

IMTO – Italian Mission to Oman

University of Pisa

SUMHURAM

Preliminary Report

June – July 2011 (SUM11B)



PRELIMINARY REPORT (SUM11B)

June- July 2011

The second IMTO's campaign of 2011 (SUM11B), under the direction of prof. A. Avanzini, started on 26th June 2011 and finished on 21st July.

The campaign will have a continuation of one week under the supervision of Said al Mashani.

The main goals of excavations have been focused in area F, square A20.

The restorations activities have been carried on along the northern side of the city wall (walls M135 and M133).

The excavations were conducted on the field by dr. Ludovico Portuese and dr. Giulia Russo.

Arch. Elena Kurkina was responsible of the drawing of the pottery.

The consolidation and restoration of ancient masonry structures have been done by eng. Andrea Valli under the supervision of eng. Giuseppe Cecinato.

Contemporary with the works of the field, a study season focused on the pottery has been conducted by dr. Vittoria Buffa and dr. Alexia Pavan.

Dr. Gianluca Buonimini spent three weeks on the lab of the museum, dealing with the conservation of materials from Al Baleed.

The work of IMTO has been possible thanks to the collaboration of the Office of the Adviser of His Majesty the Sultan for Cultural Affairs in Salalah and in Muscat, in particular Ghanem al Shanfari, Said al Mashani, Ali al Kathiri, Said al Salmi, Hassan al Jabri and all the Museum's team for their kind helpfulness.

Square A20 (trench supervisor Ludovico Portuese and Giulia Russo)

During the campaign SUM11B, which started on June the 26th and finished on July the 21st, the field activity has been focused on square A20, in front of the building BF3.

The area was already excavated in previous campaigns (see Sedov “*The cultural quarter: area F*” in Khor Rori report 2, pp. 183-213); during the campaign SUM10A the area was cleaned and the exposed mudbrick structure along the M93 (northern wall of the so-called Monumental Building 2) was partially removed.

The already established stratigraphy for the area (from the top, US80, US71, US56, US54) was confirmed by the excavation of this campaign.

US80 is the top layer, characterised by a brownish loose loam mixed with stones, animal bones, marine shells and a few pottery fragments; it was thinner in the SE limit, thicker in the NW (around 20 cm). One bead found.

US80 covered the US71, consisting of medium compact earth with animal bones, some pottery fragments, charcoals, stones of small and medium size, mudbrick fragments and fireplaces. A big fireplace marked the limit with the US56 below. The filling of this fireplace was made of loose black earth mixed with charcoals and ashes. Small and medium-sized stones delimited its lower base. A bronze nail was found in it.

The US56 consists of loose dark brown loam mixed with big and small size stones, animal bones, seashells (*oliva bulbosa* in particular) and pottery fragments. The layer was about 1 m thick and on its SE limit leaning on the mudbrick structure it was characterised by the presence of a large amount of medium and big-sized stones (collapse of something?). The limit with the US54 below was marked by a floor of heavily packed earth. Three coins were found.

The US54 is made of very compact and hard light brown loam mixed with charcoal, animal bones, pottery fragments and some plaster fragments; it was around 0,5 m thick. Some bone objects (handles) and a coin were found. After the removal of the US54, two stones alignments were found, belonging to walls not excavated. The first has a E-W regular alignment, the second one (still visible in the section left) has a NW-SE alignment, perpendicular to the mudbrick structure.

The mudbrick structure leaning on M93 was covered by US56, with a large amount of medium and big-sized stones (collapse of M93?) mixed with loose mudbricks. The dimensions of the mudbrick structure were 1.60x1.38 m and c. 0.85 m high. The interior of the structure was filled by a compact brown earth with small and medium-sized stones (only its top was removed during the campaign).

Along the northern wall of this structure, some collapsed stones belonging to US56 were found (as previously stated).

During the SUM11B campaign the wall M87 was removed for stability reasons. One of the internal walls of the temple has partly collapsed and it was cleaned too.



Fig. 1 View of the platform from the top



Fig. 2 View of square A20 from the north



Fig. 3 View of square A20 and the platform from east



Fig 4 View of square A20 after the demolition of wall M87

Technical Report

PREFACE

In accordance with the archaeological campaign hold on by Italian Mission in Oman, at Khor Rori, managed by Prof. Alessandra Avanzini – Professor of the Department of Ancient History at the University of Pisa (Italy), it was managed a structural restoration interventions at the above mentioned area.

The working period covered from 24th of June to 24th of July, 2011.

The structural restoration interventions were made at collapsed/collapsing masonry walls, with the final aim to achieve a satisfactory level of safety, to permit further studies and to consolidate the walls collapsed, owing to the rains.

The programmed restoration interventions mainly consisted in:

- restoration of wall M 133;
- restoration of wall M 135;

Restorations were done by following the same proceedings of the previous campaigns, according to the UNESCO issues.

The walls of the archaeological site are composed of limestone blocks, made in situ, by using the cave as a natural surfacing (bedrock), which also manages as foundation soil.

The local mortar was of poor quality/standard and it was used to ensure the closure of gaps between the stone elements, by preventing the filtration of water. The state of abandonment led to such a degradation that it was easily visible the erosion of mortar joints and biological attacks of mosses and lichens too. The presence of earth in the walls finally allowed the raising of vegetation, whose roots had already and would have destroyed the wall during the spending of the time. The intervention program was characterized by the following aspects:

- dismantling the damaged part of the wall;
- rebuilding the masonry structure ;
- preserving the original aspect of the wall, according to UNESCO issues;

GENERAL DESCRIPTION OF THE INTERVENTION

Before dismantling the damaged part of the wall, each stone was marked with a number. After dismantling, it was checked the quality of the stones in order to select the better ones; later these would have been used and the original aspect of the wall would have been preserved. Other many stones of the site were properly selected (right size and quality) and this kept such a long time

Before rebuilding the masonry structure, it was used a geotextile layer (about 10 cm of width) between the unimpaired wall and the reassembled part.

At the beginning the stones were placed without mortar, by checking the rightly stability. In case of instability, the stone was smoothed at the base or replaced with another stone. Then the stones were pulled down and repositioned by putting a thin layer of mortar. The following day the wall would have been cleaned from the surplus of mortar.

It was very important to take care of the rebuilding of the angle of the wall.

To manage the upper closure of the wall, some stones were put in an irregular arrangement and linked together with mortar (so called “beautification”).

USED MATERIALS

In order to increase the strength and stiffness of the walls, it was used two kinds of mortar: the first one with large amount of lime and fine sands, while the second, called “filling”; with small amount of lime and coarse sands. These two new types of mortar had both the function of filling and of waterproofing too (like the original function). Furthermore these mortars have the advantage of a better binding perform and of pressure’s distribution. It was enough to use a simple sieve to divide the sand.



For each wheelbarrow was used:

- 4 buckets of sand;
- 8 measures of lime (4,800 Kg)

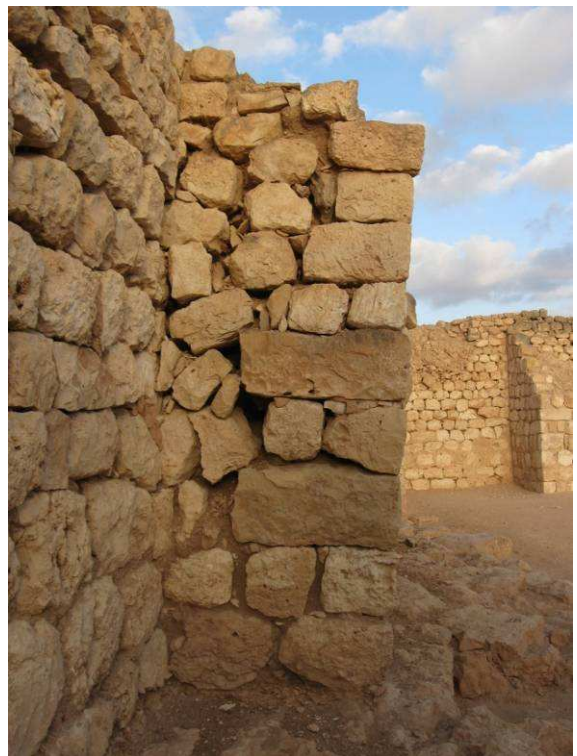
3 tests were carried out:

- 1°test
 - 100 gr. Brown colour
 - 300 gr. Yellow colour
- 2°test
 - 100 gr. Brown colour
 - 100 gr. Yellow colour
- 3°test
 - 100 gr. Brown colour
 - 200 gr. Yellow colour

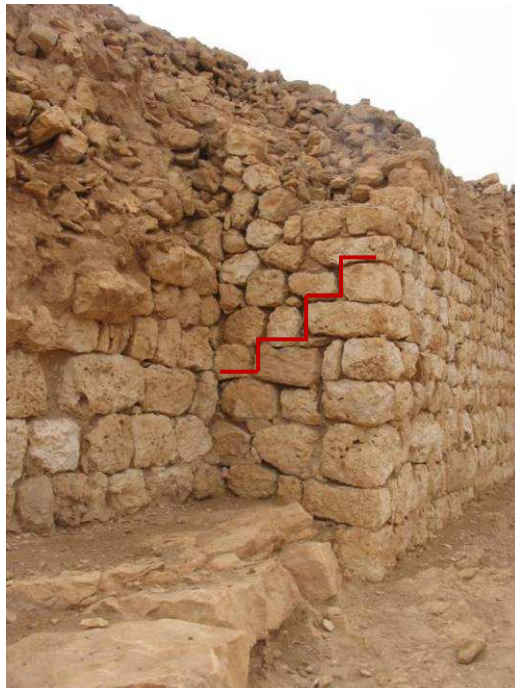
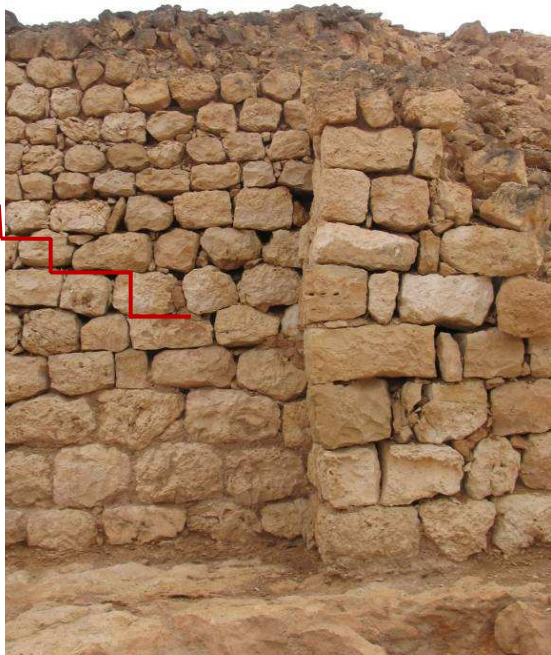
It was used the 3°test.



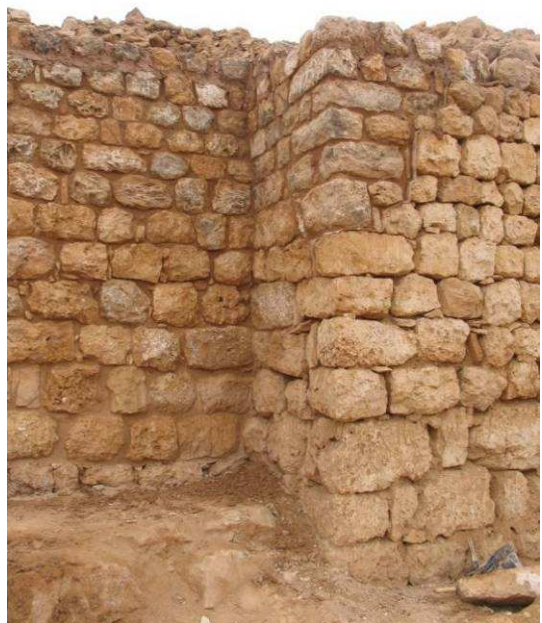
RESTORATION OF WALL M 133
Before Restoration



Dismantling phase



After Restoration



RESTORATION OF WALL M 135
Before Restoration





Dismantling phase



After Restoration

