

Restoration report

**RESTORATION WORKS AT SUMHURAM
(ARCHAEOLOGICAL PARK OF KHOR RORI)
(Sultanate of Oman)
CAMPAIGN SUM16B (November-December)**

IMTO

Italian Mission To Oman



Technical Report
12th November – 7th December 2016

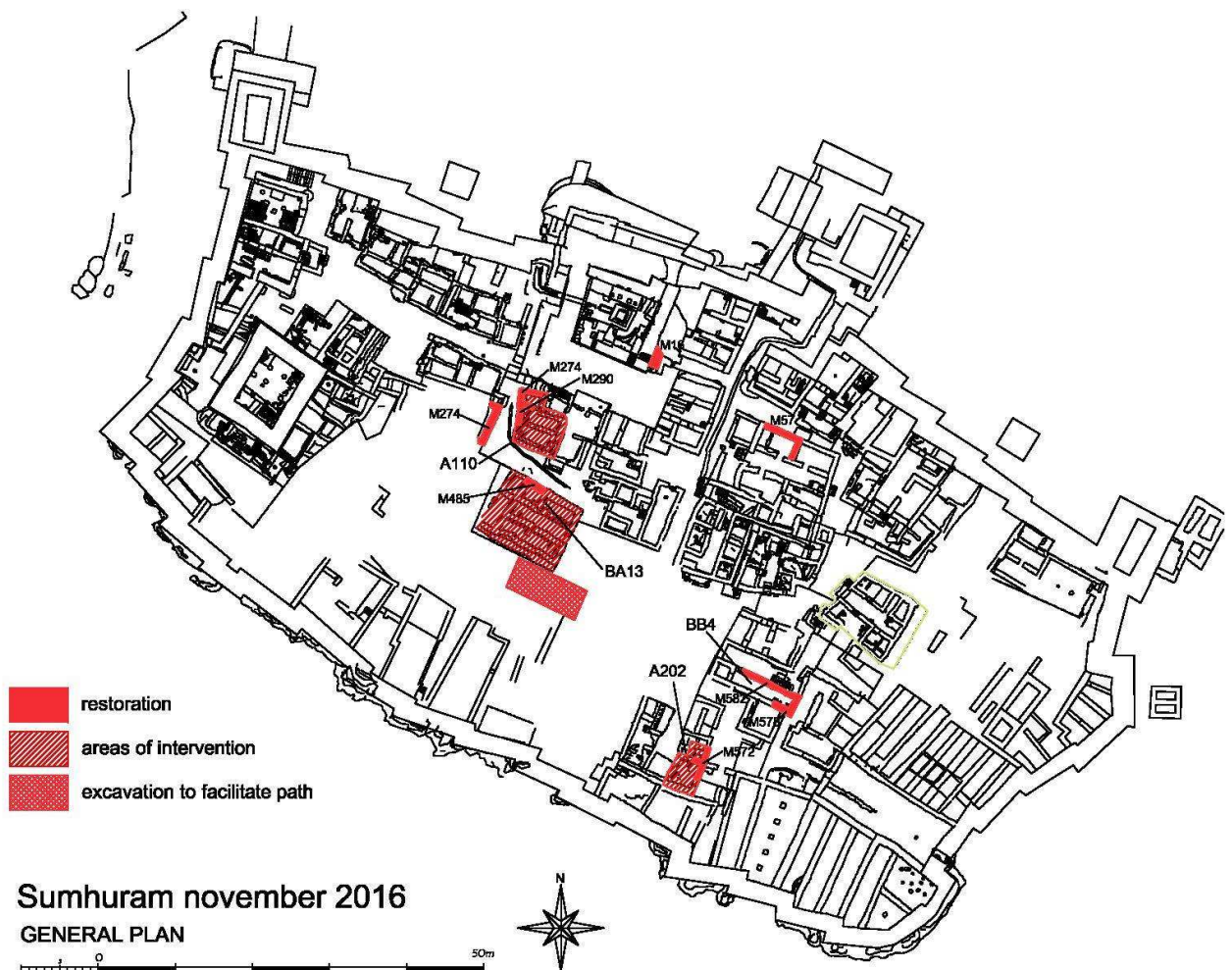
Emiliano Mura

Introduction

During excavations in November- December 2016 the restoration works were carried out within the city:

- Ambient BA13. The restoration of the walls M485.
- Ambient BB4. The restoration of the walls M582.
- Ambient A202. The restoration of the wall M572.
- Ambient A110. The restoration of the wall M290.
- Ambient A152. The restoration of the walls M274.
- Ambient MB1. The restoration of the wall M16.
- Ambient A59. The restoration of the wall M57

The following map shows all the locations:



Worker Teams

Two teams of workers have engaged to work out all the eighteen operations to complete the reconstruction of the above-mentioned areas. One team of five people was engaged to prepare the mortar and the second one of ten people has engaged for the restoration of the walls.

Working progress status

In order to check the advancement of the works, we daily took a significant number of pictures of the areas. The number of the pictures and the point of viewing from which they are taken from, are those considered necessary for a good comprehension about the working progress status.

Mortar preparation

The mortar we used for the connection between the stones is the same used during the previous campaigns:

- **80** grams of brown colour with **200** grams of yellow colour.

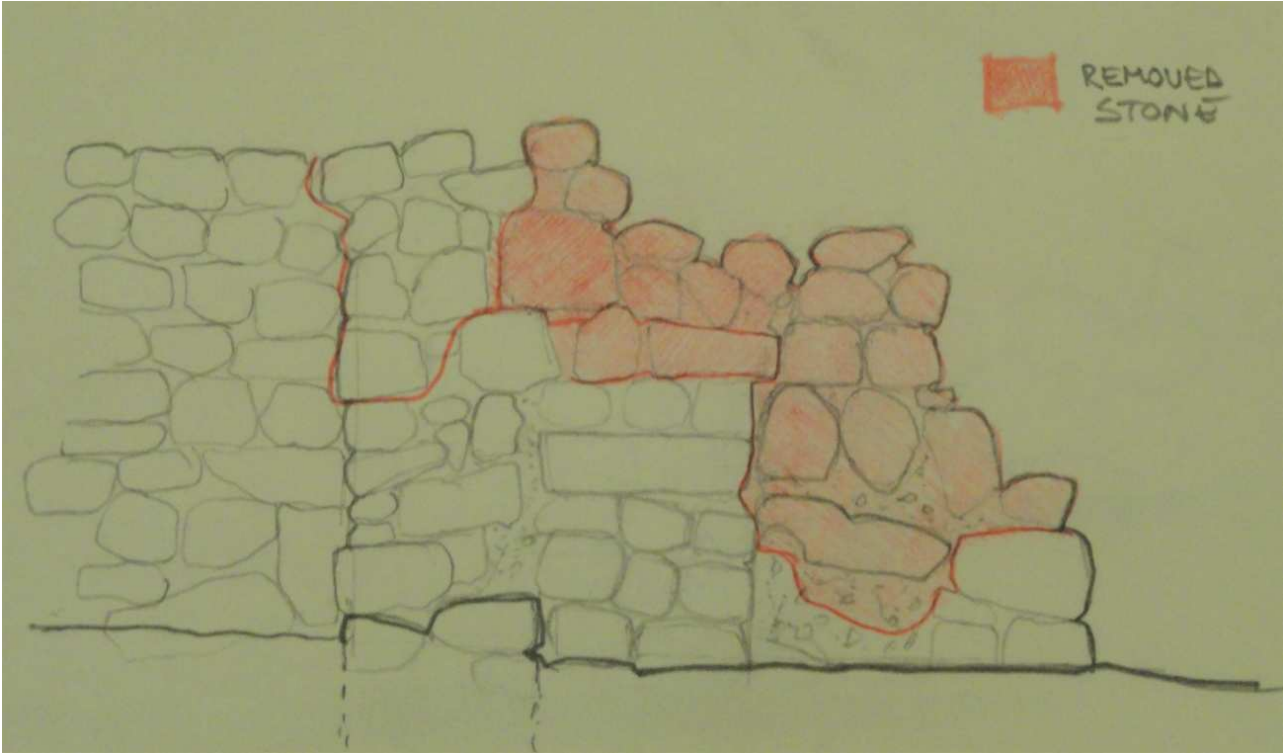
The oxide colours, mentioned above, plus 4 buckets of sand composes the mix of the mortar with eight scoops (**600grams**) of lime powder.

The percentage of lime on sand is 1:6, and then we have two different kinds of mortar:

- **Stone mortar**, used for the external leaves of stones, obtained by the mix of sieved sand, hydrated lime, brown and yellow oxides for the chromatic tone.
- **Filling mortar**, used for the back filling of the structure, made with the same components, except the use of raw sand instead of sieved sand without any brown and yellow oxides.

RESTORATION OF THE WALL M572 (A202)

The work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape. The wall had vertical fractures that could result in the collapse.



Sketch of the wall M572. Stones to remove highlighted with hatch



M572, East front wall, before the restoration.



M572, East front wall, after the restoration.

RESTORATION OF THE WALL M582 (BB4)

The work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape. Restoration has affected only the south facade of the wall.



M582, South front wall, before the restoration.



M582, South front wall, during the cleaning work .



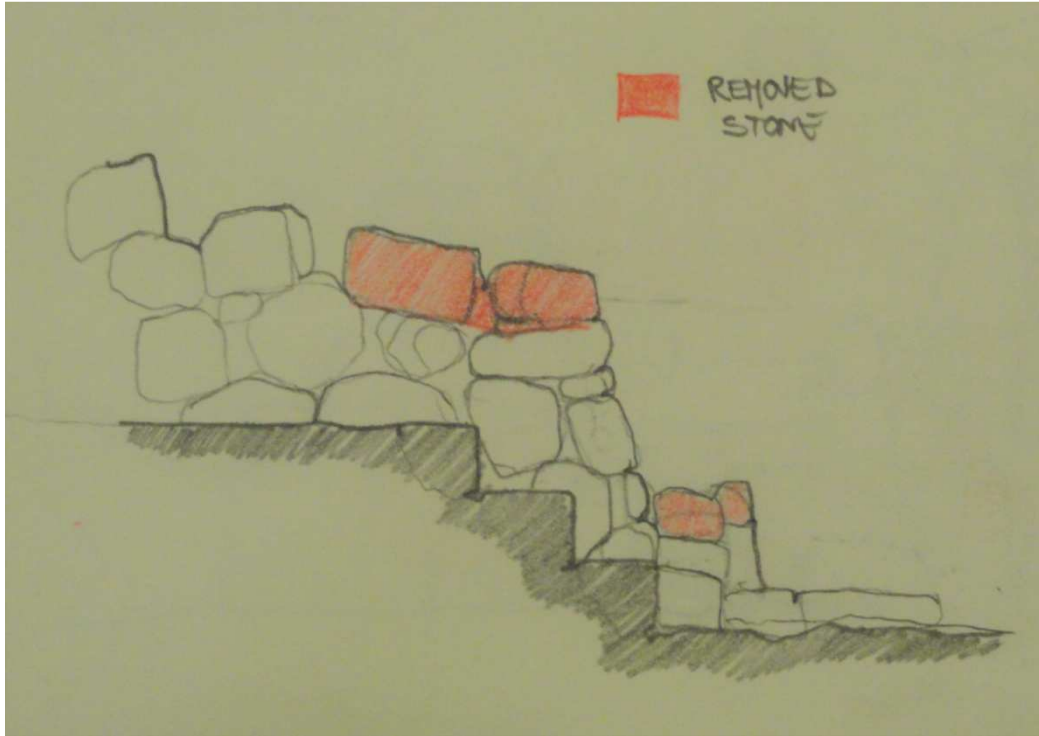
M582, South front wall, during the restoration work.



M582, South front wall, after the restoration.

RESTORATION OF THE WALL M16 (MB1)

The stones in the upper part of the wall had collapsed, the work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape.



Sketch of the wall M16. Stones to remove highlighted with hatch



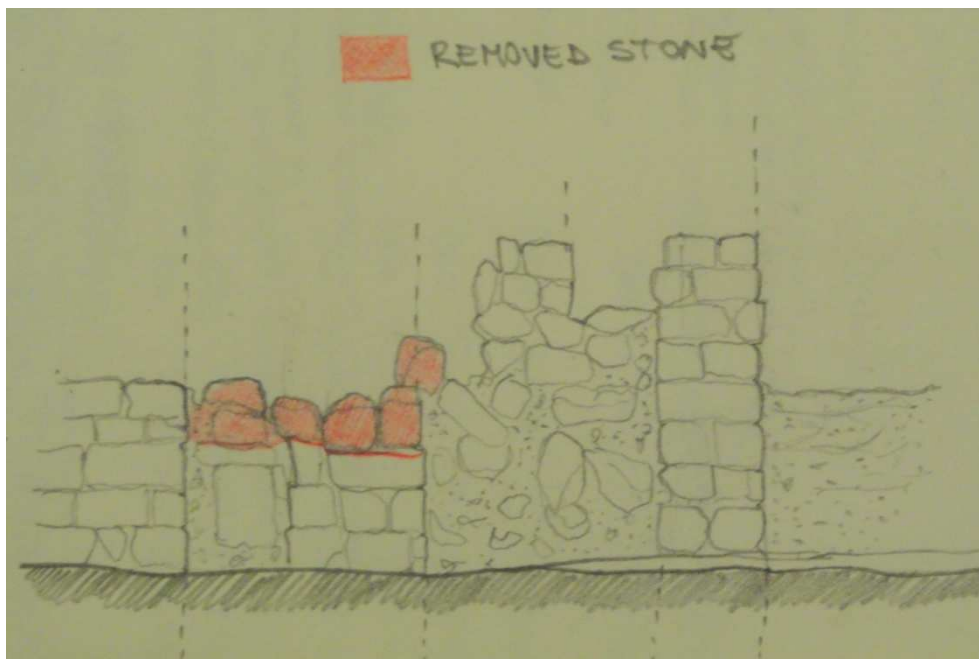
M16, West front wall, before the restoration.



M16, West front wall, after the restoration.

RESTORATION OF THE WALL M485 (BA13)

The work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape. Restoration has affected only the north facade of the wall.



Sketch of the wall M485. Stones to remove highlighted with hatch



M485, North front wall, before the restoration.



M485, North front wall, during the cleaning work.



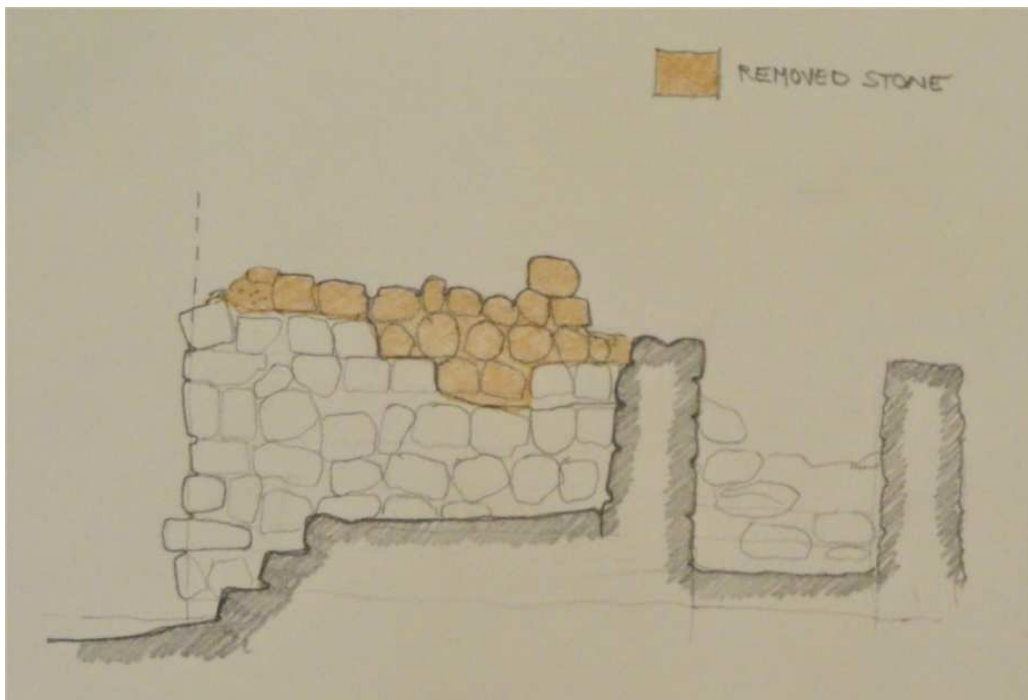
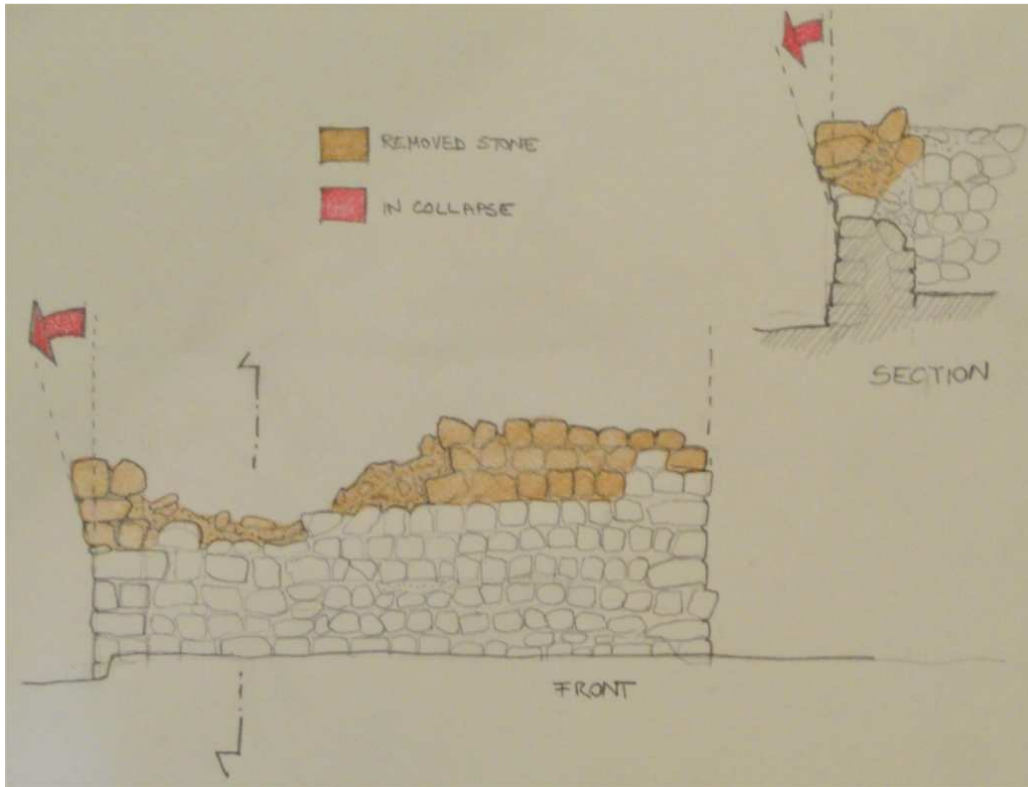
M485, North front wall, during the restoration work.



M485, North front wall, after the restoration.

RESTORATION OF THE WALL M290-274

The wall is one of the main tourist routes in the direction of the temple, the upper part was in grave state of near collapse. The work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape.



Sketch of the wall M290-274. Stones to remove highlighted with hatch



M290-274, West front wall, before the restoration.



M290-274, West front wall, during the restoration work.



M290-274, West front wall, after the restoration.

RESTORATION OF THE WALL M464

The wall is one of the main tourist routes in the direction of the temple, the upper part was in grave state of near collapse. The work is proceeded with the disassembly of some parts of the masonry, the cleaning and the replacement with the same stones as not to alter the original shape



M464, East front wall, before the restoration.



M464, East front wall, during the work.



M464, East front wall, after the restoration.

RESTORATION OF THE UPPER PART OF THE WALLS

Endeavored the methodology for the restoration of this wall is different from other interventions, having no particular problems of stability, we carried out the filling of the mortar joints on the top of the wall. This method could be a method to be employed on all the walls that have the same degradation.



M578, before and after the restoration.



M400, before and after the restoration.



M290, before and after the restoration.

RESTORATION OF PLASTER

During the restoration of the walls we have personally run the consolidation of the plaster wall of an environment dug in October 2016, it is probably a basin. Execution phases: cleaning with brushes and water, laying of a new mortar in the edges.



South wall, façade. before the restoration



South wall, façade. after the restoration

Work stages



Dust removal



Cleaning



Laying of new plaster



Setting of new plaster

Arch. Emiliano Mura

