, "La construction en pierre à Shabwa : du palais à l'étude comparative", *Fouilles de Shabwa* IV. *L'architecture civile*, Damas, 2010 ; Goyon J.-C. *et alii, La construction pharaonique*, Paris, 2004, p. 231.

[17] See *infra* the report on the C1-C2 sector.

from the east, it goes directly through the south gate (tower 6), following the line of the rampart without considering the east wall of the tower. Does this mean that the original plan of the fortress included the tower 4, but that the tower 6 was not planned, or planned to be on a western location ? In C3 sector, we also observed that the rubble layer doesn't exist under the west wall of the tower 3 or under east and west walls of tower 2. Does this signify that these towers have been planned after the rampart construction ?

We need to work again on it, but if it is verified, this rubble layer could become a good indicator to determine if a fortification wall has been planned since the origin or added in a later phase.

Another interesting point is that this adjustment layer uses building materials taken from previous constructions, as pieces of lime mortar, used alone or linked with rubble stones ; even some cut stones have been discovered. The rampart itself reuses several stones[18]. After observing the cutting tools marks on these stones[19], it is possible to say that these ancient stones have not been cut with Bronze Age tools. It is more probable that it comes from Hellenistic times or just before. This would signify that the stones have been taken from Persian or Hellenistic building(s), which could lay in the same place as the fortress or not far, maybe from Tell Khazneh. This last solution could explain why the buildings of this small tell are so badly preserved.

The elevation

The elevation of the rampart was made of mud bricks. After the abandonment of the site, the association of bad weather and time destroyed the upper parts, and the earth fallen from the top covered and protected the base of the walls. Due to these accumulations, before any excavation in the fortress, the elevation was conserved about one meter. Unfortunately, most of it has been destroyed by excavators, who just didn't see it. Fortunately, the west half of the first north rampart is still under accumulations, and in the east half it has been partly preserved because of stone faces, built against the elevation and seen by excavators. The only other places with elevation preserved now are in the south-west angle of the fortress under a late grave, and at the tower 6 where it is only partly preserved from the ancient soundings.

On the north part of the first rampart, the outer face of the elevation has been reinforced by stones. Apart the supplementary solidity given to the rampart, for somebody coming from outside the wall could appear to be all stone built. So, this technique is probably also made to dissuade the enemies, leading them to believe that the rampart was stronger than it truly was. Usually, when the Greeks built ramparts with crude earth, their trust in the material was not very great, so to compensate for what they considered as a weakness, the walls where very thick, from 3 m to more than 8 m[20]. Here, the wall is about 2,20-2,40 m maximum. Of course, we must consider that it is for a small fortress and not a big city as, for example, Dura-Europos and Aï Khanoum were, but the necessity for the builders to impress with a solid construction could be a priority.

[18] The rampart uses the sand stone extracted from the sea bedrock, and some of the oolithic limestones similar to those that were used in Bronze Age. These last ones are often cut stones.

[19] Cutting tools marks observed on pictures by J.-C. Bessac, CNRS-IFPO Damas.

[20] 3 m in Dura-Europos (Syria), but this thickness is given by the stone basis previously built ; 8 m in Aï Khanoum (Afghanistan), including successive reinforcements.

West of the gate, stones have been pushed inside the earth masonry, at irregular levels but enough to suggest that the elevation was built with stones. East of the gate, the outer face of the elevation has been entirely built with stones regularly disposed above the foundation, covering and masking the mud bricks. According to the first excavators, here the inner face was also protected by stones[21], which are now visible on the soil, fallen. It appears that these stone faces were very probably added after the construction of the mud brick elevation, which was, maybe, deteriorated ; it could be then a restoration. Anyway, the earth face seems to have been cut to place the stones (our forthcoming work will, we hope, determine this with certainty).

The same inner reinforcement occurred on the west rampart, as clearly visible on the ancient excavations pictures[22], but has disappeared.

After digging out these vestiges, the difficulty is to preserve it, as it is heavy for the face of the wall. Before leaving the site, we accumulated sand bags on it, but we still have to find solution to keep it in place.

The towers 2 and 3 around the north first gate

The door made in the first north rampart, 1,25 m wide, is situated at the exact centre of the wall, 24 m from the angle towers 1 and 4 (from their inner faces). It seems to have been, at the origin, the only access in the north part of the fortress[23]. Due to its strategic importance, it has been protected by two towers which surrounded it. The tower 2, located west of the gate, is one of them, and a wall (M306) with the same length, thickness and altitude than the east wall of the tower 2, situated at the same distance (2 m) from the gate, represents the vestige of the second tower (tower 3), east of the gate. When the first excavators, from the Danish expedition, worked on it, part of its north wall was still remaining[24] ; however, on the archive pictures, nothing visible can attest it.

We tried to find more remains of the tower 3 but we could not determine it with certainty, for different reasons : the previous excavations, in some parts laid even under the level of the tower base, left very few occupation layers that could be associated to this tower, and the rampart, at this point reached by our work, doesn't show any sign of it. As the mud brick elevation has been here destroyed by previous expeditions, we cleaned the top of the rampart at the place where the supposed door of the tower would be situated, as it exists in the tower 2, but we didn't find any trace. Whether this is the sign of the absence of the tower, or of a reconstruction of the rampart, or that this tower was a bastion (solid, filled tower)[25], only further work could bring more information. However, we can already say that this second tower has existed, because of the presence of the wall M306 and because it is not conceivable that the builders would have put a tower at only one side of the gate : it is obviousness, first because of M306 wall, second for strategic and defensive reasons, third as this pattern of two towers around the gate is so common in Greek fortifications.

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[21] K. Jeppensen, *The Sacred Enclosure in the Early Hellenistic Period, Ikaros, The Hellenistic Settlements* 3, Aarhus-Kuwait, 1989, p. 18.

[22] K. Jeppensen, fig. 19, p. 21.

[23] For what we can see, as the west part of this rampart is not visible.

[24] K. Jeppensen, p. 17-18.

[25] The rapidity of making mud bricks and to build with, offers the possibility to easily reconstruct as often as necessary.

Our work brought a new question, about the chronology between these two towers and the rampart. The tower 2 and the west wall of tower 3 are built against the first rampart and are not linked with ; they are also built at a level 20 cm up the rampart's. In the same way, as the work in the C32 sounding showed (see below), the foundation rubble layer, characteristic of the fortifications first phase (see above), doesn't exist under the towers 2 and 3. These different facts probably mean that the towers were not planned in the first construction, but that they have been built after the gate.

However it is very difficult to conceive that, in a first phase, the rampart had a gate, an opening, made by soldiers, without any protection. So, two other hypotheses are before us :

- The towers are contemporaneous with the rampart, but they have been built against it and not linked with, for defensive reasons : if one or the two towers were destroyed during an attack, their fall would not carry the rampart with them. But this doesn't explain the difference of the building levels (rampart and towers) and the absence of the rubble layer.
- The gate was, in a previous phase, defended by other protection, as an advanced defence system. We found the vestiges of a mud brick wall (M365, see below "The C3 sector"), 4 m north of the first rampart, which could be part of this advanced defence[26], but we can't yet define with precision the chronology between the rampart and this wall.

Only next work will allow us to decide which of these hypotheses can be kept. Anyway, we have to continue the excavations because in A1, A2 and C3 sectors, the work is not achieved to deliver proper information about the chronology. In particular, the comparison of the material associated to the construction layers, of the tower 2 and of the rampart, was not possible to be realized, as the base of the rampart associated to the stratigraphy, has not been reached yet. Its base is visible in the soundings of the previous expeditions, but we don't have precisions about the associated material.

The first fortress accesses

The fortress, in its first conception, had two main accesses, north and south. The south access is said, by the previous excavators, to be the main entrance, as it is wider and installed in a tower which represents an efficient protection. They say also that the south entrance faces the sea, where the trade routes were and from where the enemies could come, when the north entrance faces the island, which did not represent such a danger as the coast was not accessible for boats. For the north access, the archaeologists think that it was only a potern, which means not a main gate, and nothing is said concerning the increasing of its importance[27].

The south access

An interesting point has been observed in the south gate, which should give new objectives for our work during the next campaign, in the perspective of a better understanding about the relation between the two main gates. Only a future precise examination will certify or deny the following theories, which are only runways work.

[26] The bent-axis walls (M273, 275, 319, 308, 326, 344, 342) cannot be this advanced defence linked with the first rampart, as they come after the towers, see below.

[27] O. Callot, J. Gachet-Bizollon, J.-F. Salles, p. 67.

Several reused cut stones appeared in the masonry on the top of the rampart, situated just 20 cm west of the tower 6 ; most of all, it appears that a big flat white stone, now broken in several pieces, was put at the top of the masonry[28]. This flat stone could be only reused and just put here as a building material, but such big stones are not visible in other parts of the rampart. It could be then an ancient threshold and it would represent another phase for a passage. A comparison showed that this flat stone looks like the same than the tower 2 second threshold[29].

Above, the mud brick masonry appears to be the same than the one of the tower 6, as it is linked with (no break appears).

So, different hypotheses can be put forward, if this stone is a threshold in situation and not only reused as a building material :

1) The similarity with the threshold of the tower 2[30] speaks for an entrance in a tower, and not for a single gate. This tower could have been one of two, flanking the main entrance, as for the north gate. However : there is not a similar threshold in the rampart, east of the tower 6, which could indicate the existence of a second tower flanking the south entrance ; this threshold is too close to the tower 6 (20 cm) to give place for another tower ; the supposed entrance doesn't appear to have been opened in the whole rampart, from the top to the bottom, as for the tower 2.
2) The threshold represents another passage opened in the south rampart (a potern ?). The question which occurs is about the chronology between this entrance and the one of the tower 6 :
   - The level difference between this supposed threshold and the tower 6 entrance is not indicative enough, because we don't have precise information on the level of the first passage and on the occupation levels inside the tower 6[31], and because it could have been possible that the passage in the rampart used stairs, as it could have been for the tower 2 (wherever were the circulation levels inside and outside the fortress). So, these levels are not indicative and the chronology between the two entrances is not sure.
   - The supposed threshold is covered by the mud bricks from the elevation of the rampart and of the tower. It means that the construction of the elevation, above the "threshold" and the tower, occurred in one phase only, and that this threshold has been put in place previously to the construction of the elevation of the tower. But if the south rampart has been totally rebuilt, as after a destruction or for a restoration[32], for example when the reinforcements have been put in place and the tower 6 condemned, it should be possible to suppose that the threshold could represent an entrance built later than the tower. But, anyway, the tower 6 remains, when the threshold has been covered : the anteriority of the threshold seems to be an evidence.

   In spite of this first quick analysis, the question of the chronology between the two entrances still needs work, to be solved.

[28] Altitude 4,89 m, see the tower 6 map below.

[29] The tower 2 has maybe known two phases, as it has a gate opened until its base and a threshold, 91 cm above its base.

[30] It is about 12 cm higher than the tower 2 threshold of the supposed second phase.

[31] The ancient excavators worked deeply inside the tower 6.

[32] The facility of making mud bricks and to build with, offers this facility. It is visible in many other sites, as for example Dura-Europos on the Euphrates.

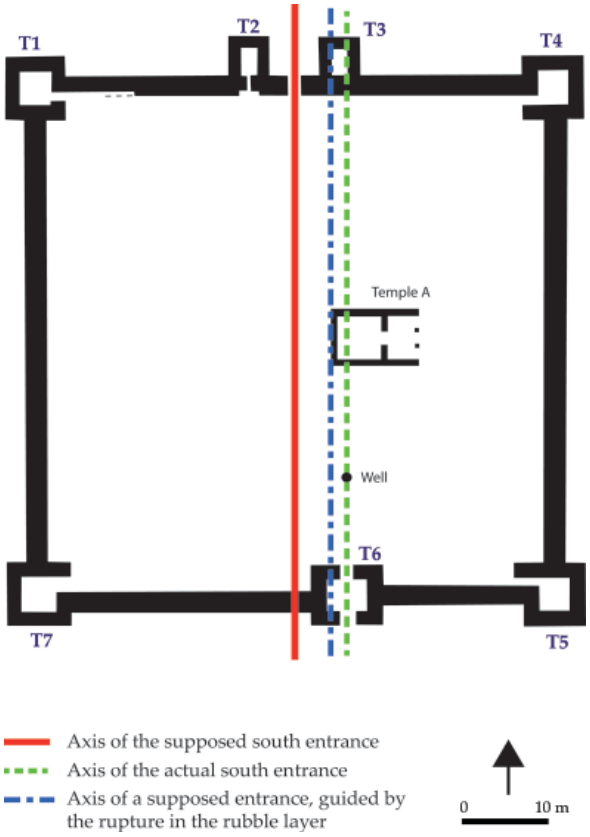
3) In the perspective of an anteriority of the supposed threshold on the tower 6 (a passage opened previously to the tower), it could have been an entrance leading directly in the fortress. In this last case, this supposed door is exactly located in front of the north access : a street implanted directly from the north gate to this south one would have been straight. It would avoid the temple A, located about 4 m east of this line, and the big water well (situated about 6 m east of this line and about 9 m north of the south gate). So it is possible that the first builders wished to have a symmetric fortress with a straight street running from north to south, with the civil constructions (the temples and the well) in the east part. We ignore if this first entrance has been built, like the supposed right street, or if it was only planned but not realised.

   The construction of the tower 6 implied that the N-S street had to make detours to reach the two main entrances, but from the south gave direct access to the well, as the south gate is exactly in front of the well and the temple A. At the end of the fortress occupation, it seems that the well was not in use anymore, as the later buildings are built about 1 m above the stairs running down to it. As the entrance in the tower 6 was condemned and many buildings built between it and the well, these two steps could be linked.

4) If we associate this reflexion with the observation, made above, about the preparation layer of the rampart which runs inside the tower 6 without considering the tower walls (contrary to tower 4), and with the fact that the tower 6 concentrates a lot of re-employed stones (as for its entrance passage), it really seems that changes happened here in the construction of the fortifications. It is possible that the rupture in the preparation layer represents the emplacement of a previous passage, destroyed to put in place the tower 6, or never put in place if the builders changed their mind during their work[33]. The rupture doesn't seem to be linked with the tower 6 entrances, as the rubble layer occurs until the middle of its passage. However, if this rupture is the sign of the location of a previous passage, it is not straight to the north gate neither but about 3 m east of the N-S line.

Anyway, these theories show important questions concerning the history of the fortification and the urbanism and circulation inside the fortress, which will be examined during the next campaigns : was it a direct access between the south entrance, through tower 6, and the well ? Did this well dictate the position of the south entrance ? If yes, is this an argument to say that the south entrance was the main one, because leading to the most important of the civil constructions ? Was the urbanism linked to any of the supposed main accesses or to the main civil buildings ? Did the supposed main streets dictate the location of the gates ?

[33] The changes occurring in the same time than the construction ran, is not something unusual in Seleucid fortifications, as it has been showed many times, for example, in Dura-Europos on the Euphrates ; see M. Gelin, "La terre au secours de la pierre. Délais d'un chantier de construction hellénistique en briques crues à Doura-Europos sur l'Euphrate", *Arqueología de la construcción* 2 *: los procesos constructivos en el mundo romano : Italia y provincias orientales, Anejos de Archivo Español de Arqueología* 57, ed. S. Camporeale, H. Dessales, A. Pizzo, Institute of Archaeology of Mérida, Sienne University, Normal Superior School of Paris, Madrid-Merida, 2010, p. 437-453. ISBN 978-84-00-09279-5.



Links between a possible previous south gate, west to the actual one, and the north gate.

The north access

The north gate could appear, at least, as important as the south one if we consider that the sea front doesn't seem to be more risky than the north one, in spite of what have been said by previous excavators. Actually, on the south coast the numerous stones of the natural bedrock prevent any attempt to dock directly opposite of the fortress, except for a very small ship. So, if any troops wanted to come alongside, it would have been in another part of the island (and during a high tide) ; the north access was then as exposed as the south one. The presence of two towers surrounding a gate, as in the north, is a defensive element more efficient than a biggest tower used as an entrance, like in the south : if one of the two towers is taken or destroyed by enemies during an attack, the other can still protect the gate, but if the main entrance tower falls, the fortress is directly opened to the enemies.

The rampart line

Another observation has to be made, about the south rampart : the line of the wall is not straight on both sides of the tower 6, but draws a broken line. The part located east of the gate is thicker (2,20 m) than the one west of the gate (1,80 m). The interpretation of this fact is not established yet. The same particularity has been observed both sides of the north gate[34]. There, it has been re-lined by the adjunction of inside reinforcements. On the south, it could be the same situation, if a reinforcement has been put only on one side of the rampart and not on the other, or it could be linked with the different phases of the gate. Only future work can solve this question.

[34] See the A2 sector report *infra*.

The outside constructions

Another surprising discovery was that the outside surroundings of the first rampart have been occupied along different periods. As it is partly uncovered, only future work will determine what these occupations were.

On the north, it is an east-west mud brick wall M365, running E-W, 4 m north of the first rampart M109East. It is visible on 1 m thick but none of its limit is visible : it was certainly much more thick, thicker than a house wall and could be interpreted as a fortification wall. The remains rise at a very low level, and the bent-axis wall M273 from the so-called second period lays partly on it. That means that this mud brick wall existed before the bent-axis wall, but in the state of our work it is not possible yet to determine if it was anterior, contemporaneous or posterior to the first rampart. What can be noticed is that the time between it and the first rampart is not long, as they stand at nearly the same level.

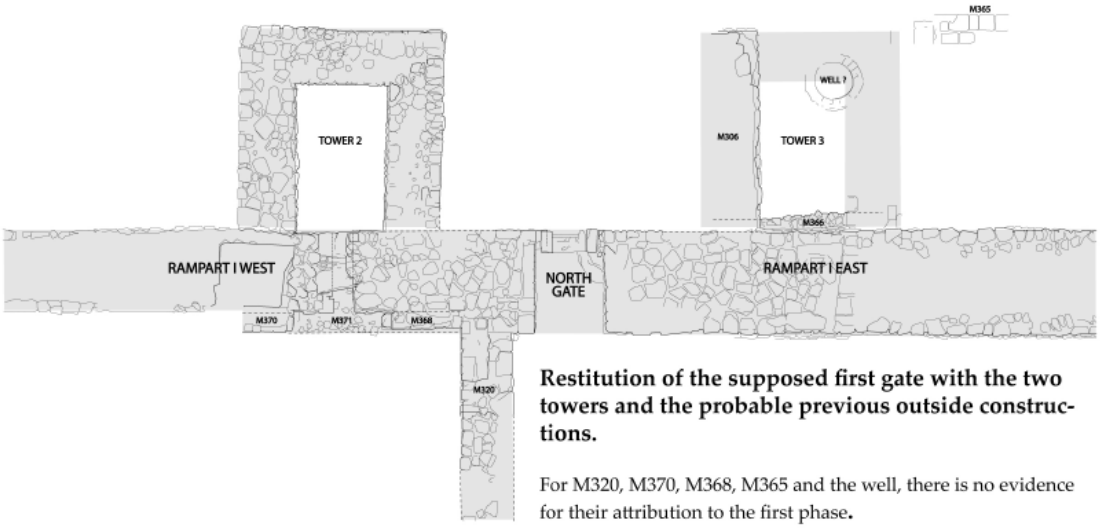
The question of the chronology of this ensemble is a little bit complex :

- If this wall is anterior to the first rampart, it signifies that there was an occupation before the fortress, which, until now, has never been determined. This, linked with the re-use of building materials in the first rampart, gives a new track for the work about the previous phases before the fortress.
- If this mud brick wall has been built in the same time than the first rampart, then it could be a *proteichisma*, an advanced defence wall[35]. This hypothesis seems very probable as this wall and the first rampart stand at the same level.
- If it has been built after the first rampart, then the two towers flanking the north gate came even later, because it is too close to them to allow an effective defence (the tower 3 should have even stood on it). Moreover, the level of the mud brick wall is lower than the one of the towers. So, the towers would represent a necessity to reinforce the fortifications after some time of existence and signify that this wall has disappeared.

At the eastern part of the fortress, another mud brick wall M359, located outside the ramparts, has been found in the C1 sector, against the east wall of the tower 4 (north-east angle of the first rampart, see below "Archaeological study of C11 and C12 soundings"). This wall comes after the tower, as it rests against it, and as its foundation level is higher. But it comes before the reinforcement M362 built in ashlar masonry (rubble) which surrounds the whole tower, as this one stands on the mud brick wall. Unfortunately, this mud brick wall has been destroyed in its eastern and southern parts, by the reinforcement and by the ancient excavations, so it is impossible to determine precisely its original thickness. It seems to have been a little bit thicker than an habitation wall (which is usually maximum two bricks thick) and could then be associated to a sooner reinforcement of the tower. The later reinforcement has been destroyed exactly at the same place.

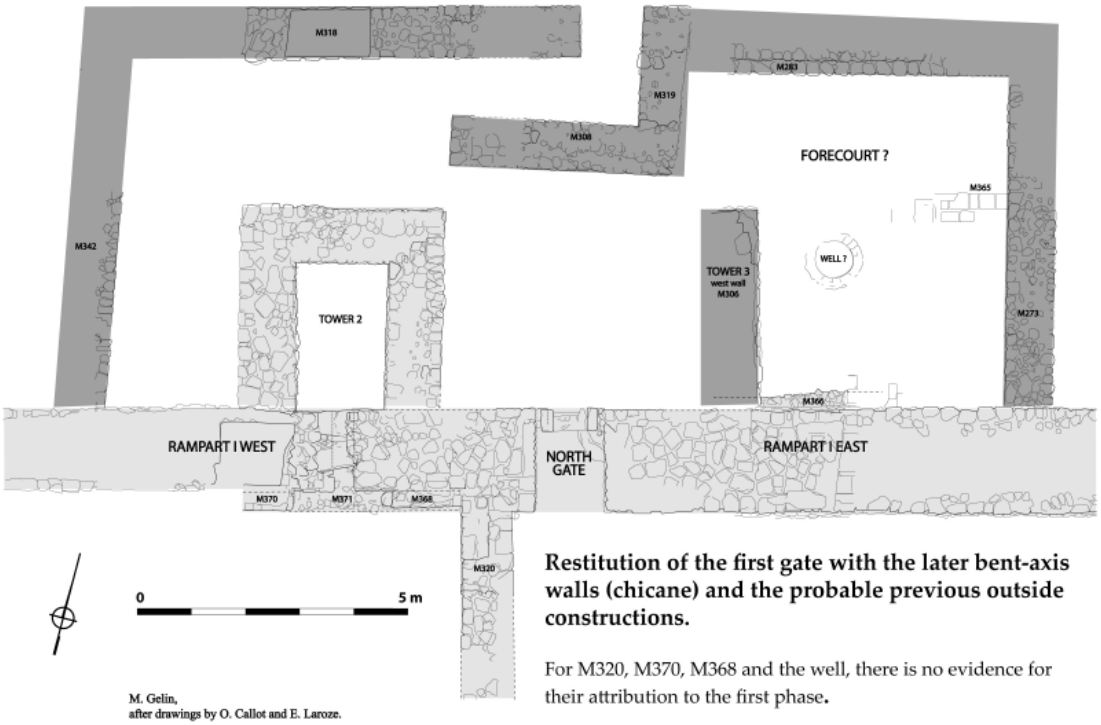
At this point of our work, it is possible to say that such mud brick reinforcement, leaned against the first rampart, has not been found elsewhere around the fortress.

[35] It was usual in the Hellenistic times.



Restitution of the supposed first gate with the two towers and the probable previous outside constructions.

For M320, M370, M368, M365 and the well, there is no evidence for their attribution to the first phase.



M. Gelin,
after drawings by O. Callot and E. Laroze.

Restitution of the first gate with the later bent-axis walls (chicane) and the probable previous outside constructions.

For M320, M370, M368 and the well, there is no evidence for their attribution to the first phase.

Elements to contribute to the fortress chronology and urbanism

After the building of the fortress, it seems that the fortifications and their surroundings were respected. But after some use, the tower 6 lost its function of entrance, as soon as the outside embankment/reinforcement has been built along the ramparts, closing its south door. It is confirmed by the accumulations levels inside the tower, visible on ancient pictures, showing that it was not used as a passage anymore. However, it is possible that the military occupation continued and rose to the upper floor. But the fact that, inside the fortress, the south fortifications surroundings were colonised by civil activity, as levels occurring against the south gate in the inside angle made by the tower and the west rampart show, speaks in favour of abandonment of military function. The reducing of the tower's north door and its closing down, also support this hypothesis.

For the last phase of the tower, it seems that the wall built inside the tower was for the necessity of domestic occupation, as it seems to be associated with a stone paving rising to the level of the top of the base of the rampart. The space delimited in the east part of the tower would have been very small to be used (1,50 m maximum), so it is possible that this wall was built to reinforce the ceiling with the intention of supporting a war machine, or to restore a floor or an occupation level, as the lower one was filled by earth ; but the paving attests an occupation.

Anyway, in the hypothesis that the tower 6 lost its military function, this cannot be extended to the whole fortress because, on the north and east, the fortifications don't seem to have known any abandonment. On the contrary, they have been restored and reinforced and, at last, extended. So, the fortress never lost its military function and the important sector seemed to have been the north one, in comparison with the south one.

The latest phases of the life inside the fortress are better known now, with the discovery, in the north (A1 sector), of the mud brick walls M343 (probably continuing M328 discovered in the trench 2007-2) and M344. Some traces can be interpreted as domestic activity (one room and maybe a court, pottery fragments and occupations levels) but seem to be punctual.

About the urbanism of the fortress, it is difficult yet to have a clear view (see above "The first accesses"). Even for the beginning of the occupation, the discoveries are not pushed far enough to give proper informations. We only know that, very probably and logically, the population increased, as every space has been colonised by buildings. The circulation inside the fortress was preserved in the main north-south street, but it was also reduced by new buildings lining it : the private space took more and more place from the public one, and it seems that the big well was not in use anymore at the end of the fortress' life, as a room has been built above. The question of supplying water is asked.

The small finds

Each fieldwork provided small objects but, as it is normal, the soundings made inside the fortress, near the domestic occupations, brought most of them. The soundings on the ramparts are less eloquent. That's why, in A1 and C sectors, we have mainly stone fragments or net weights. A2 gave a small cow's head in ceramic, probably from Bronze Age, and a seal from the same period. B2 is the sounding which gave most of the objects, as bowls in fine ceramic, iron objects (probably one hammer and one axe) and also crude net weights. Some of the ceramics have been stuck together by A. Ala El Dine and F. Bernel.

At the end of the campaign, a list has been made and all the objects from 2009 and 2008 have been deposed to the Department of Antiquities, in order to protect them from heat and humidity of the island.

2010 PROGRAM

The 2010 campaign will, we hope, continue with the same reinforced team. In the personal reports, we'll find details for the program in each sector.

A SECTORS

In these sectors, the priority is to understand the whole chronology of the north fortifications. For this, it appears as very necessary to complete the big stratigraphic trench opened between the ramparts from the first to the last fortress periods. So the digging of the A1 sector will continue, we hope, after the removing of the portions of the late mud brick walls (M343-344).

Inside the fortress, the places in front of the north gate and the tower 2 need again to be examined, in order to understand this particular and important point of circulation and military activity. First, the new cemented walls (M347C, M350C and the covering of the south baulk just west of M346) will be removed, to allow a proper view of the archaeological remains. Unfortunately, as we noticed on the pictures from the ancient excavations, some ancient walls excavated since the 1970^{s} have disappeared.

The question of the N-S street is still unsolved : was it existing since the beginning of the fortress, and which walls delimited it ? The junction of the street and of the rampart with M320 should be examined, and we'll try to determine the exact function of this big wall, interpreted as baraquements for the garrison. The supposed first level of the north gate will also be examined.

B AND C SECTORS

The work in the tower 6 is nearly finished ; only small precisions will occur. We need also to verify if, west of the tower, there was or not a preliminary door, and its purpose.

It is now the comprehension of the whole fortress which is important, mainly by the work on fortifications. The C3 sector must be finished, mainly in order to discover the purpose of the outside wall M365. To verify if the rampart has been or not rebuilt in front of the tower 3, which could explain the absence of a door for this tower, it seems necessary to open a sounding in the supposed E-W street along the rampart, inside the first fortress.

The other important points of the ramparts are the link between the tower 8 and the first rampart (to which period is it associated, does the foundation rubble layer exist and take it in account ?), and the sector of the supposed east tower, to verify its existence or not. This is in order to know if, at its origin, the fortress was supposed to have a tower at each mid-part of the west and east curtines, or not.

The last phase of the rampart, on the north, must be studied too, particularly to understand the difference between the east and west part of the north extension.

THE URBANISM

As we opened the questions of the links between the main streets and the main buildings and structures, and between the main streets and the main entrances, part of our work will focus on these points, particularly in following the streets lines and verifying the points where it changes.

THE CERAMIC

We hope to continue the study of the ceramic with A. Ala El Dine, to complete and finish the 2009 and 2010 campaigns. Most of all, we really need a proper chronology and dating of the fortress remains.

PREVENTION ON THE BUILDINGS

As we noticed the important damages on the buildings, one of our implications will be to re-open the search of earth quarries, as the ones we examined in 2008 are not convincing for work on masonries.

INDIVIDUAL REPORTS

THE A1 SECTOR

THE NORTH-WEST FORTIFICATIONS

by Ahmad Deb

The research of the chronology is part of the study on the fortifications, which is one of the main objectives of the mission. That's why we started the work[36] in the A1 sector with one main purpose : the understanding of the chronology of the north ramparts, by continuing the stratigraphic trench opened in 2008 and studying the material. This sector is situated in the north-west part of the Hellenistic fortress.

Sector A1 is located to the west of the 2008 trench and extends from the last rampart M333 until about 2 m south of the first rampart, for a total length of 15 m and a total width up to 5,50 m. It has been divided in two parts, delimited by M343. The southern part is 10 m N-S.

Five big pits located in our working sector have destroyed part of the archaeological levels and ruins : two modern pits in the northern part (pit A1-F09-1 situated on the north-east angle of the trench beside the ancient Danish work and A1-F07-1 situated on the south-east angle of the trench), and three in the southern part (modern pit A1-F08-3 in the north-east, more ancient pits A1-F08-2 situated in the south east and A1-F09-2 situated in the south).

At the beginning of our digging, the first step consisted of emptying the pits. During the work in pit A1-F08-3, we found a small piece of wood[37], a small piece of iron[38] and some fragments of ceramics ; near its base, a fragment of modern brick, similar as those used in the expedition house, testified the datation. This pit was clearly delimited by a layer of shells and ran so deeply (more than one metre) that it destroyed part of the bent-axis wall M342. After this, we began the excavation on the archaeological layers.

THE NORTHERN PART

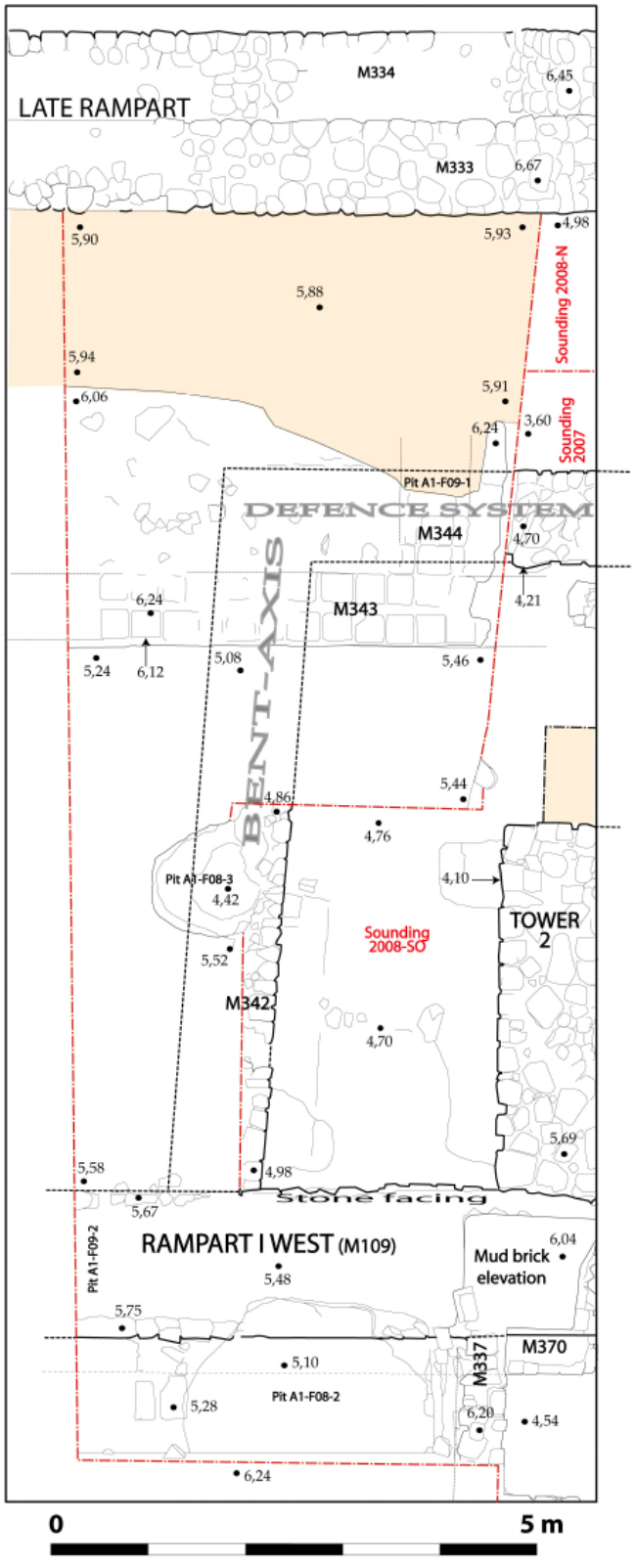
In sector A1 north side, we found a layer interpreted as a modern soil, S09-01, made of mud ; near the pit A1-F08-3, it was covered by shells associated to the pit. Under this layer, two late mud bricks walls were discovered in bad conservation status. Only one course of mud bricks is preserved and no foundation has been put in place, as the walls lay directly on the soil. The direction of the first mud brick structure M343 is E-W and seems to be the extension of the wall M328 which has been discovered in 2007 in the trench 2007-2, and still existing under accumulations located between the trenches. It has been destroyed in its east part, by ancient excavators' trench (cleaned in 2007), and at its west part by the same ancient work (cleaned in 2007). In the west section of the trench 07-1, another line of mud brick appeared and was confirmed by the discovery of a second wall M344, perpendicular to M343 and linked with at its eastern side. The wall M344 has been cut in its northern part, by the ancient expedition trench dug along the last north rampart (see ancient photo).

The two walls are 80 cm wide, the size of two mud bricks. The wall M343 is preserved on a course of two mud bricks, not regular in their shape, put side by side. The M344 wall is visible on a course of one mud brick in the middle, and two half bricks on the two sides. Normally, these courses were then covered by the opposite, to avoid cracks in the masonry : above the two bricks course took place the half-one-half course, then the

[36] In this sector, work was lead from 2nd to 26th of November.

[37] 09-A1-5004-01.

[38] 09-A1-5004-02.



Ancient soundings limits

Deeper ancient soundings

New soundings limits

A1 SECTOR.
E. Laroze, dec. 2009, after O. Callot. Completed by M. Gelin.

new course was one-one, etc. These walls seem to form a room on the north. We found, in this area, a lot of jar fragments with bitumen, caught in a thick layer of mud, which stand probably on the soil of the room (A1-S09-2).

In the same area, beside the mud bricks in the north, appeared a layer of ashes, maybe linked with several regular ashy layers found in the trench 07-2 (east baulk) and representing some light later occupations. In the south, beside the mud bricks, appear a soil A1-S08-1, which was visible in the west baulk of the 2007-1 trench. It is a very regular layer. We also found, in this area, a lot of jar fragments, which laid us to think that, maybe, we were in a courtyard ; the level of this supposed court is a little bit lower than the one of the room.

In the north, we cleaned the old Danish trench along the rampart, on 2 to 3,5 m wide. We found a layer of ashes that may be associated with the layer of ashes from the soil A1-S08-1.

THE SOUTHERN PART

In the southern part, south of the first rampart M109west, we found directly the extension of the pit A1-F08-2, filled with sand. This pit appears to be caused by a natural collapse of the rampart, maybe due to a hole opened at the foot of the wall. We unloaded the pit until its end, on a layer identified in 2008 season, very hard (08-S). A lot of jar fragments were found in this pit as well as three stone net weights[39].

The pit A1-F09-2, located against the west baulk, top of the rampart and extending to A1-F08-2 on the east, destroyed part of the first rampart, specially its mud brick elevation. Inside, we found many rubble stones, mainly in the northern part, against the south face of the rampart (as it was above the pit 08-2) : it seems like they are stone issued from the facing of the wall. We found in this area two net weights[40].

In the same area, in the southern part, layers of ashes appeared in many places and seem similar to and connected with the ashes found in the northern part. Under the two pits A1-F08-2 and A1-F09-2, the hard layer is made of very clayey earth ; its hardness lead us to suppose that, maybe, this could be a masonry, like a reinforcement of the rampart made with *pisé*, which could be the extension of the rampart reinforcement of E-W direction which has been discovered in 2008 (M369). We found here two net weights[41].

CONCLUSION

After our work, in spite of the fact that we couldn't reach the more ancient levels because of time necessited by the emptying of the numerous pits, we can have a better understanding of the chronology of the the north ramparts sector, mainly for the modern period.

The mud brick building uncovered in the north seems to be from this period. It will provide new information if we can understand its function, probably domestic. Several

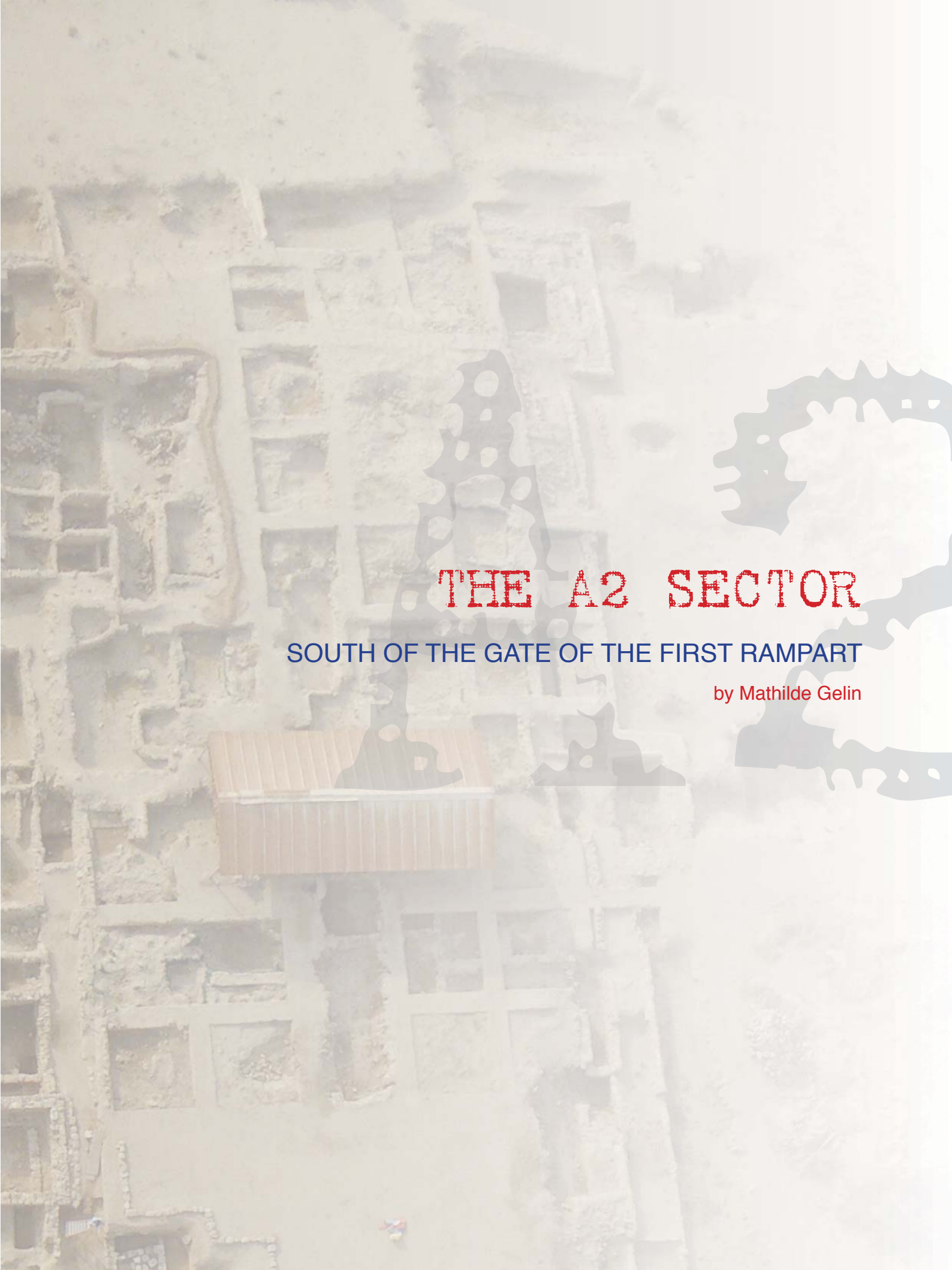
[39] One 09-A1-5017-05 and two 09-A1-5017-06.

[40] 09-A1-5017-01 and 09-A1-5017-02.

[41] 09-A1-5017-03 and 09-A1-5017-04.

pits have been dug also during the modern period, some of them destroying part of the first rampart (A1-F08-2, A1-F09-2), one going so deeply that it even destroyed part of the bent-axis wall (A1-F08-3).As we still didn't reach the deeper levels, the identification of the function and the relation of all the structures is part of what we will try to understand in the next season, thus we have three points :

- The presence of a building located north of the first rampart may show new data about the modern occupation of the site, which we'll try to determine in the next campaigns.
- The work will examine very precisely the ashy layers and the mud bricks walls, to get down to the lower layers.
- The links between the first rampart, the bent-axis wall and the tower 2 are still to discover and to understand.



THE A2 SECTOR

SOUTH OF THE GATE OF THE FIRST RAMPART

by Mathilde Gelin

In 2008, our work reached an area facing tower 2 (ex-sounding 2008-3), inside the fortress, in an ancient sounding[42] which was full of modern accumulations. The removal of these accumulations[43] showed that the previous work was lead until the supposed virgin soil and didn't let any information about the dating of the first rampart and the associated occupations : it was impossible to get links between the stratigraphy, the first rampart and the tower. So, the west baulk of this trench was cleaned to allow its lecture and the sounding was extended to the south, to reach some intact levels in order to "restore" it until the rampart[44]. At the end of the campaign, we were still far from the virgin soil, but the study of the vestiges showed that some links, particularly between the first rampart and the stratigraphy, were not clear.

That's why in 2009[45], we decided to open a larger area, also to reach the main north gate and to try to discover the whole links between the phases of the fortifications (first rampart, tower 2, north gate, wall M320, reinforcements) and the occupations inside the fortress.

A new sounding has been opened, 9 m E-W x 6,50 m N-S ; the west limit is lined up with the west wall of tower 2, and the east limit coincides with a wall M350C[46]. The north limit is the first rampart and the south one is an ancient baulk. Two parts have been distinguished, A2 East and A2 West, the limit between them being the wall M320. The modern accumulations have been removed first and, continuing south of M320, we found a small caw's head in ceramic[47], which looks more Persian (or even more ancient, as Bronze Age) than Hellenistic. Unfortunately, it was found in modern level.

Several cemented walls, totally new (M348C and M349C), have been removed in order to allow a better lecture of the vestiges. We got help from the ancient pictures, to check the age of these walls, and we always verified that the cement was all around the stones, including under it, which is the best indicator for modern constructions. So, the wall M367C, which was above the first rampart M109West and against the tower 2 and the wall M301, is the first to have been removed : it was linking the tower 2, which is from the most ancient periods of the fortress, with the corridor running to the gate of the last rampart, which is from the last period of the fortress, so it was creating a chronological aberration. The small wall M349C, situated above the first rampart just east of the main gate, the wall M348C, reconstituting the continuation of a disappeared wall which was running above the first rampart, just west of the main gate, have been removed too. M350C is also totally reconstructed, as well as M347 ; for this last one, we discovered an ancient part in its east extremity. And, in the south baulk, just above M320, a "wall" has been totally invented. M350C, M347C (west part) and this false wall on the south baulk will be removed during next campaign.

[42] First excavated by the Danish expedition, then deepened in some places by the French expedition.

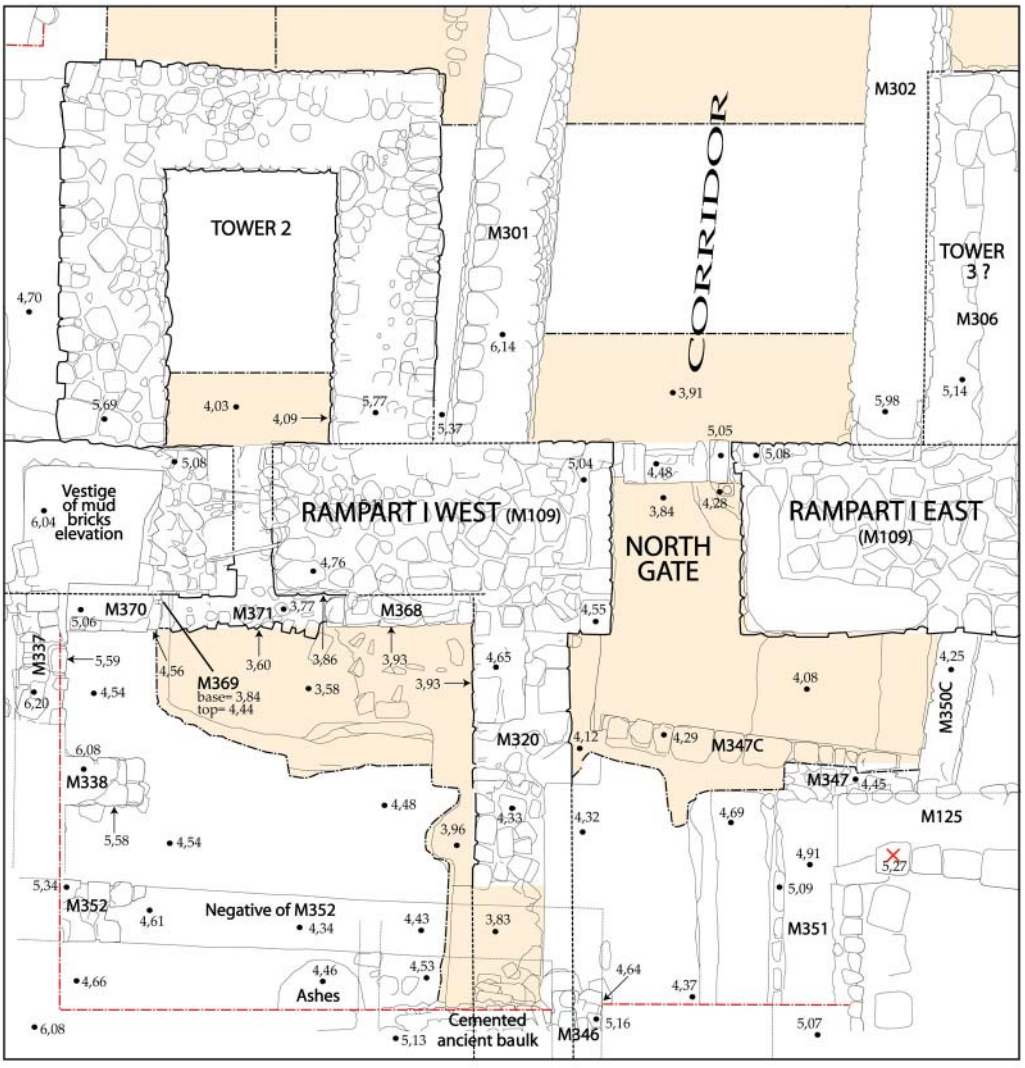
[43] The modern accumulations are very easy to determine, as they are characterized by accumulation of many thin layers of sand and sometimes mud, alternating grey and red colors, like a wind-blown.

[44] Of course, no information about an eventual foundation trench could be restituted.

[45] As it has been previously said, the work in the A2 sector occurred during ten days.

[46] The letter "C" associated with the wall numbers indicates a cemented wall, totally new.

[47] F5-09-A2-7006-01.



A2. FIRST RAMPART NORTH GATE SECTORS.
E. Laroze, dec. 2009, after O. Callot.
Completed by M. Gelin.

THE FIRST RAMPART

The rubble layer

At the bottom of the ancient sounding, exactly under the door of tower 2, a layer of small stones M371 appears running east-west until 60 cm beyond the rampart : it is part of the rubble layer (already mentioned in the general introduction), as seen in B and C sectors, associated to the construction of the first rampart. In the angle between the rampart and the wall M320, it still doesn't appear very clearly because of the upper constructions (wall M368 and its modern cemented restoration hiding the junction), but we will go deeper in this exploration only when the rest of the sounding will reach the same level.

It is not yet visible on the main north gate, but just south of the passage there is a line, parallel to the rampart, which appeared after the rain and could maybe represent the extension of the rubble layer.

The north gate

The north gate has been previously excavated, deeper than the actual threshold itself[48] : the earth accumulations (and, by the way, the stratigraphy), have been removed north and south of it, so when we began our work it appeared isolated, without any possibility to restore the stratigraphical links. The passage has been cemented and the threshold too, except for a small part on its west extremity and the east jamb. During the removal of the modern accumulations at the foot of the gate, inside the fortress, we had the surprise to discover the socket, still in place : the ancient excavators kept it but, all around, they dug under its level, constituing a small mount, the socket standing on the top[49]. It is a white limestone 14 x 18 cm square, and the diameter of the cavity is 9 cm for 2 cm deep. As the threshold we see today was rebuilt in modern times, to try to reach its original level, we used the levels of the socket and of the base of the stone east jamb.

The first rampart gate (1,45 m large) should have been opened in the same time than the construction of the rampart, as the stones of the wall, making two jambs for the gate, are regularly superposed : the door doesn't seem to have been pierced after the rampart construction.

It is very probable that the threshold, if we consider its original level, doesn't represent the first one but could be a later phase after the raising of the circulation level, as it stands 40 cm up the base of the rampart.

This passage through the first rampart was still in use when the construction of the last rampart occurred, and even later until the end of the functioning of the fortress, as a corridor has been built to link the last rampart door. At that time the threshold of the first rampart was not in use anymore, because it is about 70 cm under the bases of the corridor walls. However, the mud brick elevation of the rampart was still apparent, as the corridor walls came up against it and were not brimming over with the rampart. If this passage was still in use, it is very probably because the north-south street, very likely the main street of the fortress, was still in use too.

[48] About 60-65 cm.

[49] Here, the "antic" earth is uniform, compact and very strong, easy to differentiate from the modern accumulations.

Wall M320

The wall M320 is perpendicular to the rampart. 1,10 m thick and preserved on 70 cm high, it runs to the south and is actually visible until 4,50 m long, but we don't see its southern limit ; it is situated 50 cm west of the north gate. Its junction with the rampart is obliterated by a later reinforcement (M368) but it is very probable that it is linked with, as its base is nearly at the same altitude (7-10 cm up the rampart base) ; it is also visible, on an ancient pictures after the Danish expedition's work, running until the south face of the rampart, when M368 is later. Its thickness and its proximity to the rampart classify it in the fortifications category. It has been associated before to symmetrical buildings built in the original fortress, maybe for the soldiers' baraquements ; we didn't find anything to reinforce this hypothesis.

This wall is so close to the gate that it formed like a north-south corridor directly after the entrance ; it also closed any attempt of a direct east-west circulation, from the gate along the wall in the west part of the fortress. Its exact destination is not known.

The tower 2 entrance

It seems that, as for the north gate threshold, the door of tower 2 has been rebuilt in a later phase. Under the actual threshold, there is a narrow passage, about 50 cm large, which goes down until the base of the tower. Here too, it seems that it has been planned in the rampart construction, as the stones making the jambs are regularly lined. The last threshold is about 75 cm up the base of the rampart and 35 cm up the last north gate.

The inside reinforcements and the two parts of the rampart

As it has been previously said for the south rampart, the thickness of the wall, both sides of the gate, is not equal. Now, the wall is 2,20 m thick east and west, but we must consider that reinforcements have been put against the inner face of the west part of the rampart, when the east part seems to have been built in one phase only. Actually, the east part is not excavated enough to verify if there was also an inner reinforcement against the rampart's base.

Immediately west of the gate of the tower 2 is the reinforcement M369, already seen in 2008. Made of crude earth, it is 60 cm high and about 80 cm thick. It seems to be the first reinforcement made against the base of the rampart, as it stands on the same level than the rampart, but after little occupation, represented by a very thin layer[50]. Exactly in the middle of M369 masonry, in the baulk, a Bronze Age seal has been found[51]. It is from the first Faïlaka's period[52] and represents a man hanging one gazelle in each hand with another under his feet. This seal only signifies that the earth used to build this reinforcement has been taken in a place containing Bronze Age material ; the reinforcement itself is from the Hellenistic period.

As we pushed back the west limit of the sounding, we discovered the continuation of the reinforcement M370[53] to the west, built against the rampart, made in crude earth with a stone face. It stands on the top of M369 which it dug a little. Its thickness is only 50 cm

[50] Characterized by green earth and some pieces of ceramic ; no more than 6 cm thick.

[51] F5-09-A2-7049-01, altitude 4,27 m.

[52] After F. Højlund.

[53] The n°4 in 2008 report, on the figure "Trench n°3, west baulk".

and it's preserved on 60 cm high (altitude 5,06 m). The alignment of stones visible in A1 south, along the inner face of the first rampart, is very probably the continuation, to the west, of this reinforcement M370, here preserved on an altitude of 5,43 m.

And it appears now clearly that what we thought, in 2008, to be another reinforcement against the preserved top of the rampart, is only compacted earth and not a construction.

The link between the first rampart and the small reinforcement M368 situated east of the gate of the tower 2 is, for the moment, difficult to see as it has been cemented. But its base is free of cement, so it appears that the level of the reinforcement is only 7 cm up the rampart base ; it reaches the top of its foundation. The thickness of the rampart is equal, both of the gate sides, with the adjunction of M370 and M368. However, as seen on an ancient picture taken during the first excavations (before the adjunction of cement), M368 seems not to contain any mortar, as if it was only a simple accumulation of stones. It appears very clearly that it is located only at this place, between M320 and tower 2.

The destination of these three reinforcements is not really clear, most of all for M368, which is very short. As the mud brick elevation of the rampart has not been developed to fit the line of the inner face made by the reinforcements, it is possible that those had a rule of buttresses, to sustain the base. But it is also possible that they were built until the top of the rampart : the stones line visible in A1 south and which is probably the continuation of M370, seems to go up along the mud brick elevation. Next work will give us more informations. Another possibility is that one of them (M368 ?) was built as a support for stairs which could give access to the upper part of the tower, as it was used by the occupants for both defence and observation.

A2 WEST - THE LATER OCCUPATIONS

The walls M352 and M346

After a thick layer of accumulations, about 75 cm above the rampart base, two walls limited a room facing the tower 2, where it seems to have been fire activity. M352 was orientated E-W and M346, N-S. On the south, very regular layers of ashes came against M352 and even a fire place has been found, full of black ashes ; under the south baulk of the ancient excavations sounding, it is clear that ashes are very concentrated. It is possible that a furnace was there.

The two walls have the same construction level, but they actually don't join, as M352 has been destroyed and partly removed : only its extremity visible in the west baulk stands again. From the baulk to M346, only its trace remains, as a hole dug for its foundation. M346 was probably delimitating the N-S street in front of the north gate, on its west side. After its abandonment, an occupation took place not far from it, which created a lot of dishes (ashes, bones, etc..) running until the rampart. North of M352, the rampart reinforcement M370 has nearly the same altitude and is covered by these dishes.

The walls M338 and M337

Exactly on the limit of the west baulk, two walls appear, already discovered and described in 2008. They represent the very late phase of the fortress occupation, as they took place after the destruction of the first rampart elevation. They compose an angle :

M338 continues to the west, under the earth, and M337 to the south. As they are not associated with any evident soil, we suppose that they represent a punctual and short occupation of the fortress. And, as they have the same level than the mud brick walls discovered in A1 sector, they are very probably contemporaneous (modern period).

A2 EAST - THE NORTH-SOUTH STREET

The main street of the fortress takes its origin exactly facing the gate of the first rampart. In a very first time, it was probably surrounded, on its west side, by the wall M320 and should be about 2-2,50 m wide. During the fortress life, the street has been reduced on its both sides to 1,50 m, west by M346, east by the wall M351. This last wall is made of mud bricks and has an outer face protected by small stones.

The street doesn't present a regular stratigraphy as we observe on the probable east-west street running along the rampart (visible on the west baulk of the general sounding). But the stratigraphy of the N-S street shows an alternation of green and red layers with a light U profile ; the green earth probably represents some garbage[54] accumulations and the red one, some sand accumulations. These layers show that, very probably, used waters were running in this street. The excavation has not been completed during this campaign.

On the north extremity of the street, the links with the gate are destroyed (by ancient excavations) ; as we removed all the modern accumulations, we hope to reach some intact levels in position, during the next campaigns.

East of the gate, all the levels have been removed by previous excavations. We will probably reach it after removing the M350C wall and have a stratigraphic trench in the E-W street.

RECAPITULATION

The north sector near the first rampart, inside the fortress, has known several modifications, as it is particularly clear after this season of work.

- The original construction is a stone (sea sand stones rubble linked with earth) foundation or base, 1,20 m high and 1,80 m thick (west of the north gate), with a preparation layer and a mud brick elevation. Actually, we observe that the thickness of the rampart, on both sides of the north gate, is not equal, the east one being thicker ; if we consider the later reinforcements built on the west part, the thickness finally reached the same size of 2,20 m.
- A perpendicular wall M320, seems to be linked with the rampart as it is built nearly at the same level and very thick, like fortification walls, but the exact junction is not visible, actually hidden by later reinforcement M368. The exact function of this wall is not known yet.
- West of tower 2, a reinforcement, built in crude earth (M369, 60 cm high, 75 cm thick), has been erected against the inside base of the rampart. It seems to continue to the west.

[54] The green colour is typical of the organic decomposition.

- Probably later, another reinforcement, made in rubble of sea sand stones (M368, east of tower 2), has been applied against the rampart, between the gate of the tower 2 and M320. It stands 10 cm higher than the base of the rampart and its top reaches to the same height. M370, a reinforcement standing on M369 against the rampart, is the same thickness than M368 (40 cm), but is made in crude earth with a stone face ; we ignore if it is contemporaneous with M368 or later.
- Occupation inside the fortress occurs, as many accumulation levels are visible and come against the rampart, until the top of its base. The main N-S street, running from the north gate to the south, has been reduced and probably used as sewer, but still maintained.
- A W-E wall, M352, is built 3 m south of the rampart and is linked with a N-S wall, M346, which is the west side of the main street. M352 is maybe the south limit of an E-W street running along the rampart. These two walls limit a room where an activity with fire took place : many ashes, very regularly accumulated, fill this room.
- M352 and M370 are destroyed and covered by a thick layer of dishes and ashes which runs until the rampart.
- After time, two walls, M337 and M338, linked together, are built above the accumulations. It seems that the rampart was not working anymore, as M337 comes above it.

THE B SECTOR

THE SOUTH GATE

by Shaker Al Shbib

PRESENTATION

Location and general description

The southern gate is located on the wall of the fort, at a point deviated slightly towards the east, over the N-S axis of equitable sharing of the fort, that is, closer to the south-east tower. The square tower is built astride the rampart, with a door on both the southern and the northern sides. The axis, running to the north, of this fort entrance is impeded by the presence of a well, which indicates that the access to the fort was going to the right or the left to meet other streets, especially the main street leading to the north gate.

The south gate has undergone several changes and additions through different periods, including the reinforcement wall M372, and the closing of the south entrance with the embankment M373. In the later period, a N-S wall separating the tower in two equitable parts was built too in the tower room. The wall contains a number of stone slabs, and we will study the different elements within the chronological order in detail when talking about the work carried out on this gate.

Like the other fortress walls, the foundation is of sea sand stones, with mud brick elevation. There is a difference between the rampart walls, which are wider than the tower walls : 2 m and 1,60 m respectively for east and west walls. In the foundations of these stones walls, different materials have been used. This counts the reuse of material from other buildings such as a carved stone and some fraction of lime mortar. There is a difference in the quality of stones, we find for example calcareous stones and sea sand stones mixed with shelled stones. A lot of big cut stones from good quality are reused in the tower. As mentioned before, the upper part of the walls was built with mud bricks, with a size about 37 x 37 x 12 cm, made of good quality of soil, which includes a low amount of sand as well as other inclusions such as straw. These bricks partly remain at the west side of the tower ; elsewhere, they have been destroyed by previous excavations.

Next to these fort walls we found other walls like the reinforcement M372 (E and W) built on the external face of the rampart and towers, which dates back to a later period, contemporary with the closing of the southern gate (embankment M373). There are many materials which have been reused to build the embankment, such as bricks, a fragment of mortar and ashlars stones.

Previous excavations

The Danish expedition excavated first the tower and some parts of the walls on both sides of the tower. However, we do not have a lot of information on the Danish excavation results, as the publications do not provide adequate information. A general description of the gate, the plan, and the materials used in the construction are the only information provided ; nothing is said about the changes that have gone through, particularly about the period when the passage has been laid off and of the gate entrances closed.

After the Danish excavations, this gate did not constitute a new subject of study, despite the fact that there were different expeditions that worked on the site. It seems that most of the new excavations focused on the buildings located inside the fort, with work on some points of the rampart, such as the north gate of the fort. Even the excavations on the buildings near the south gate did not provide sufficient information about the links

between these buildings and the gate. Based on the following results, we can infer the importance of the work and of the re-exploration of this southern gate.

Objectives of the work in the south gate

The objectives were to understand the building as it appeared after the work by the Danish mission, and then to excavate the area further in order to reach clearer information about the architectural development of the gate and to put it in the context of the architectural and historical development of the fortress itself. This is done in order to date all the phases of development and modification undergone to the gate.

EXPLORATION AND ARCHAEOLOGICAL STUDY

We started this season by looking at the archaeological studies carried out on this site and by collecting as much information from previous excavations and studies. As mentioned earlier, these are very few or unavailable. Then we went on to work on the plan drawn by the French mission in order to understand the architectural elements of the gate and to compare it with the current state, through the observation between the plans and the reality of the building. The construction consists of a square tower with two doors opened in the middle of both north and south walls. From this plan, there was a wall M354 inside the room tower which, however, didn't exist anymore, fallen down. On the other hand, in the last seasons of the Danish excavations, its stones felt in the tower, and this gives an indication that this wall was constructed on a high level, compared with the foundations of the walls of the tower. Thus this wall was built in a relatively late period, after the end of the use of this tower as an entrance to the fortress. The southern door of the gate was fully excavated by previous expedition, and there were only few remains visible to indicate which materials were used to close it ; on the contrary, from the northern door the stones of closing still remain and appear clearly.

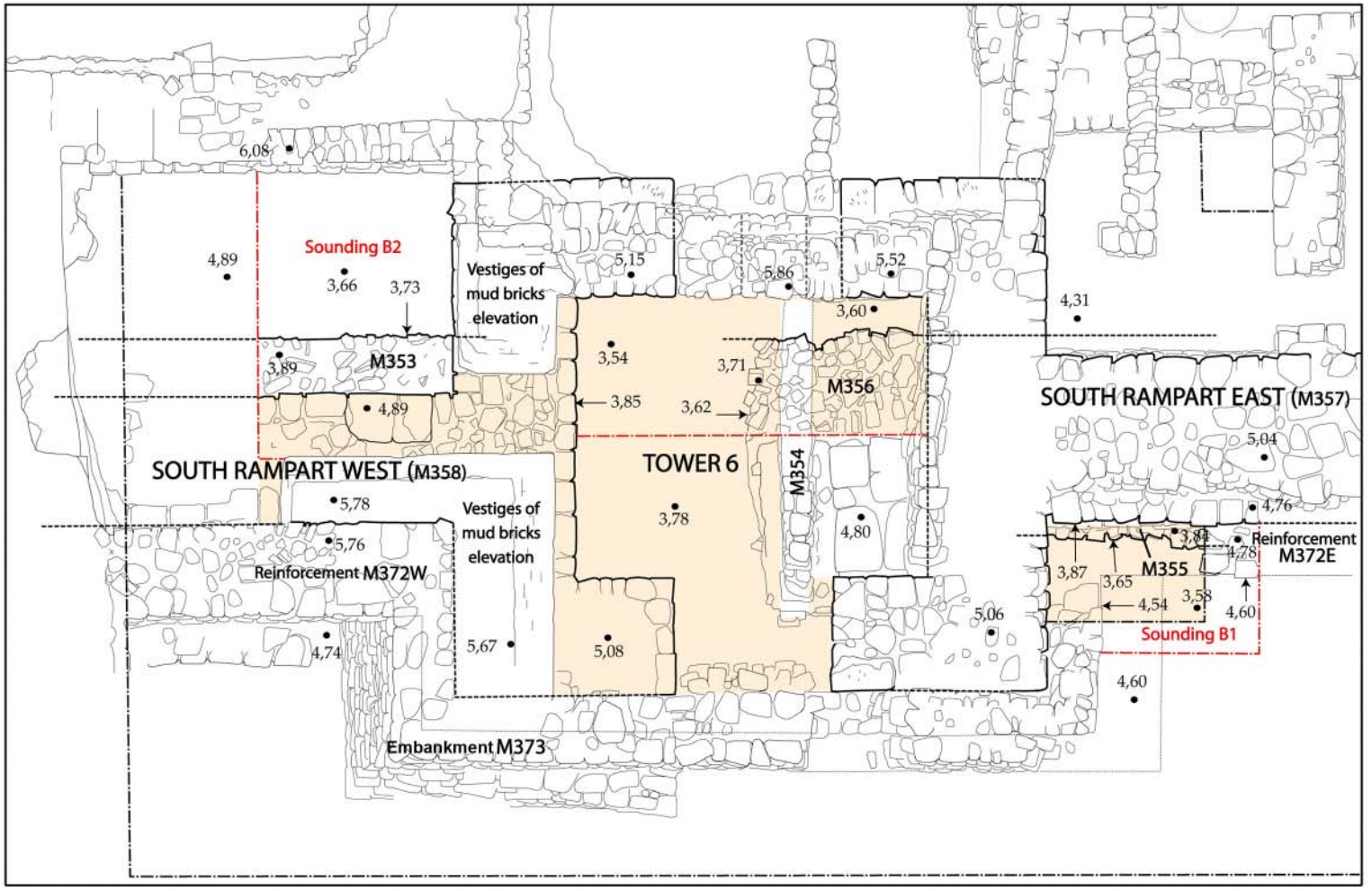
Our operations in the gate started with emptying these old soundings, in order to put in evidence their limits, and to re-read the results from the previous mission. Then several areas were selected for further work and study by opening new excavation soundings which could help us to clarify and understand the gate and thus to understand the fortress itself. Therefore, in this season we worked on the following areas :

- The tower room.
- Sector B1 : the exterior angle between the fence and the tower in the east.
- Sector B2 : the interior angle between the tower and the wall of the western side of the tower.

The tower 6

The main room

The aim of our work in the southern gate was to try to understand the construction of this gate, the tower and the entrance. This includes the understanding of the developments and changes that occurred during the successive periods, and then to try to link them with the building of the fort itself, and to examine the nature of the links between the gateway and the rampart, in order to reconstruct a chronology of the construction of the fort and additions that occurred during the different periods.



B. FIRST RAMPART SOUTH GATE.
E. Laroze, dec. 2009, after O. Callot.
Completed by M. Gelin.

We began our work by cleaning the entire room where we needed to reach to the level of the Danish excavations. First we removed earth and stones accumulated inside, collected by the wind, rain, and late wall collapse remains. Then we cleaned an ancient sounding in the north-east corner of this room and went down to the level left by the first excavations. From this work it was possible to detect the presence of some stones in the bottom of the sounding, which were partly discovered by the Danish mission, but apparently not fully excavated. So we worked on these stones, which are part of a layer butted and grouped here, but in a deeper level than the foundations of the rampart and the tower. Surprisingly, it complies with the line of the rampart M357. However, this range of stones is not the remnant of the construction of an ancient wall, or stones of a wall collapse. Their presence suggests that they were collected at the place. We did not understand first the presence or function of this layer, and we cannot date this stone accumulation as we didn't find any pottery. We extended the sounding to include the western part of the room in order to trace this rubble layer M356 within the entire room, but it was limited to the eastern half of the room. After comparison with other fielworks in the fortress, we can say that this rubble layer M356 is the same than those encountered under the first rampart and linked with.

The southern entrance

Our work in the tower included the cleaning of the southern entrance which was fully excavated by the Danish mission. The aim of this work was to understand the nature of this door and of the materials used to close it, and to find out whether there was a threshold for this door or not in the closing system. This work led us to the following hypothesis : the door was closed in a period contemporary with use of mud brick, which was developed and constructed inside the entrance on an irregular basis ; it seems that the previous excavators haven't noticed the presence of these mud bricks. Fortunately there were some few remains of it left in a section in the southern part, adjacent to the external embankment.

The northern door

On the contrary, in the northern door of the gate, stones have been used to close it. Our work led to reach new results which have not been previously found, because in the time of ancient excavations this door was obstructed by the collapsed wall M354. This door was not entirely closed in a first phase : the entrance has been narrowed in a first period, associated with the closure of the southern entrance. It is reasonable to suggest that if the southern gate was closed, so the gateway was used only to entering the tower. Thus the northern door was narrowed from a width of 2,15 m to 70 cm, with a higher level. However, in a subsequent period the northern door was totally closed, for reasons which are not quite clear to us. The blocking could probably be linked to the late period, when the south gate maybe lost its military function, at that time used as private housing. It was then separated in to two rooms by the construction of a division. The results from our work on this gate led us to establish the existence of several periods of occupation, which are deduced from the different modifications and additions. The existence of a thick layer of earth accumulated in the northern door, before being reduced, indicates that there was a period where the area was abandoned. This period was followed by the re-use of the door, but after reducing of the entrance, and the re-use of the gate. It seems

to have served as a tower for defense with a single door in the north wall, connecting the tower with the fortress. In the final period this small door was closed ; however, this happened after the period it was abandoned, as can be concluded from the presence of the earth accumulated above the threshold of the first door.

About the question of the blocking system of this door, there remains no evidence to help us to understand it, as we did not find a threshold or any elements which could point to the presence of a stone or a wooden door. Even the jambs do not indicate any altitude to inform us about the door, so we do not know if there was a threshold for this door or not, and what was the closure system.

From our studies and re-excavation of the area, a chronological reconstruction of the functioning of the gate is suggested as follows :

In the earliest period, the southern and northern doors functioned as entrances to the fortress. Later, the southern gate have been abandoned, its southern door was closed, maybe in the same construction phase than the reinforcement of the whole fortress. In this phase, the northern door of the gate was not closed yet, but its width was reduced in size, and the presence of layers of earth gives the indication that the tower was abandoned for a long period of time. This accumulation of earth was not found under the mud bricks that have been erected to close the southern entrance, which leads us to doubt on the existence of an interval between the closure of the southern entrance and the width reduction of the northern entrance. In a third phase the little door in the north entrance was also closed, a phase subsequent to the period of the abandonment of the tower, because we found a layer of accumulation under the stones which were used to block the door. The final phase of this gate is the construction of a wall separating the room of the tower, which points that it was a period where the fortress lost its military function, or that this function moved to the upper parts of the tower.

To conclude on the south gate building, we can advance that, maybe, it was not planed to be at this exact place. If we consider that the rubble layer is an indicator for the first fortress construction, the fact that it stops in the middle of the tower can signify that the west rampart was supposed to reach until this point. Then, the break of this layer represents the original place for the tower building. This suggestion is linked to the hypothesis that the rubble layer really is a testimony of the original fortress construction, and could explain why the actual tower is moved away from the centre of the south wall. As we'll see below, the tower and the west rampart seem to be contempraneous, so we can only suppose that the builders change their mind during the construction.

Sounding B1

The sounding, 2,50 x 2,50 m, is located in the external angle between the tower and the rampart, on the east side of the gate. The aims of this sounding was to try to date the reinforcement built on the external face of the rampart and towers, to examine the relationship between the tower and the rampart, and finally to follow the rubble layer which was found in south-east corner of the room of the tower.

The excavations revealed the existence of an old sounding which was opened in this angle, but which did not reach below the level of the foundation of the reinforcement. After reaching to the bottom of the old sounding, we excavated several layers, including three which contained pottery. All these layers were accumulated on the rampart, and

before the erection of the reinforcement, which indicates that the construction of M372 is linked to a relatively late dating of the fortress ; the basis of this wall was built at the level of the fourth course of the rampart. This means that there are three courses of the rampart under the level of the supporting wall (about 90 cm).

By the end of the digging operations, it was clear that the rubble layer which was found in the tower room is similar to what we found appearing within this sounding, a single row of small stones (M355) under the rampart, separated by a layer of sand. The row of the small stones M355 is at the same level than the rubble layer M356 inside the tower.

The study of the link between the rampart and the tower has shown that both were built in the same period, because of the obvious link between the two walls, and the foundations of the two walls constructed on the same level and same layer of sand, above the rubble layer.

Sounding B2

Located in the angle west of the gate, inside the fortress, this room was partly excavated by the Danish mission ; the north-west corner has not been excavated and the stratigraphy preserved, so we located our sounding in this angle. The aims of this sounding were to dig the later occupation layers, then to compare the result with the sounding in the tower room and in the sounding B1.

The excavation in the upper layer revealed a housing settlement. Vases were found, typically a housing pottery ; other finds appeared, like stone weights which were used by fishermen, as it is natural to find in the houses established on an island.

Then other layers have been dug, as a sand layer containing a lot of bones, burnt wood, shells and a lot of weights made of crude clay ; it is a rubbish layer thrown at the feet of the rampart, on the function layer of the rampart. The rubbish stand on a floor or street, a compact layer of clay, bones, stones, fragments of pottery and charcoals. When this zone has been reused, a mud bricks layer has been put, fragmentary or complete.

At the end of the sounding, the rubble layer (M353), running along the rampart, has also been found in this sounding. Its inner face (north one) is ligned with the inner face of the rampart, east of tower 6 ; which, maybe, indicates that the rampart M358 (west of tower 6) was supposed to have the same widht than M357 (east of tower 6).

At the end of the talk about the work on the southern gate, we note that the rubble layer that appeared below the level of the rampart, exposed in the soundings B1, B2 and inside the tower, appeared clearly under the walls of the south ramparts, except under the walls of the tower.

This same layer has been found, as explained in the general introdution, in the sector C under the rampart and the tower 4, and in the sector A under the rampart west of the northern gate ; so we can find it under the whole fortifications of the first period, except the western wall, as we didn't work there until now.

THE C SECTOR

VERIFICATIONS ON THE FORTIFICATIONS

by Jean-Michel Gelin

The purpose of the 2009 campaign was to provide a better comprehension about the evolution of the Faïlaka's Hellenistic fortress, by establishing a relative chronology of the different fortifications constructions. Specifically, we tried to precisely phase the development of the fortress and to date it as far back as possible. In this perspective, it was decided to make verifications (C sectors) by opening soundings on the external fortifications, in the north-east area (tower 4) and around the tower 3, linked to the first rampart. As these sectors present contacts between constructions of different periods, it was necessary to study their architectural and stratigraphic relations and to collect material to date them.

THE C1 AND C2 SECTORS

Location and description

C1 sector

According to the objectives, it was decided to work, first, on the link between the north-eastern tower (tower 4) and its reinforcement (M362). Tower 4 belongs to the first state of the construction. M362 is a reinforcement of tower 4 considered, by the precedent excavators, as a state of construction belonging to a second phase of development.

The soundings were established along the east wall of tower 4, the reinforcement wall (M 362) presenting a lacuna in this place which allowed to observe its relation with tower 4. The rare photographic archives available for this place showed that the Danish expedition dug at the feet of the south-east corner of tower 4 and of the break running in the thickness of M362. The sounding of the Danish excavators joined another trench dug along the external face of M362.

So, to find original stratigraphy, it was decided to excavate in the north part of this lacuna. We designated this sounding as C11, located in the angle of tower 4 and the reinforcement M362N. We opened 2,60 m E-W by 3 m N-S, and we stopped the sounding at the altitude of 3,38 m.

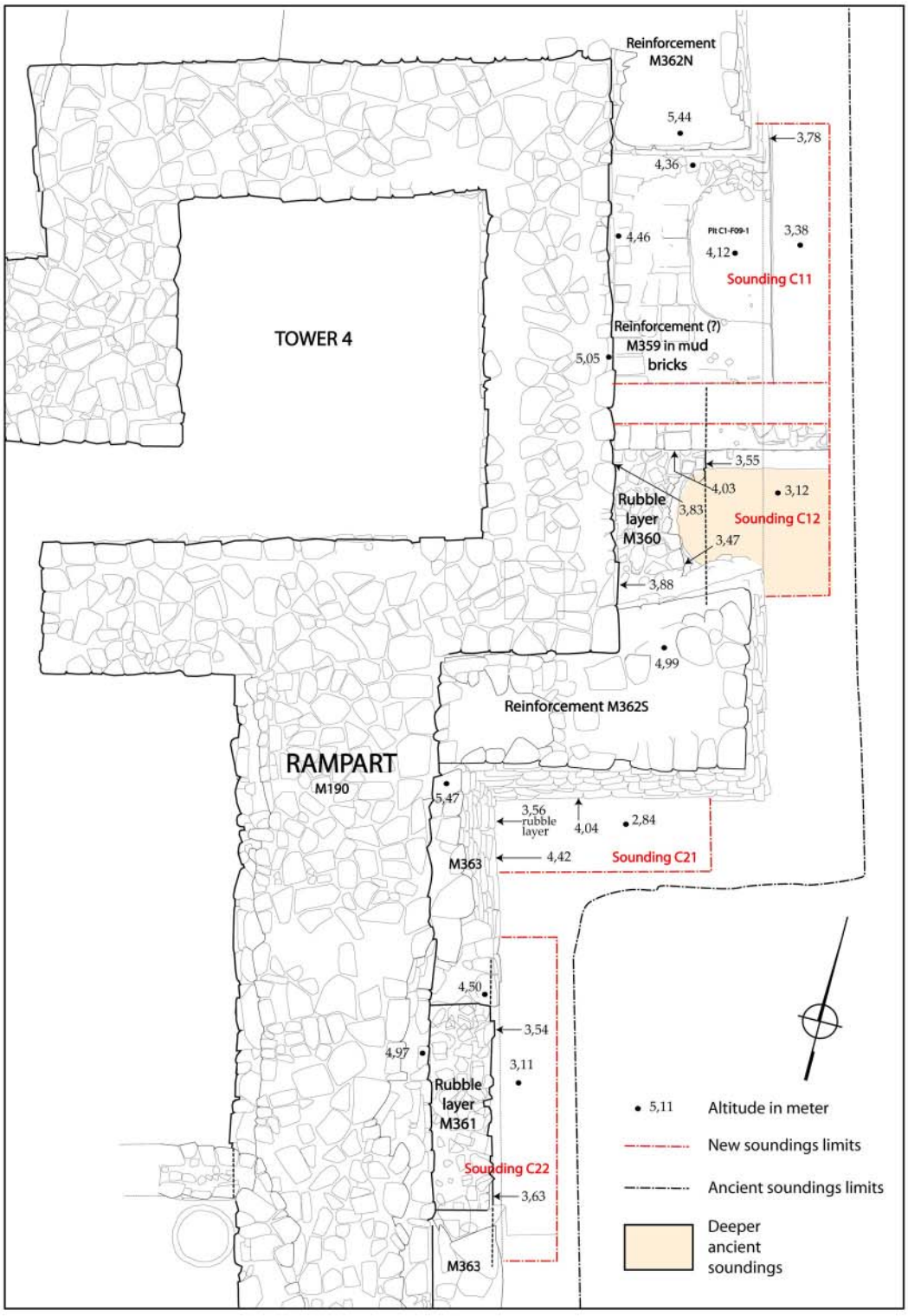
Finally, the discoveries found in C11 led us to open another sounding in the south part of the lacuna, in the same place than the Danish expedition sounding. This southern sounding is designed as C12. We opened it from the east wall of tower 4, 2,50 m N-S by 1,90 m W-E (including, on the south part, 0,40 m of the external east side of M362).

C2 sector

The discoveries in the C1 sector and the interest for establishing a chronology of the stratigraphic and architectural relations between M362 and the embankment M363, as between M363 and the eastern curtine wall (M190) of the fortifications, led us to open also soundings south of tower 4.

C21 was opened in the angle formed by M362 and M363, 2,40 m E-W by 0,90 m N-S. We stopped at altitude 2,84 m.

C22 is located in the lacuna of M363 along the rampart, in the way to examine the relationship with the eastern curtine wall M190. We opened it 0,50 m south of C21, 3,50 m N-S by 0,60 m E-W.



C1 AND C2 SECTORS.
E. Laroze, dec. 2009, after O. Callot.
Completed by M. Gelin.

Previous excavations

The Danish expedition opened a trench following the external face of the fortifications, and soundings in several spots : as it was mentioned in publications, the excavators opened a sounding in the south part of M362 lacuna. Unfortunately, we haven't any documentation concerning this sounding, just a general picture of the sector showing partially the excavations.

The French mission didn't dig in this place. The French conducted excavations in the north-east area, near tower 3, established inside the fortress. A section shows the sector but only with the contour of the fortifications and no stratigraphic information. A schematic plan of the fortress presents a phasing of the constructions, attributing tower 4 to the first period and M362 to a second state of construction belonging to the second phase of development of the fortress.

Restorations

Different restorations can be located on the tower 4 as on the M362 reinforcement. However, they often prevent to have a clear vision of the original structures as the cement covers it, especially M362, and sometimes it is impossible to study some part of them.

Archaeological study of C11 and C12 soundings

The surface scrubbing of C11 lets appear plaques and traces of cement due to the restorations during the 80^{s}, clearly visible on the walls. The removing of the first thin layer shows the presence of a N-S mud brick wall (M359), which leans against tower 4. We can see on the north part of C11 that M362 is establishing on it. A layer of grey earth and stones comes against M359, limited east by the eastern limit of M362.

So, this unique discovery demonstrates for the external part of the north-east fortifications a new state of construction, never seen before, situated between the first one and the previously considered second state. This discovery led us to open the other sounding C12, south of the first one, to determine where the Danish excavations cut the mud brick wall, and the contact between M359 and tower 4 in order to precise their stratigraphic relations.

We discovered the continuity of M359 and the layer of earth and stones in C12, unfortunately cut by the ancient previous sounding. The remains of M359 show four courses of mud bricks, two and half mud bricks thick. The upper one is broken by the surface level and we can’t know how many courses constituted the original wall. Its base is establish at altitude 4,03 m and the top of the upper course still conserved at altitude 4,46 m.

In C11, three courses of the external base of M362 remain, but in the southern part of the sounding they are broken off. In this place, the external face of M362 is just constituted by the layer of grey earth with numerous stones on its face ; some of them seem to have been flat. C11 shows that the grey earth and stones layer constitute, in the lacuna, part of the base masonry of M362. This could be an ancient repairing of the reinforcement. In the northern limit of the sounding, M362 is established on the mud brick wall and on the layer of grey earth, which contains numerous rubble here, at the contact with the wall which laid on it. The continuity to the south of these rubble is interrupted by a pit, which bottom presents rubble. This pit also cuts the east side of the mud brick wall.

In C12, a rubble layer was found (M360), running under the tower 4 east wall and following it (altitude of its base from north to south : 3,55-3,47 m). This rubble layer has been cut on its eastern side by the ancient sounding, but not noticed. It is situated at the base of a red and fine sand layer, whereas a layer of the same kind of sand, but with a red to grey colour, comes against its base.

As a result of these new discoveries, the mud brick wall and the rubble layer, it was decided to open the C21 and C22 soundings, to see if we could find their continuity on the south of tower 4 and along the east curtine wall (M190). The purpose of these soundings, as we said previously, was also to verify the architectural and stratigraphic relations between the different constructions of the fortifications in the C2 sector.

Archaeological study of C21 and C22 soundings

C21 sounding

First, M362S and M363 were cleaned at their contact (SW angle of tower 4), to see their architectural relation. It appears clearly that they are not linked. Stratigraphically, the base of M362 in C21 is at the altitude 4,04 m and the base of the embankment M363 is at the altitude 4,42 m, not in the same layer. So it appears clearly they don't belong to the same state of construction.

At the altitude of 3,56 m we found, under the embankment, the eastern limit of the rubble layer running under the rampart, designated in the C2 sector as M361. Between it and the embankment, at 4,07 m, appear two stones and some rubble. They are covered around by modern cement and their base is at the limit of the Danish excavation in this place. The two stones are totally similar with those from the base of M362 in C21 northern baulk and at the same level, so they didn't belong to the embankment but probably come from M362. As they are at the same level than the base of M362, they could originally be at this place, but we cannot be sure that they are in situation, as they were restored.

C22 sounding

The architectural relation between M363 and the eastern curtine wall (M190) show that M363 comes against M190.

The digging in C22 showed, under M190, the rubble layer M361 at the base of the same red fine sand layer than in C21 and C12, with the same red and grey layer of fine sand coming against its base. In return there is no evidence of the presence of M362.

Interpretations for the C1 and C2 sectors

According to the chronology of the fortress, we will first try to determine what the rubble layer (M360 and M361), found under the first state and phase of the fortifications, is, and what were the different states of construction of the fortifications in the C1 and C2 sectors.

The rubble layer M360-M361

The 2009 campaign of excavations in the fortress put in evidence the presence of this rubble layer under the first state fortifications. This layer was discovered in the C area, in C1, C2 and C3, but also in the A and B areas. In the north-east area (C1, C2, C3), its

width varies, outside the fortifications, from 0,22-0,33 m in C3, to 1,08 m in C1 ; its base is located around 0,20 m to 0,25 m under the first state fortifications, with always the same layer of fine red sand above, the fortifications standing on it. The thickness of this sand layer is thinner in the A and B areas.

In C area, the rubble layer couldn't be used as a pebble bed for the stabilisation of the rampart or the towers, as the thickness of the sand layer between it and the walls bases is too important. A proposition could be that it served to receive the layer of sand, to stabilize it, this one used as a levelling course for the fortifications. A layer of fine sand, may be humidified, could be easily used for adjusting the level and the horizontality of a levelling course, levelling off the differences of the field it stayed on. This is just an hypothesis, but it could explain the presence of the rubble layer receiving the sand layer and the variations of the thickness of this one.

Construction phases of the fortifications in the C1 and C2 sectors

New discoveries appeared in these sectors, concerning the building phases of the fortifications in the north-east area, previously considered as three.

We can distinguish the first state, with the construction of the tower 4 and the curtine wall M190, relative of the first period of the fortress. Before the reinforcement M362, previously considered as associated to the fortress second period of development, there is now, in the C1 sector, the evidence of the construction of a mud brick wall M359 against tower 4.

Then, comes the construction of the reinforcement M362. This reinforcement was probably damaged and partially rebuilt, as shown by the break of the courses from M362 base in C11 and by what seems to be a repairing, with at its base, on the east side, a layer of grey earth and the presence of numerous stones and rubble. It seems that this restoration was important as it concerns the base of M362 and, maybe, could also be a new state for the fortifications construction.

The presence of M362 along the curtine wall M190 is not sure, there is no clear evidence for it. The stones from M362 found in the western baulk are not assured to be in situation and we didn't find, in this baulk, other stones belonging to the base of M362, neither evidence of their presence in the C22 baulk. If M362 existed along M190, it means that all the evidences in the places where we dug disappeared, maybe by the ancient construction of M363, but it was not built at the same level. Probably, the reinforcement M362 concerned only the tower 4.

As we saw *supra*, after all these different steps comes the construction of the embankment M363.

It means that, for the north-east fortifications we can distinguish at least not three, as previously said, but four states of construction, and maybe five. The phasing of these states of constructions could be, maybe, connected with the general one established for the development of the fortress, but it's actually too soon to conclude how.

THE C3 SECTOR

The main purpose of the excavations in the C3 sector was to verify the existence of the supposed tower 3, immediately east of the north gate of the first fortifications, protecting it.

Location of the soundings

The C3 sector is limited, south by the rampart M109E, west by the wall M302, east by M273 and north by M283, these two last walls from the bent-axis defence system. Four soundings were opened in this sector : C31, C32, C33, C34. The first, C31, is limited south by M109E ; it covers around 3,50 m towards north, and is around 2,50 m wide. C32 was opened at the angle of M306 and M109E, to extend C31. C33 extends at the north-east corner of C31, limited east by M273. C34 extends C31 at the angle of M109E and M273.

Archaeological study of C3

The previous Danish and French missions supposed the existence of an eastern tower protecting the north gate of the first state of the fortress. They deduced its existence from the presence of the western tower of the gate (tower 2), the usual techniques of construction for the Greek fortifications, the necessity to protect the gate, and the presence of M306, with the same characteristics than the west and east walls of tower 2.

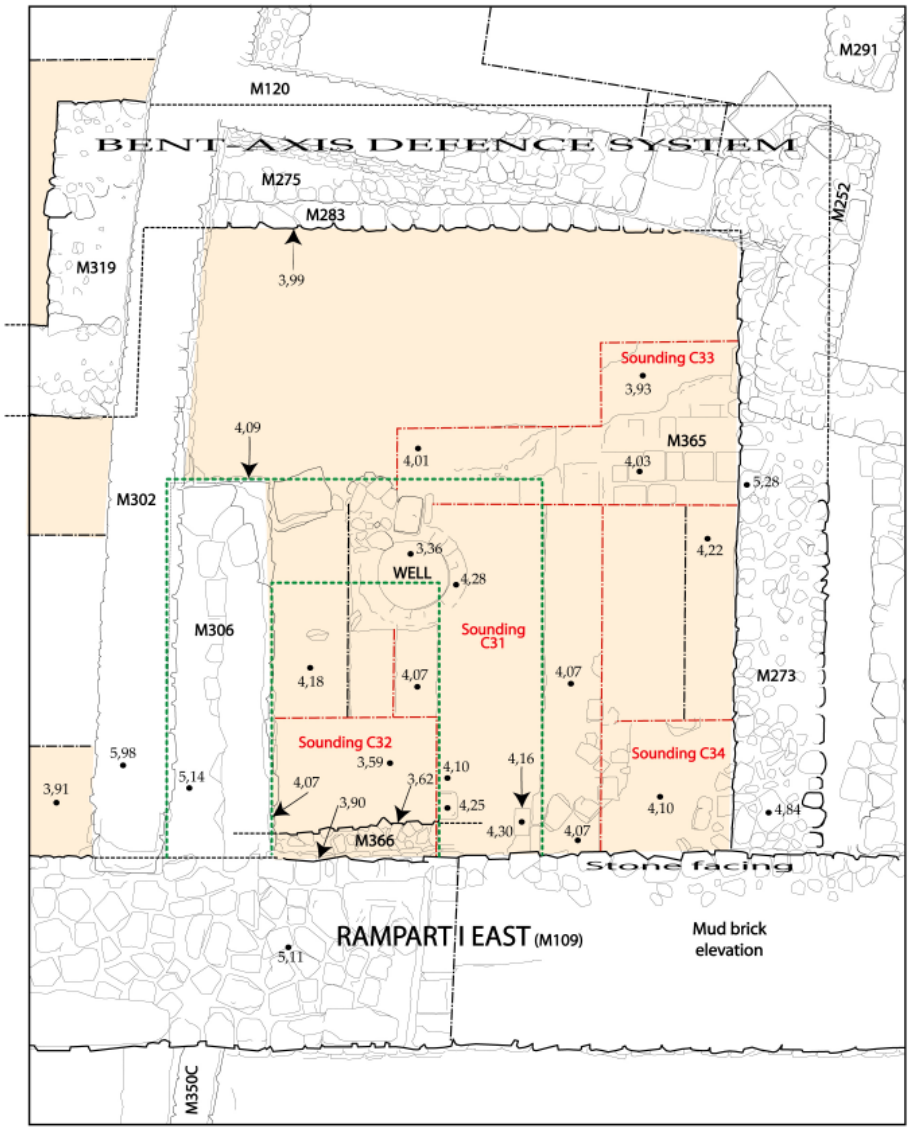
C31 sounding

We decided to open this sounding in the place of the supposed east wall of tower 3, to verify if there is evidence of it.

After cleaning the surface, a layer of compact mud brick earth appeared, with some stones, located in the supposed place of the eastern wall of tower 3. East and west appeared really different layers coming against it. East, they were not compact and we found some pieces of charcoals and bones. The layer of mud brick earth extends on the same wide as M306, the supposed west wall of tower 3, and as the west and east walls of tower 2.

Near M109E, two meters east from M306, we found a stone block, located at the emplacement of the inner side of the supposed east wall of tower 3. The base of this block is situated at the same level than the base of the first course of M306 (alt. 4,07 m) and of the first course of tower 2 (angle NE, alt. 4,10 m). At the same level, east and west of the compact layer of mud brick earth, after removing the layers which came against it, appeared a grey regular soil (alt. 4,07 m) with specks of white sandstone in C31, C32, C34. Finally, in the south part of C31, with the mud brick layer were found mud bricks against and perpendicularly to M109E. They were located at the extern side of the supposed east wall of tower 3.

In the north-west part of C31, a circular pit built of mud bricks (alt. top 4,28 m, bottom 3,36 m) was found, with an internal diameter about 90 cm. From the surface we could note its existence by the presence of a circular ashes layer. The pit was filled with ashes, bones and ceramic.



C3 SECTOR. E. Laroze, dec. 2009, after O. Callot. Completed by M. Gelin.

C32 sounding

It was decided to open C32, in order to verify if the rubble layer discovered in different places under the fortifications of the first state was also present under M109E. The continuity of the regular soil found in C31 was found in C32, at the same level of the first course of M306 and the first course of tower 2. Under, several thin layers appeared, and finally the same rubble layer of C1 and C2 (alt. of the base 3,61-3,62 m), was found under the first rampart.

C33 sounding

The north part of the C3 sector is lower than the south part, due to the ancient excavations. This allowed us to discover several previous architectural remains, and we wished to understand the stratigraphic relations between the chicane (bent-axis walls) in north and south parts of C3 : a regular and probably built level appeared, which we wondered if it was linked to the bent-axis walls or not. That's why we decided to open the C33 sounding.

Immediately after cleaning the surface (removing only few centimetres of modern accumulations), a construction of mud bricks (alt. 4,04 m) appeared. It is probably a wall, M365, perpendicular to M273 which rests on the mud bricks. This wall, which has the same altitude than the first rampart base, can be associated with : it could be part of an advanced defence of the gate, built before the construction of the two towers 2 and 3 and the bent-axis walls.

C34 sounding

After the discovery of the wall M365, we supposed that it could be part of a previous construction, like a house or even a tower linked to the first rampart. To verify if it was possible to find a probable return of this mud bricks wall M365, turning perpendicularly to M109E, we opened the C34 sounding. As the sounding is still not finished, we have to wait for the next campaign to have proper results, but at the end of the work no trace of mud brick has been found.

Interpretations about the tower 3

There is not clear evidence of the presence of the tower 3 eastern wall, while different signs indicate its existence. The presence of the bloc at exactly the same level than the low courses of tower 2 and M306, and at the exact emplacement of the internal face of the supposed tower return, let suppose that it's a testimony of the first course of the east wall of tower 3 (its inner side).

We can't actually explain clearly the meaning of the presence of the compact mud bricks earth layer just at the supposed emplacement of the western wall of tower 3. Is it the destruction layer of this wall or, on the contrary, a preparation layer for its construction ? Can we imagine a mud brick wall at the exact emplacement of the original eastern wall of tower 3 ? Is the presence of mud bricks against M109E a testimony of it ?

The presence of the regular soil in C31, C32, C34, at the same level than the first courses of M306 and of tower 2, and the fact that the block appeared in the south part of C31 rests on it, let think that this soil could have been prepared for establishing the tower 3. It could also have been the circulation layer outside the fortress.

We just started to study the architecture of M109E, and to put it in its original state by carrying away the modern restored courses. So, as the elevation, at the supposed emplacement of a door for tower 3 has been removed (not seen) by previous excavators, we cleaned the top of the stone foundation. At the end of the campaign, no evidence of this door has been found. However, this doesn't mean that the tower didn't exist, because we can't exclude the eventuality of a reconstruction of the rampart at this place.

Only future work will give us, or not, other evidences of the presence of tower 3, as the existence of this door opened in the rampart. During the next campaign, a sounding will be opened on the base of M109E, inside the fortress, where some archaeological levels seem to be still in place. Moreover, work will be lead at the bases of tower 2 (when the A2 sounding will reach this level) and of the west wall of the tower 3, to verify if such a mud layer exists under.

Anyway, it seems very improbable that the north first gate could have been protected by only one tower on its west side, and the mud layer situated exactly at the same location than the east wall of the tower 3 attests that some building was above.

The north part of the C3 sector and the relation with the chicane system

We have to pursue the excavations in this sector, to establish the stratigraphic relations with the chicane (bent-axis walls) system, to understand what represents M365, and to which state of the fortress it was combined with. The reason of the partial destruction of the tower 3 is also to be confirmed.

THE 2008 CERAMIC

by Abdallah Ala El Dine

This report is primarily observation on the pottery excavated during the 2008 campaign that has been running in the Hellenistic fortress in Faïlaka, conducted by the Kuwaiti-French team.

The excavated pottery is not being expected to be homogenous for some reasons :

1. Part comes from accumulated layers (contexts : 08-499, 08-500, 08-502, 08-503, 08-511, 08-521) that have been deposited over the third rampart (late phase), which generally would not give a clear idea about the pottery from lower stratigraphical contexts.
2. Other part comes from pits which cut the third rampart (contexts : 08-506, 08-509). They mostly contain mixed material.
3. Some of the pottery was found within a mass of mud bricks that damaged the third rampart (contexts : 08-495, 08-596, 08-509, 08-513).

The fortress, built in the years around BC 280, incorporated additional constructions represented, according to the previous excavators, by building up two later ramparts, in different periods. Hence almost every layer recorded during the excavations from 2008 campaign contained residual early Hellenistic sherds.

Selected pot sherds are documented briefly below, primarily as providing new evidence for the excavated areas[55].

The earliest pottery noted from the site (exclusively in later layers) dates from second half of 3rd century BC (the formal establishing of the fortress) and is supplemented by deposit 08-500-01, represented by casserole form[56], deposit 08-500-07, by early version of fish-plate rim shape[57], 08-534-01, 08-496-04 by wheel-made lamp fragments[58] and rounded out-curved bowl with small bead rim, resembling the Attic prototype, found in deposit 08-500-02[59].

The 2nd and early 1st centuries BC pottery types are abundant on the site, relating to some second and third phases remains, and present parallel, those from nearby sites in the Island and those from Bahrain, though there the main sequence ends around the middle of the 1st BC. Pieces of 1st and 2nd AD dates are scarce (see cooking pot rim fragments in deposits 08-490-02[60] and 08-490-03[61]).

The mass of broken pieces just noted within the excavated layers can be divided into four or five basic categories of pots, corresponding more or less to different functions. Having sorted the quantities out and separated them, we can start talking in terms of percentages of one or another. We can then proceed to identify actual wares, the products of specific potteries or regions (if possible).

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[55] Being a specialist of eastern Mediterranean pottery, matching pot shapes with counterparts from eastern Mediterranean sites, facilitates identifying the pot forms. Thus, this provides us with better conclusions.

[56] Guz-Zilberstein 1995, p. 299-300, cat. p. 367, fig. 6.20, 1-15. The east Mediterranean examples occurred with thin walls, sandy red fabric, and vertical ring handle attached to rims and upper bodies.

[57] Guz-Zilberstein 1995, p. 291, cat. p. 349, fig. 6.3. 1-9.

[58] Rosenthal-Heginbottom 1995, p. 235-236, cat. p. 272, fig. 1-4.

[59] Guz-Zilberstein 1995, p. 291, photo 6.4 ; fig. 6.2. 1-7.

[60] Ala El Dine MA thesis , pl. 7, fig. 69.

[61] *Ibid.*, pl. 15, fig. 121.

Commonest among the finds are pieces of jars. The commonest local type (?) from the Hellenistic fortress is known as small storage jars with thickened folded rims and narrow necks on oval-shaped body ends in slight knob. Those occurred with no handles. The inside is always covered with bitumen (broken fragments belong to the same vessel found in deposit 08-554, which provide us with almost complete profile ; see 08-554-01)[62]. The fabric is generally powdery-textured, pale yellow clay [2.5Y-7/4] with few tiny gray fossil shell. Imported amphora fragments scarcely occurred, in particular products from North Africa (Tunisia) (see deposit 08-490-04).

Fine or table wares are represented by glazed bowls, the so-called Eggshell ware vessels and the Arabian red slip vessels. Incurved rim bowls, this relatively small bowl with incurved rim, curved body and ring base, is the dominant type of the Hellenistic period and found in every Hellenistic site. This bowl is the most common type in Faïlaka[63], but occurred in glazed ware, and is seen in both ring and flat or slightly indented base shapes, mostly small bowls in size. Here in Faïlaka, we are nearly certain that these bowls came into use as early as the mid 3rd and continued until the end of 2nd centuries BC.

We found glazed out-turned rim bowls[64] (see 08-538-04), the rim flaring outwards more strongly ; this form is common only in the 2nd century BC in the Mediterranean sites and become more common later in that century[65].

Upright rim glazed bowl (see 08-490-07 ; 08-511-05 ; 08-502-02[66]) is a small bowl with curving wall which ends in round-topped rim, imitating the Campania ware bowl that is common in the Mediterranean sites in late 2nd BC.

Glazed bowls with carinated sides and small outwards rims (see 08-526-04 ; 08-538-01 ; 08-534-05)[67] have been found along with material dated to second half of 2nd BC, though the only match to this shape from the Mediterranean sites could be the first half of 1st AD, ESA small bowl form 45.

The shape of glazed bowls with vertical rim ribbed on outside and flaring wall (see 08-565-01 ; 08-565-02)[68] is not common in the Hellenistic Mediterranean sites, and only match the ESA bowls of the mid 1st century AD, forms 48 and 49.

Hemispherical glazed bowls are good match to ESA bowl form 24 (see 08-499-03) and form 19A (see 08-515-01 ; 08-538-03) that dated to 1st BC.

A glazed bowl with flaring rim and sharply carinated lower sides (see 08-529-01)[69], came from a layer with material dated to late 2nd - early 1st BC. In comparison with ESA forms, this shape is a good match to ESA form 23 (100-50 BC).

Eggshell thin-walled, very fine-textured bowls have been found in more than one form, beakers and bowls. The color of the clay varies from greenish grey to pale yellow. This ware is very common in the layers of the Hellenistic sites in Mesopotamia and in particular in the fortress along with the glazed vessels. The most common shapes are a

[62] Hannestad, pl. 55, fig. 542.

[63] Typological development for this type will be verified in forthcoming study.

[64] Hannestad pl. 2, fig. 25-30.

[65] Guz-Zilberstein 1995, p. 291, photo 6.6, fig. 6.2.12-19.

[66] Hannestad pl. 2, fig. 22-23.

[67] *Ibid*., pl. 8-9, fig. 94-104.

[68] Hannestad vol. 2.2, pl.12-13, fig. 137-167.

[69] *Ibid*., pl. 3, fig. 31.

tall beaker with slight flaring rim and small ring base[70] (08-564-03). Hemispherical bowls with small flaring rim, imitating the ESA bowl form 17B (see 08-502-04 ; 08-535-04 ; 08-535-03) that occurred in second half of 2nd BC, are also very common bowls with flanged rim on a carinated sides and sloping wall with small disc base. As it is seen, since no example is reported from the Mediterranean sites, Eggshell ware is certainly confined to the Mesopotamian world. Hemispherical Gray ware bowls with horizontal fine grooves on upper walls, burnished on both sides (08-512-03 ; 08-529-03) seem to be imitating the Megarian bowls (2nd century BC).

CONCLUSIONS

This brief approach of a two weeks examination of a small group of pottery excavated in 2008 campaign is not enough to provide definite information about the material correlated with the stratigraphy of the site[71]. The suggestions that are given here are not absolute awaiting significant new stratified deposits from the subsequent excavations. In general, it is almost impossible to distract information and distinguish on the basis of shapes alone with other sites, since those sites proposed diversity, especially in dates.

Some questions arise concerning the types, in particular the fine and table wares (glazed and Eggshell ware) :

1- When exactly did they appear, and when the productions of these wares ended ?

2- Can the typological development of the bowls be traced through the Hellenistic period ?

3- What were the provenances of the bowls ? Were there one or several workshops at any given time ?

The finds from Faïlaka, when they are published in detail, considering comprehensive research, will, it is hoped, set new standards for the documentation of similar pottery and other finds from elsewhere in the region. It should be possible to build on the experience gained in neighboring countries during recent years : the Faïlaka finds will need to be matched by similarity documented pottery from other ancient sites from neighboring regions. In that way, the instability of production and trade over the Hellenistic period can be understood.

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[70] Hannestad, pl. 36, fig. 335-338.

[71] Specific finds are mentioned in this approach ; more categories will be discussed in the forthcoming report.

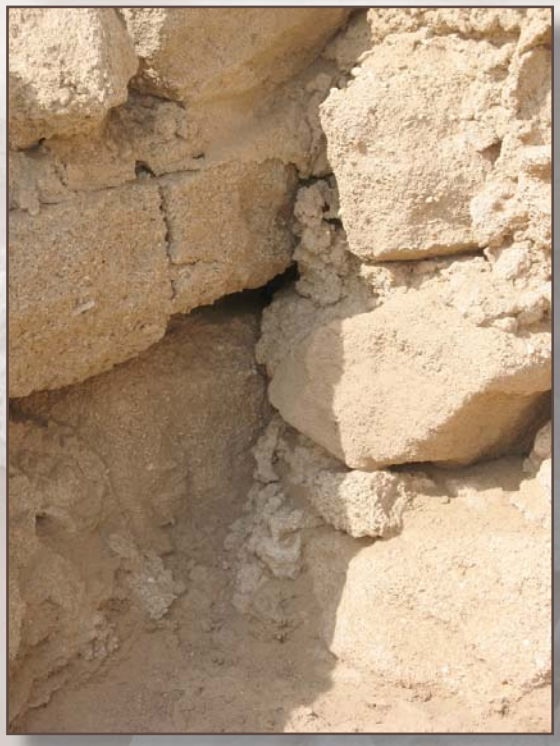
PLATES

2009 campaign. Localization of soundings and towers concerned by our work.
Picture Y. Guichard © DAM Kuwait.

Unless otherwise mentioned, all the pictures and drawings are from the expedition.

DIFFICULTIES INHERENT TO THE SITE

Example of damages caused by ancient deep soundings, destroying the links between walls and stratigraphy, view to the south. Here, the wall M320 in A2 sector, surrounded and partly destroyed by ancient soundings. At its south extremity, the baulk has been cemented, creating a modern wall ; at its junction with the rampart (first plan), the top has been cemented.

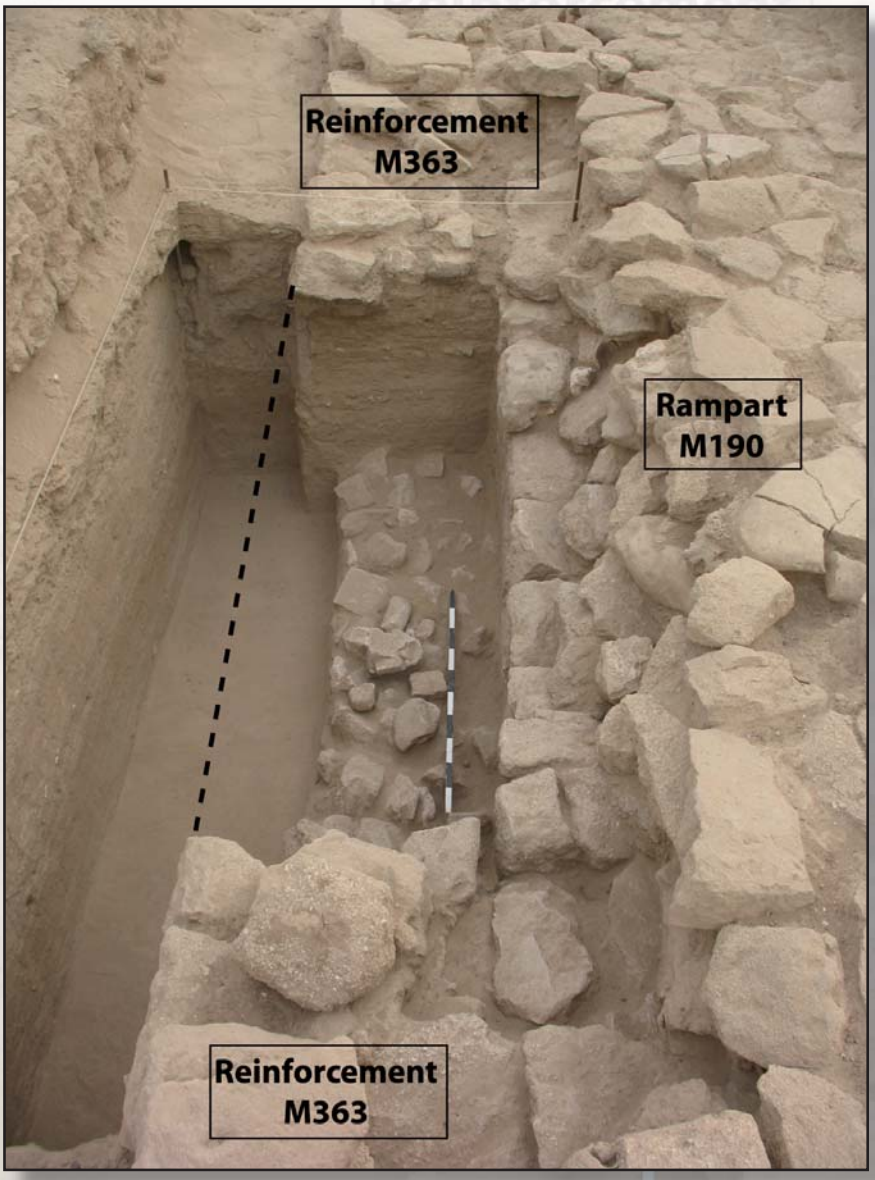


Detail of a junction between two walls. It has been totally cemented and the wall on the right has been partly reconstructed. The original link between these walls is now impossible to determine.

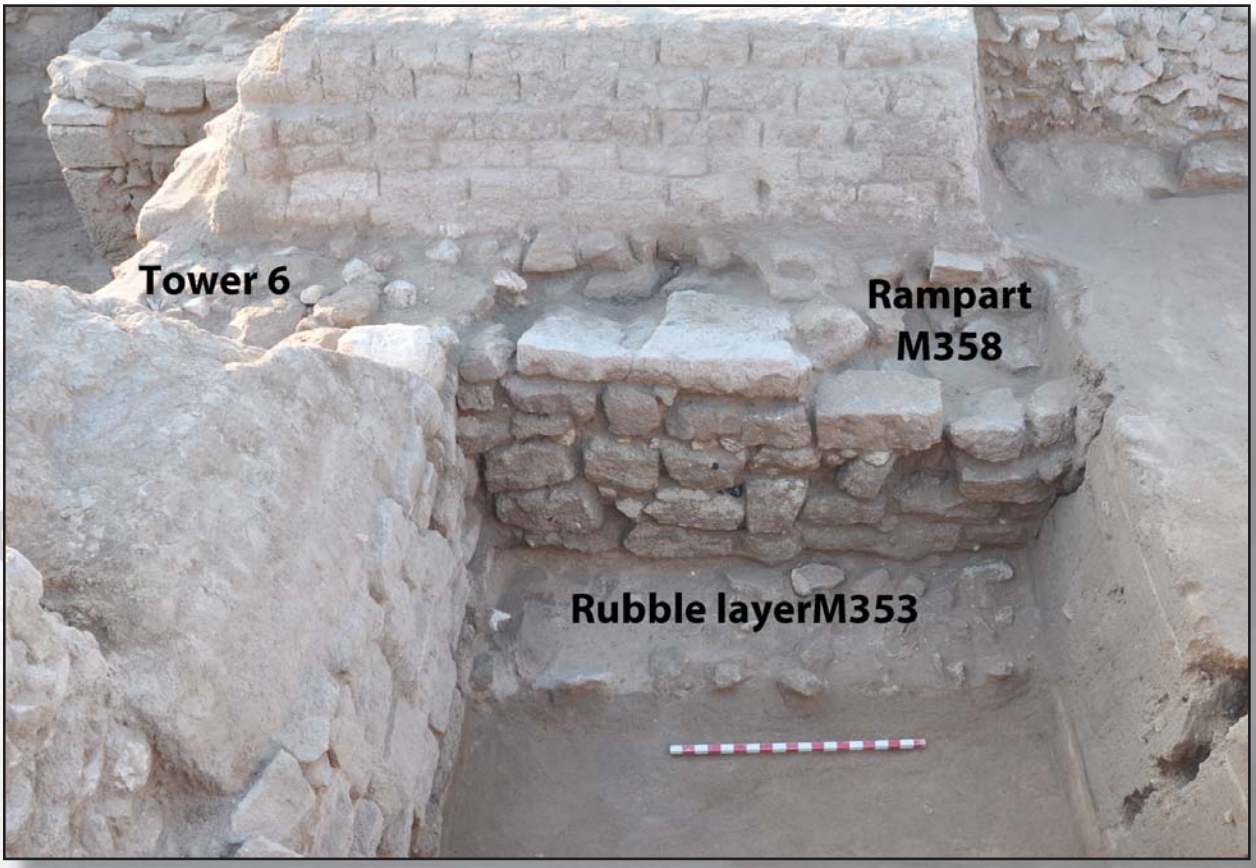
Modern cement put top of the faces of walls, creating a way for the water to run inside the masonry. The face of the small wall on the left is totally modernly rebuilt. Tower 4, view to the south.

Example of destructions due to ancient deep soundings not refilled and humidity. South part of the fortress.

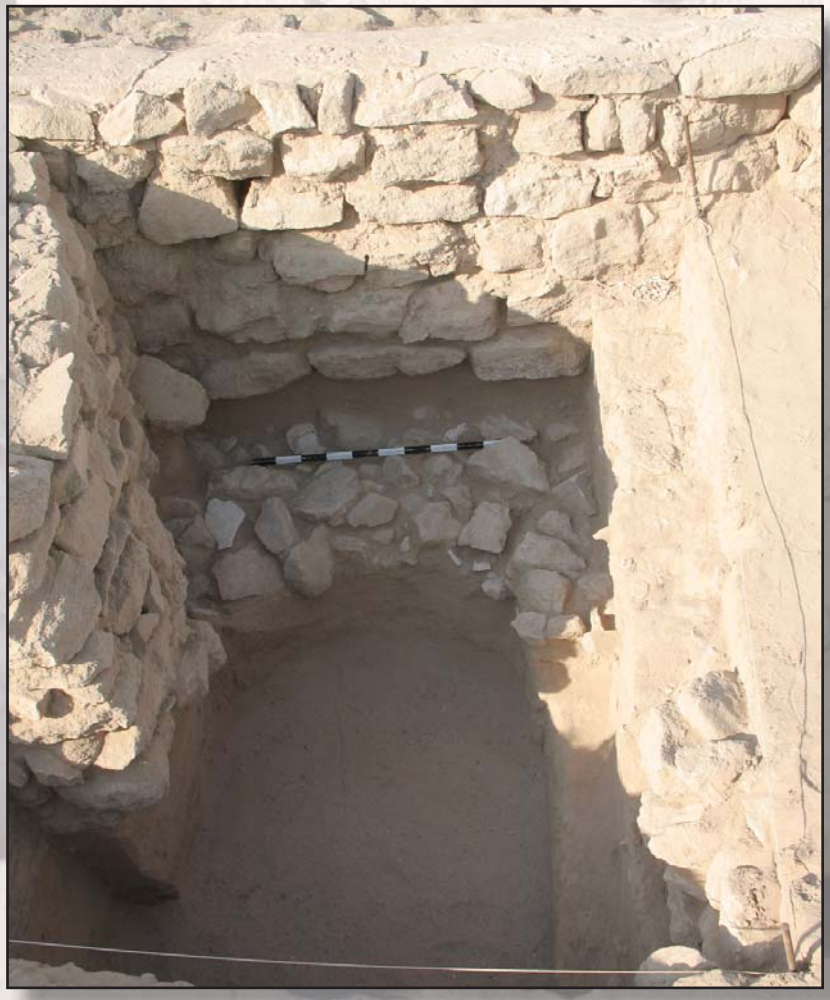
RAMPART BUILDING TECHNIQUES



The rubble preparation layer under the rampart. **Left**, under the east rampart (outer face) in C22, view to the south. The broken wall above is a later embankment (M363). **Below**, under the north rampart (outer face) in C3, view to the south.



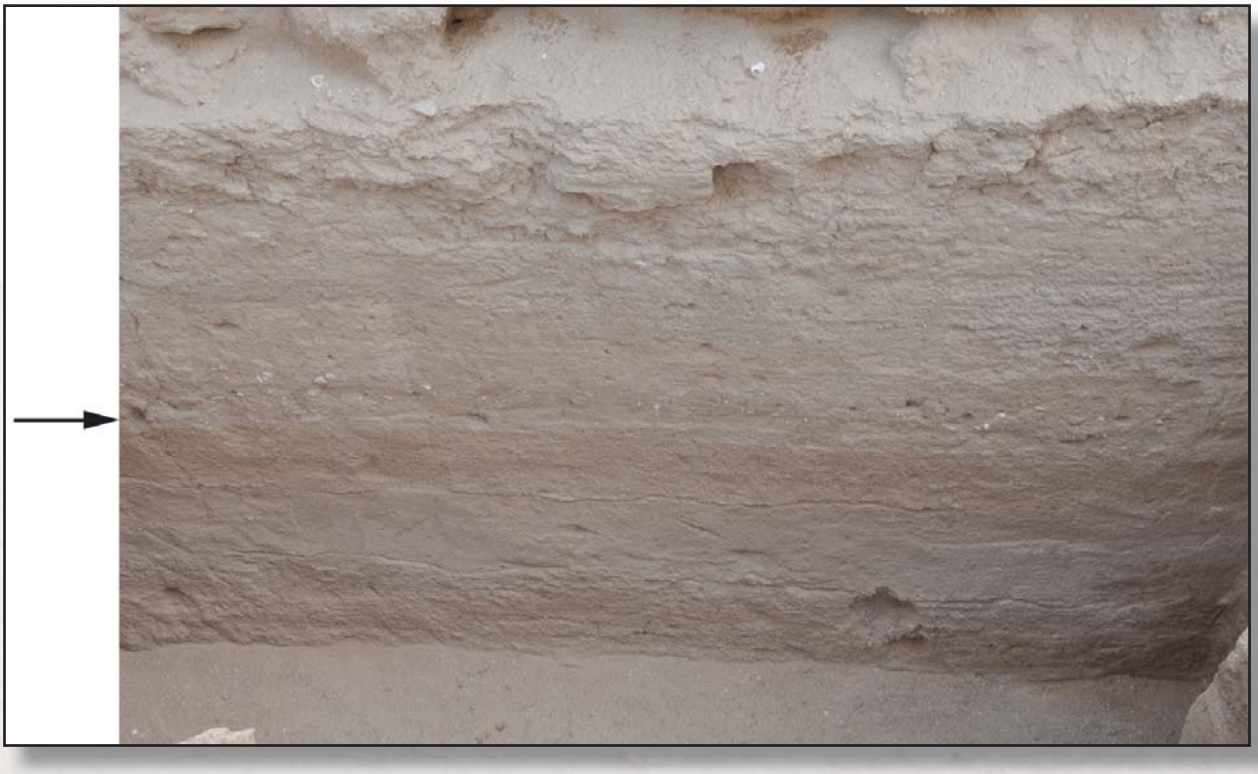
The rubble preparation layer under the rampart. **Above**, under the south wall (inner face) in B2, view to the south. **Below**, under the south rampart (outer face) in B1, view to the north.



The rubble preparation layer under the towers. **Above**, under the tower 2 (inner face) in A2, view to the north. **Below**, under the tower 4 (outer face) in C12, view to the west. Here, the previous excavations destroyed part of it.

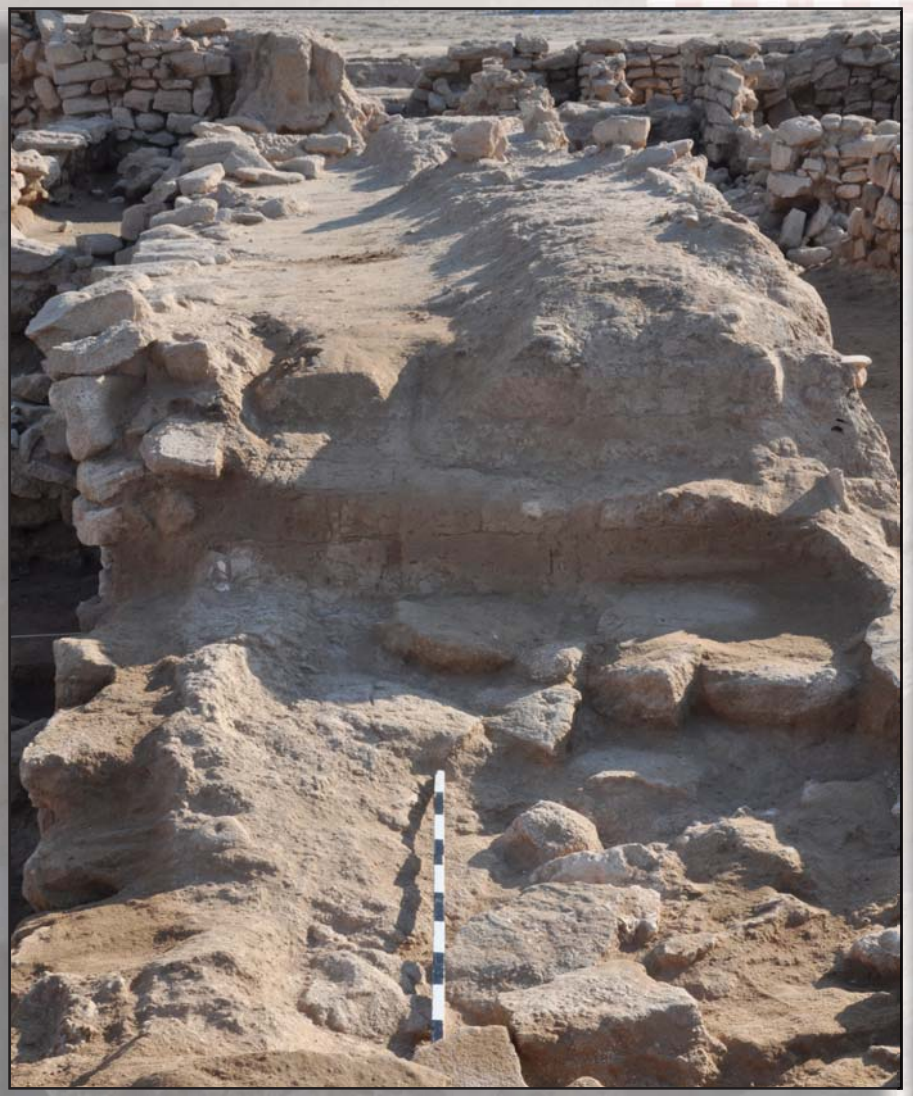
Tower 6, the rubble preparation layer under the south rampart, penetrating inside the tower. In the west half of the tower (below in the picture), it doesn't exist. View to the east.

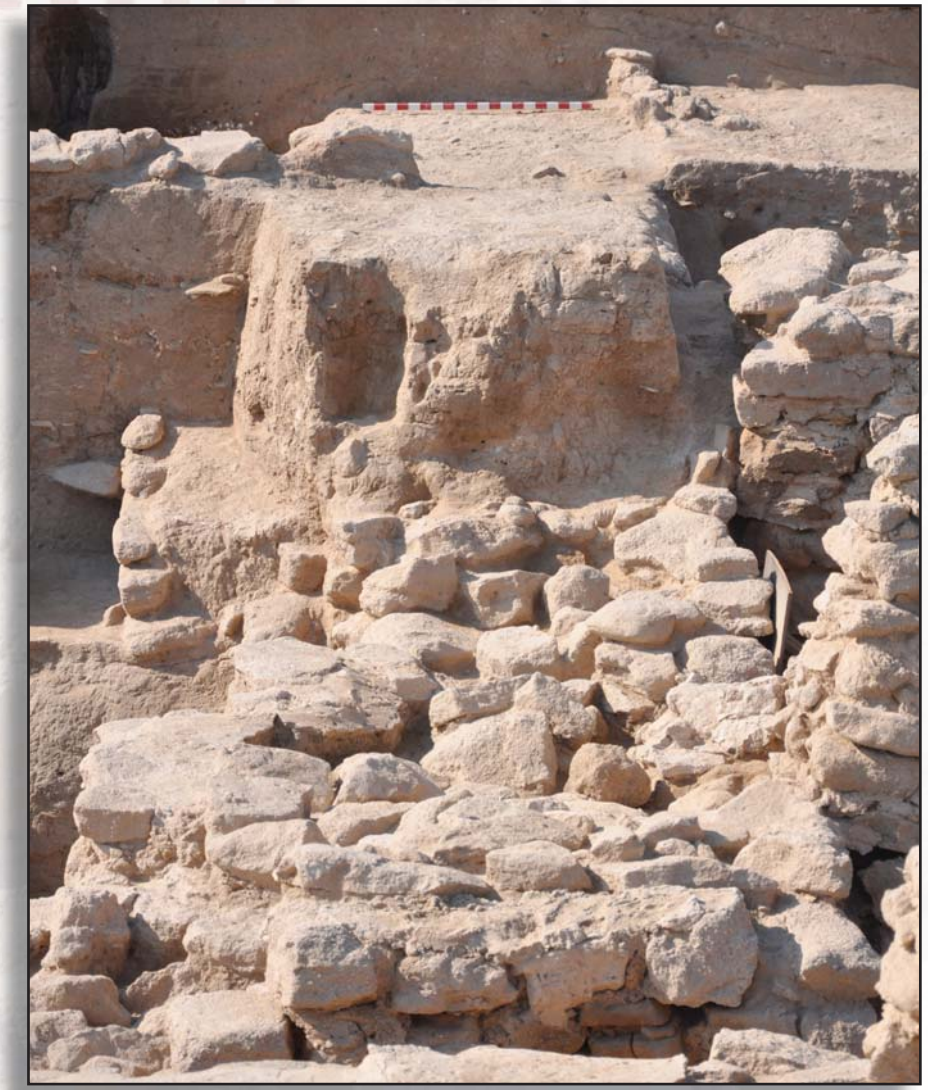
The rubble preparation layer under the east rampart. Examples of reused cut stones.



The nearly horizontal sand layer, inside which the rubble layer has been put. C22 east baulk.

General view of the south rampart, showing the rubble layer under the line of the wall (white arrows). On the first plan, the mud bricks elevation of the rampart has been partly destroyed by ancient excavations. View to the east.





Mud brick elevation of the first rampart. **Left**, in C3, the outer face is protected by a stone face. **Right**, in A2/A1

POSSIBLE FIRST SOUTH ACCESS

Top, left : the first door in tower 2 (the two vertical lines under the threshold ; the wood planks and beams sustain the door jamb, waiting for future conservation), view to the south. **Top, right** : the second threshold of the tower 2, view to the east. **Below, left** : the flat white stone, a possible ancient threshold for a previous south entrance in the fortress, before tower 6. Sounding B2, view to the south. **Below, right** : the later walls above the well, indicating that this one was not in use any more. View to the north-east. © Danish Expedition.

The sea at low tide, showing sand and rock banks : the surrounding area is not passable for ships, probably even in high tide. View to the south.
Picture Y. Guichard. © DAM Kuwait.

ARCHAEOLOGICAL RESULTS

Sector of the north rampart in the first plan, in the 1970s. View to the south. © Danish Expedition.

The north part of the fortress after the 2009 campaign. Left, A1 sector, first plan part of A2, right C3 sector. View to the north. Picture Y. Guichard © DAM Kuwait.

A1, the whole sounding before work. View to the north.

A1. Top of the picture, the west section after work. Views to the west.

A1, the mud brick walls M343 (on the right) and M344 (in the back). On the left, the soil A1-S09-2 ; on the right, soil A1-S08-3. View to the east.

A1, the modern pit A1-F08-3, which was full of shells. It destroyed the wall M342 (below), which is part of the bent-axe defense system. View to the south-west.

A1, the pit A1-F09-2, located in the south-west angle of the sounding, which destroyed part of the first rampart elevation (the fallen stones are in the pit). On the first plan, the first rampart. View to the south-west.

A1, the pit A1-F09-2. View to the north.

A2. The whole sector. **Above** : after previous excavations in the 1970s © Danish Expedition. **Below** : at the end of 2009 campaign, picture Y. Guichard © DAM Kuwait. Note the deep soundings ; the long wall in the middle of the picture has disappeared, as well as the room on the left. The first rampart door is on the right. Note also the small space between the tower 2 and the wall of the corridor (M301). Views to the north-west.

A2. The tower 2 after its excavation in the 1970s. Note the first door. View to the north. © Danish Expedition.

A2. Removal of the cemented wall which was linking the tower 2 (on the left) and the latest corridor wall M301, to restitute the state after ancient excavations. The cemented wall M348C, just after the nylon, has been removed too. View to the east.

A2 at the end of 2009 campaign. View to the north.

A2 at the end of 2009 campaign. View to the east.

A2, west baulk at the end of 2009 campaign. View to the west.

A2, west baulk and first rampart. Under the mud brick elevation of the rampart, the reinforcement M370 which stands on the previous reinforcement in crude earth M369. On the right, the tower 2 entrance. The arrow shows the place of the seal 09-A2-7049-01. View to the west.

A2, general view to the S-E.

A2, the S-W angle of the sounding. View on the ashes layers limited by the wall M352 on the right. View to the S-W.

A2, the south baulk above the N-S street. Notice the alternance of green and red layers with a curved profile. On the right, M346, on the left M351 ; on the extreme right, "false wall". View to the south.

A2, the north gate of the first rampart. View to the north.

A2, the north gate of the first rampart. Detail of the door socket.

A2, the north gate of the first rampart. The threshold has been cemented in modern period. On the first plan, an ancient deep sounding. View to the south.

B sector, tower 6 at the end of the campaign. Picture Y. Guichard © DAM Kuwait.

B sector, tower 6 after work in the 1970s, view to the north. Note the wall M354 in the middle of the tower, before its collapse. © Danish Expedition.

B sector, tower 6 before work. The collapse of the wall M354. View to the north.

B sector, tower 6 at the end of the campaign. On the right, sounding B2, on the left, B1. View to the south.

B sector, tower 6 after 2009 campaign. View to the west.

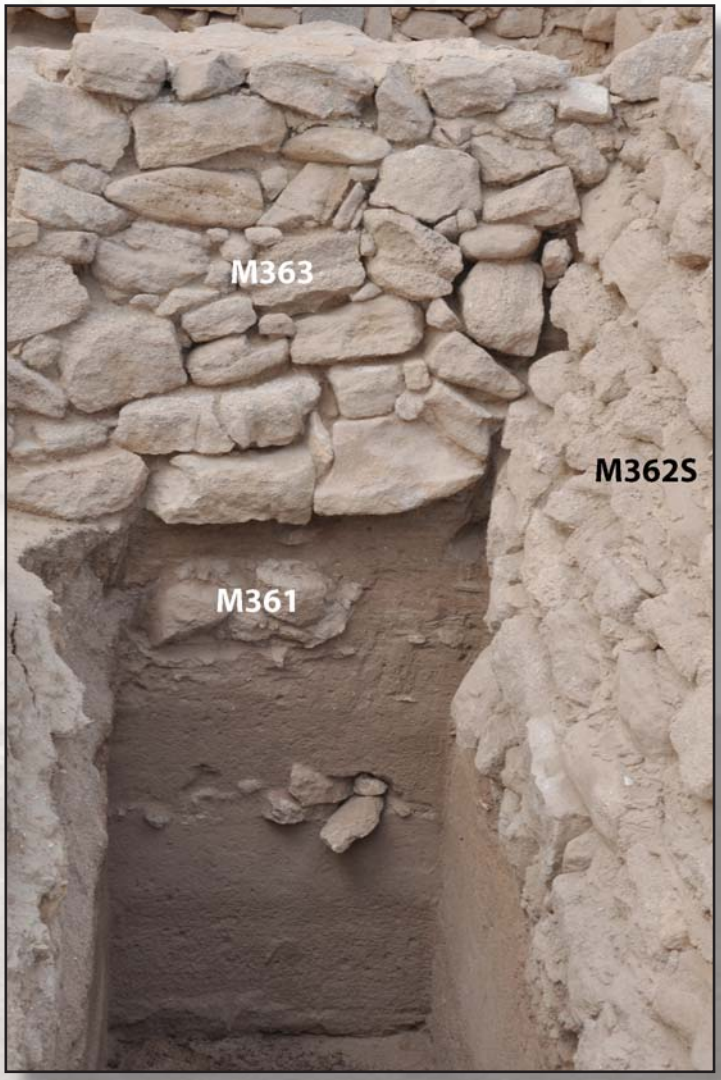
B sector, tower 6. The north door and the two fill-in ; the arrows show the first entrance. View to the north.

Sounding B2. Occupation layer made with fragments of mud bricks.

Sounding B2. Occupation layer containing numerous spring balance in crude earth.

The northeast angle of the fortress. C1 and C2 sector, tower 4 at the end of the campaign. **Above**, view to the west. **Below**, the north is at the bottom. Picture Y. Guichard © DAM Kuwait.

C1 and C2 sector. **Left**, the C22 and C21 soundings, view to the north. **Right**, the C11 and C12 soundings, view to the south.



Sounding C21. Below, the stones are part of the rubble foundation layer of the rampart. Above, the reinforcement (M363) of the rampart, running against the one (M362S) of tower 4. Under it, some cemented stones. View to the west.

M362S

Tower 4 in the 1970s. Note the ancient deep sounding. View to the north-east. © Danish Expedition.

Tower 4 in the 1970ˢ. Note that the reinforcement M362 (on the left) was already partly destroyed, before the excavations. View to the west. © Danish Expedition.

Sounding C11. The mud brick construction M359 (reinforcement ?) against tower 4. A pit has been dug inside, then it has been destroyed to install the stones reinforcement M362N visible on the right. View to the west.

C3 sector. The possible tower 3 remains mainly with its west wall M306 ; it has probably been destroyed to install the bent-axis walls and the place used as a courtyard. View to the west. Picture Y. Guichard © DAM Kuwait.

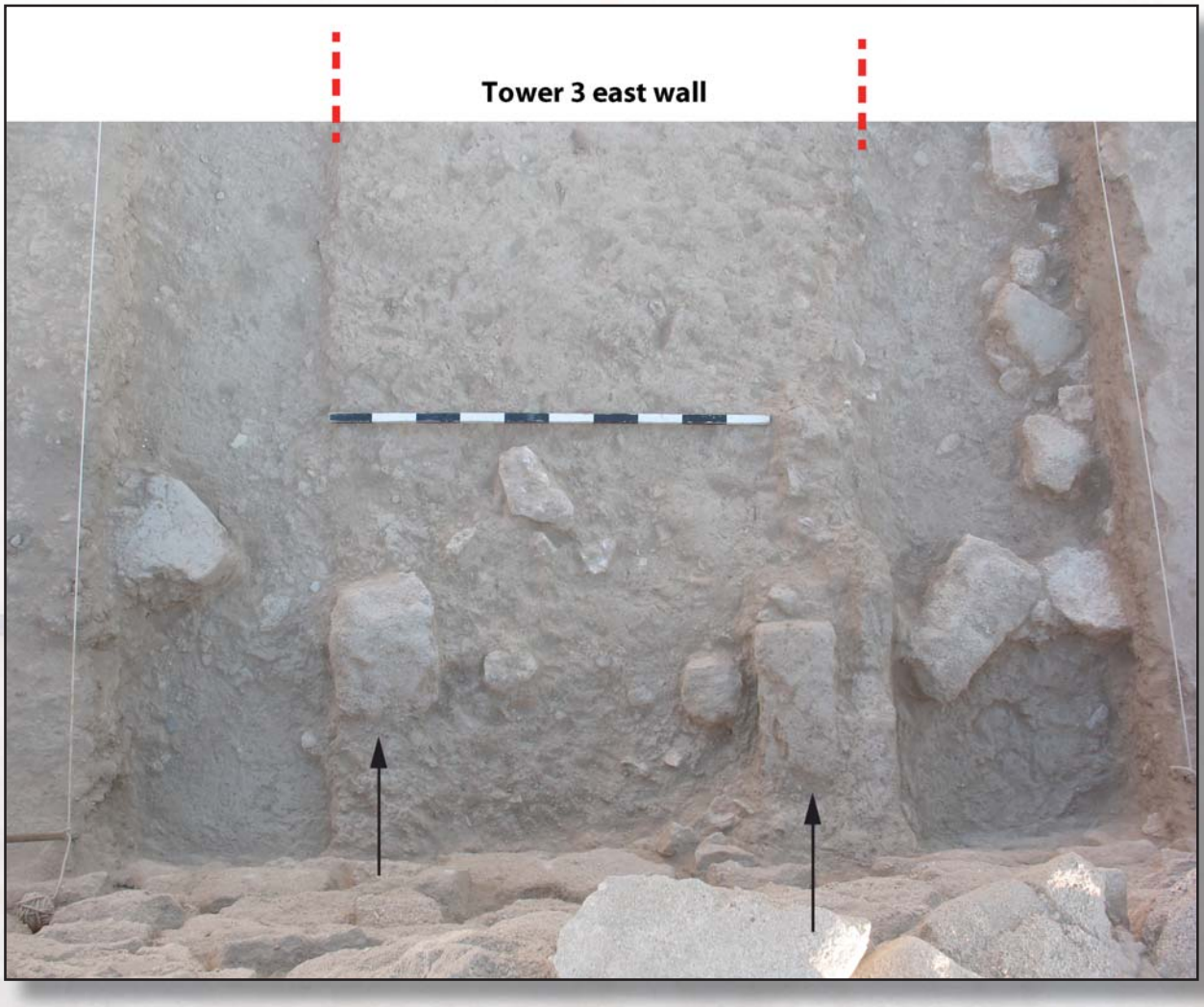
The C3 sector before work. Note that the whole place has been previously deeply excavated. View to the south.

C3 sector after 2009 campaign. View to the south.

C3 sector. The well.

C3 sector. The mud brick wall M365, which pre-existed to the bent-axis wall M273 (on the left). This wall is maybe our unique witness of an installation occurring before the Hellenistic fortress, or of an advanced defense linked with the first rampart. View to the south.

C3 sector. Detail of the mud brick wall M365.



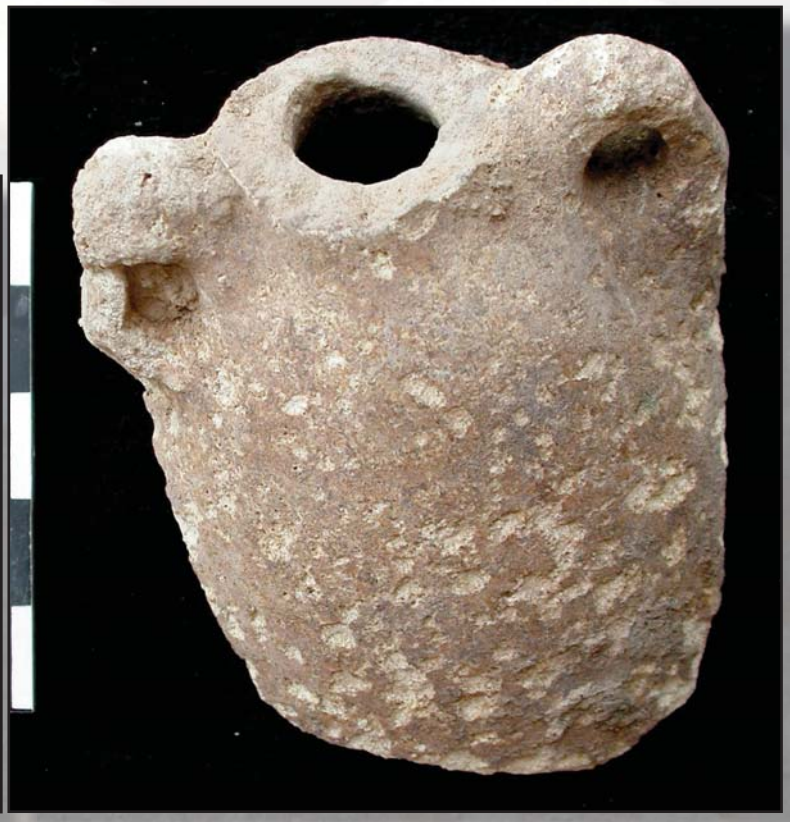
C3 sector. The stone against the rampart (on the left) is probably the only remain from the inner face of the tower 3 east wall. The red lines represent the limits of the east wall. On the right, mud bricks from a probably later wall.

OBJECTS

Stone net weight,
09-A1-5017-01.

Unidentified,
ceramic,
09-A1-5017-03.

Fragment of stone pot, 09-A2-7007.



Soft stone (steatite) weight,
09-A2-7002-01.

Ceramic cow's head,
09-A2-7006-01.

Stone net weight, 09-A2-7038-01.

Ceramic lamp, 09-A2-7035-01.

Dilmun soft stone (steatite) seal, 09-A2-7049-01

Weight cut in a fragment of ceramic bowl, 09-B2-3019-04.

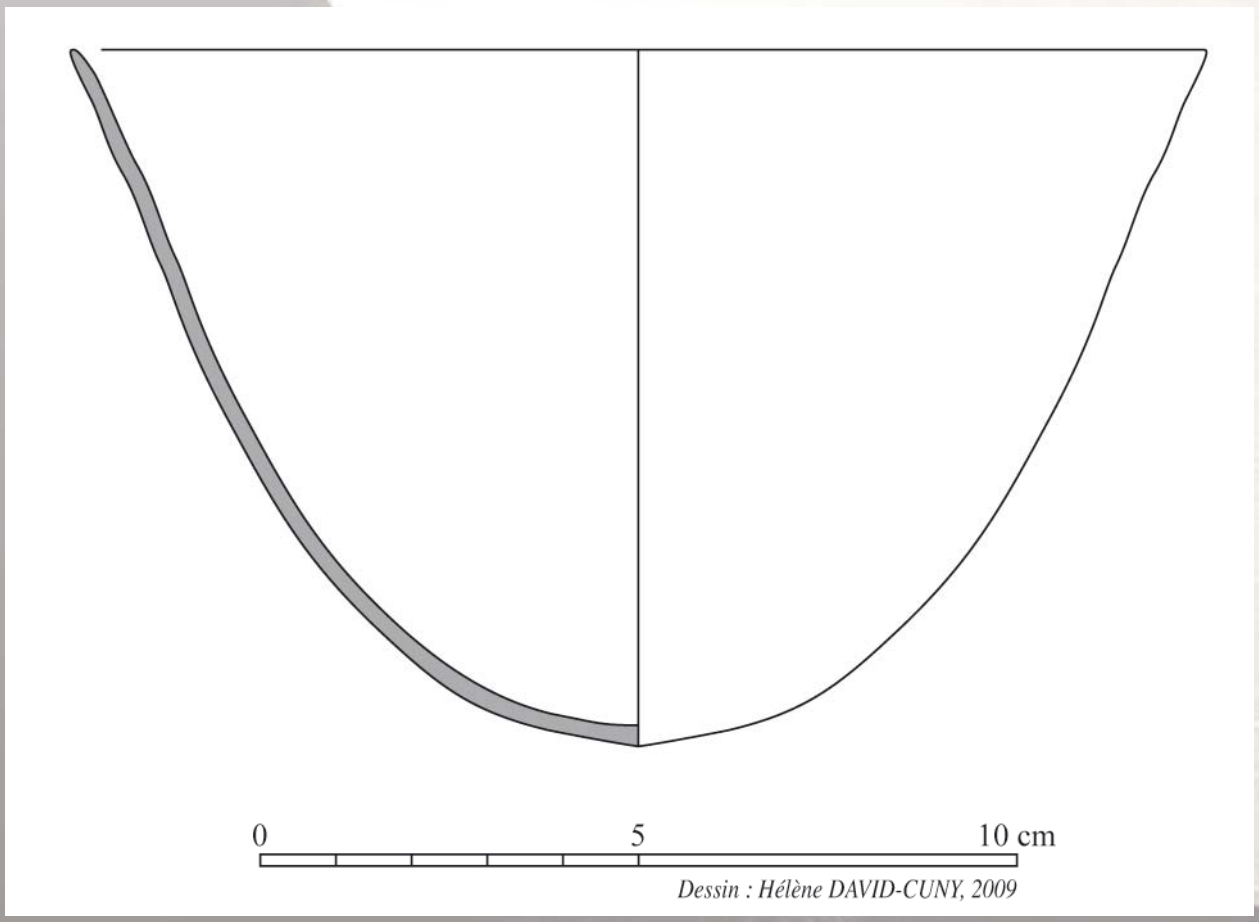
Stone cylinder, 09-B2-3028-02.

Crude earth spring balance, 09-B2-3023-01.

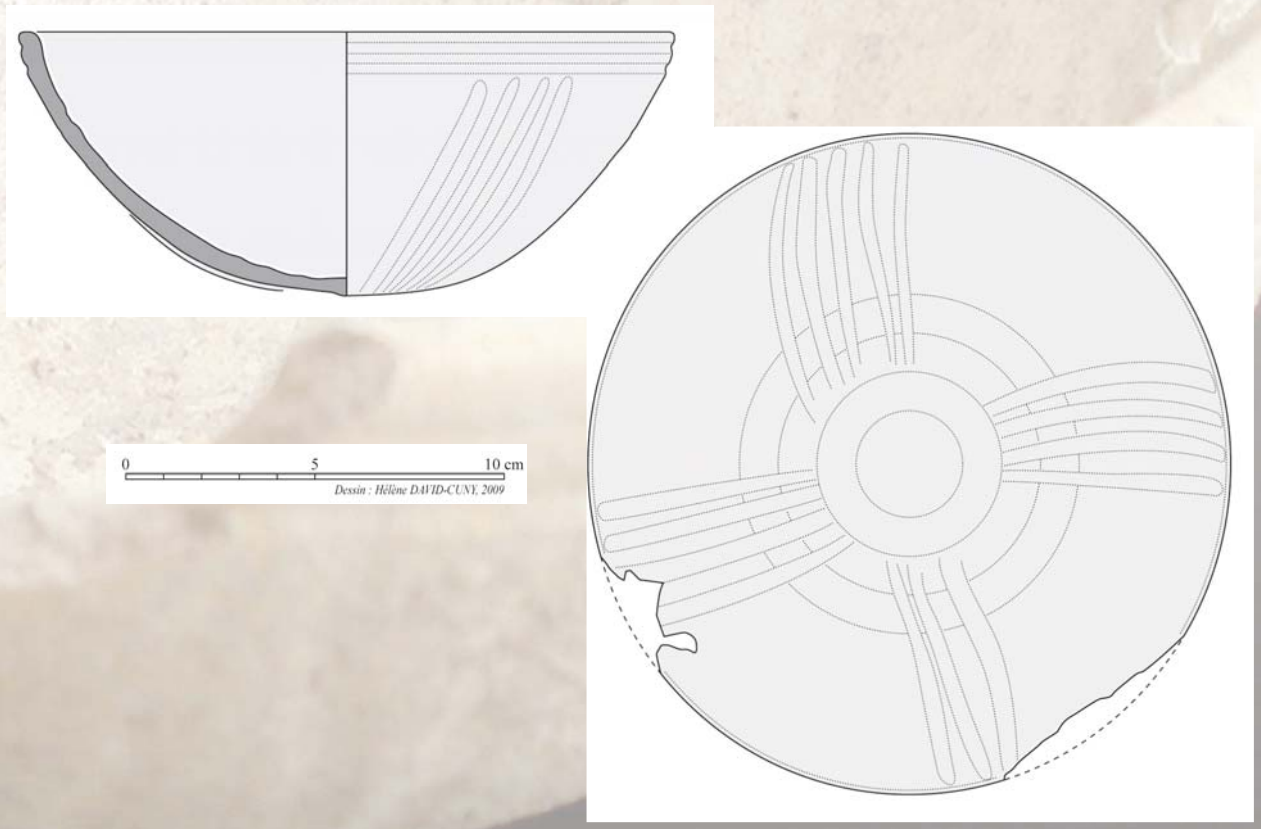
Jar corks in bitumen and stone, 09-B2-3025-02.

Stone alabastron, 09-B2-3022-01.

Ceramic egg shell bowl, 09-B2-3011-1.



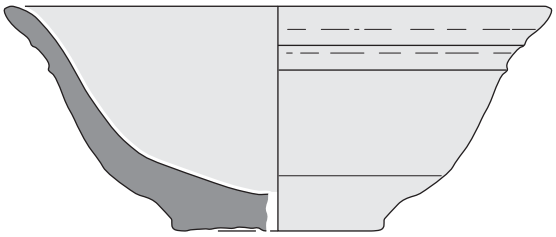
Glazed ceramic bowl, 09-B2-3011-2.



Fragment of stone basin, 09-C31-1025-01.

Fragment of stone altar, 09-C31-1027-01.

Pottery drawn by H. David-Cuny.



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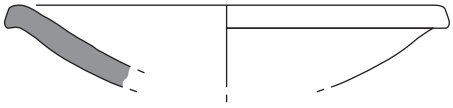

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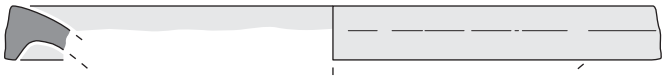

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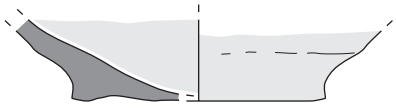

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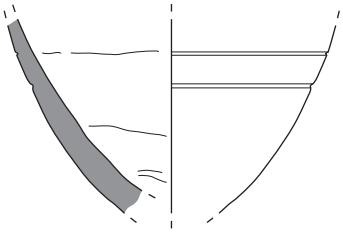

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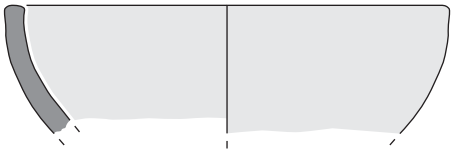

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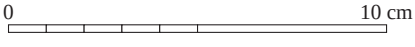
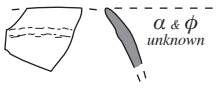


Pottery drawn by H. David-Cuny.



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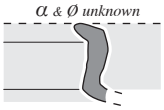

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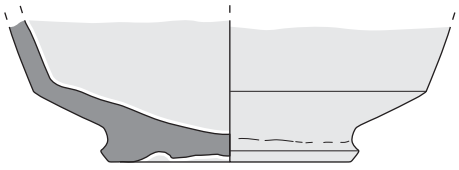

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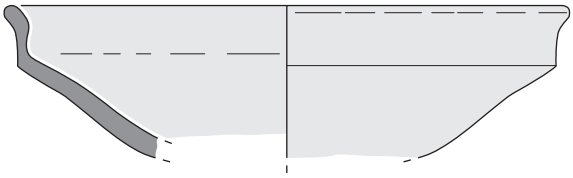

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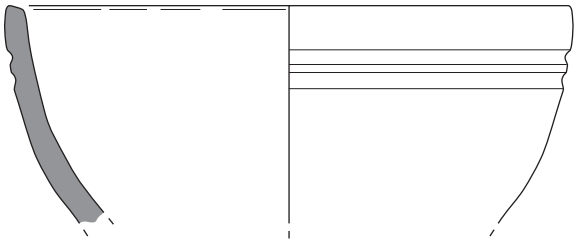

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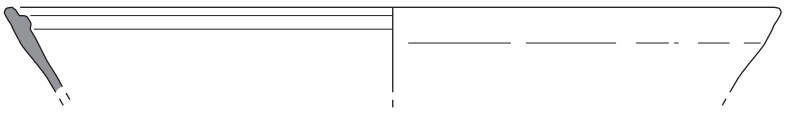

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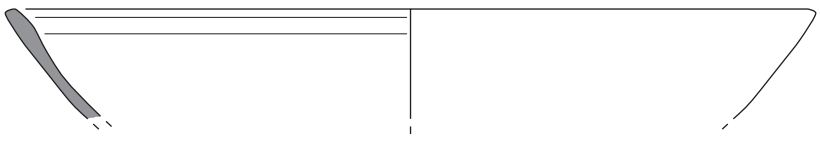

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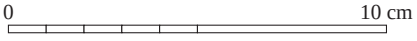
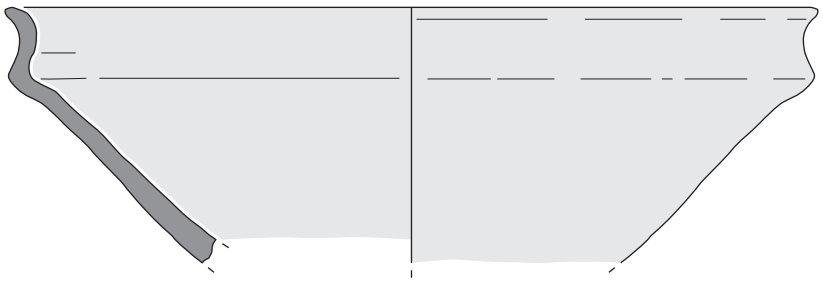


Pottery drawn by H. David-Cuny.



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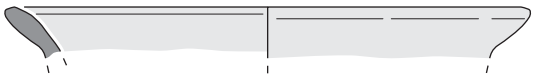

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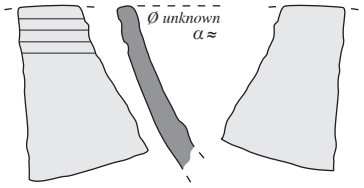

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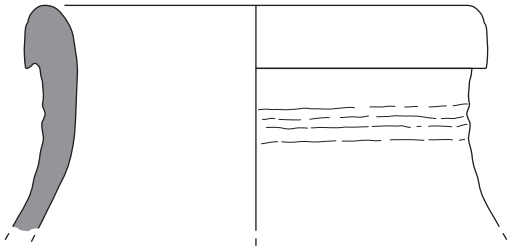

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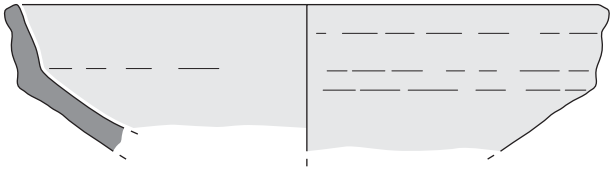

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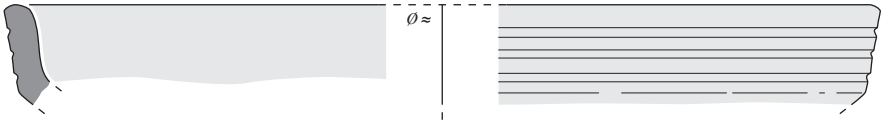

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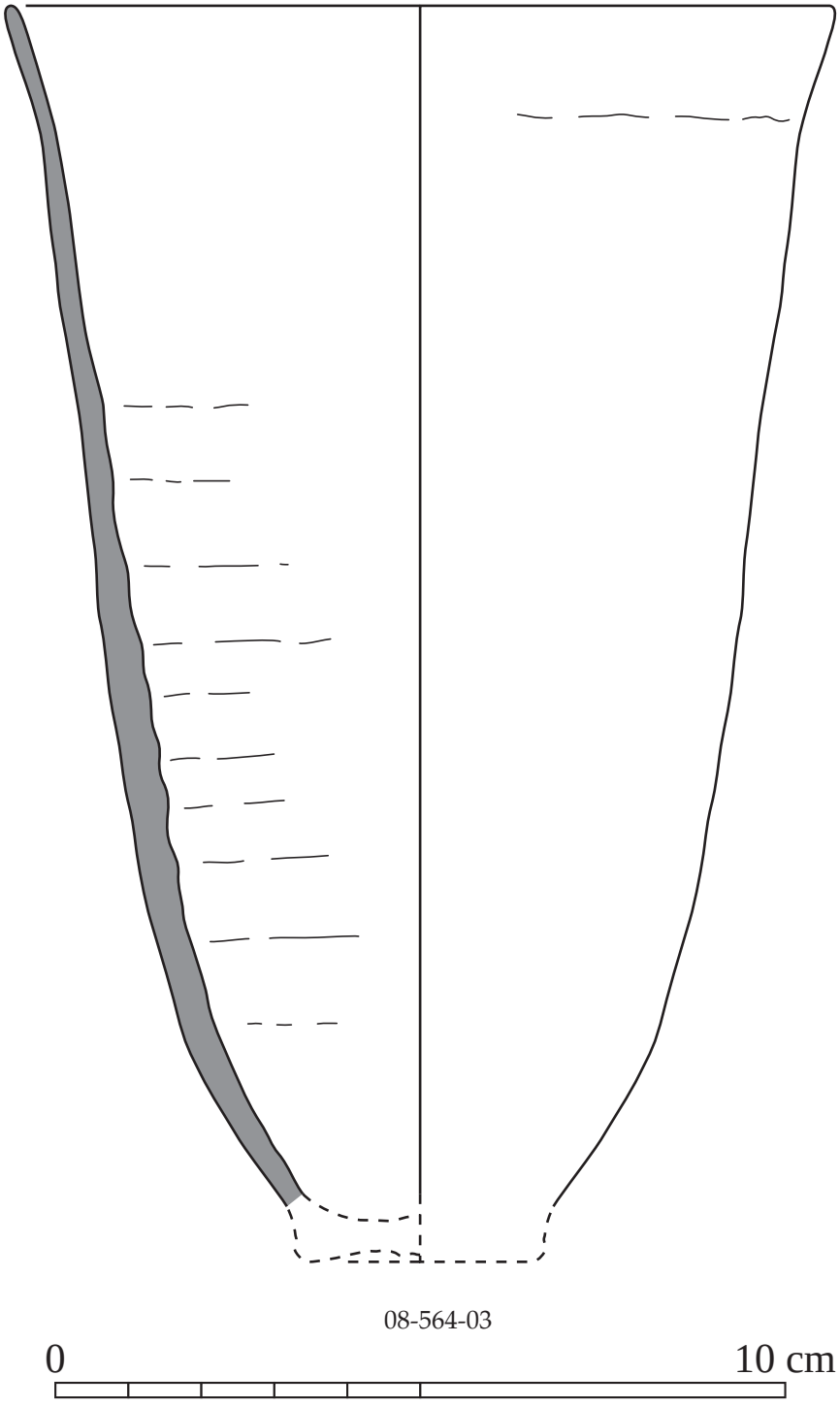

2009 team members.
From left to right : Ahmad Deb, Shaker Al Shbib, Mathilde Gelin, Abdallah Ala El Dine, Jean-Michel Gelin.

The team members with the workers on 26/11/2009, in front of the temple A.

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البعثة الكويتية الفرنسية في فيلكا

الحصن الهيلينستية (تل سعيد)

التقرير الأولي عام ٢٠٠٩

تحت إدارة ماتيلد جولان

تمهيد شهاب ع. ح. شهاب

مع مساهمات

عبدالله علاء الدين، أحمد ديب، جان ميشيل جولان، شاكر الشبيب

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٢٠١٢

البعثة الكويتية الفرنسية في فيلكا

الحصن الهيلينستية (تل سعيد)

التقرير الأولي عام ٢٠٠٩

تحت إدارة ماتيلد جولان

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