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## **Report on the 2017 Season of the Madâ'in Sâlih Archaeological Project**

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Zbigniew T. Fiema, Damien Gazagne, Yvonne Gerber, Khalid Alhaiti, Ahmad  
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# Report on the 2017 Season

of the **Madâ'in Sâlih**

## Archaeological Project

Edited by Lâila Nehmé

With contributions by

P.-M. Blanc, T. Bauzou, C. Durand, Z.T. Fiema, D. Gazagne, Y. Gerber, Kh. Alhaiti,  
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I. as-Sabhan, D. Seigneuret, J. Studer, and F. Villeneuve

And the drawings of J. Humbert and R. Douaud



February 2018



Page set up  
Claire Carpentier

February 2018



# TABLE OF CONTENTS

<b>Introduction</b>	5
<b>Area 34: the Roman Fort. Preliminary Report on the 2017 Season</b> Zbigniew T. FIEMA	17
<b>A Fragmentary Ancient North Arabian Inscription from the Area of the Roman Fort of Hegra</b> Ahmad AL-JALLAD	37
<b>An Inscription in Ancient South Arabian Script, 34057_I01</b> Irene ROSSI	41
<b>The South-East Gate of the Rampart (Area 35): Fifth and Final Season of Excavations</b> François VILLENEUVE, with contributions by J. HUMBERT, T. BAUZOU and Z.T. FIEMA	51
<b>Towers 16 and 22 in the Rampart (Areas 37 and 38)</b> Pierre-Marie BLANC	89
<b>The Nabataean sanctuary IGN 132, Areas 60 and 61</b> Damien GAZAGNE and Laïla NEHMÉ	97
<b>Preliminary Study of the Architectural Blocks from IGN 132 and Area 9</b> Delphine SEIGNEURET	125
<b>A New Nabataean Inscription Mentioning “[the God of] Heaven”</b> Laïla NEHMÉ	145
<b>Preliminary Report on Area 64200, South-West of IGN 132</b> Maher K. AL-MUSA and Khalid H. ALHAITI	155
<b>Area 9, Trenches C and D</b> Jérôme ROHMER	161
<b>Pottery Report</b> Caroline DURAND and Yvonne GERBER	181
<b>Conservation and Care of Artefacts</b> Marie PEILLET	185
<b>Faunal Report, with a Focus on Modified Knucklebones</b> Jacqueline STUDER	191
<b>Restoration and Site Preservation</b> Ibrahim AS-SABHAN and Mohammed AL-MATHAMI	197
<b>Other Activities of the Madā'in Šāliḥ Project</b> Laïla NEHMÉ	203





# Introduction

Laila NEHMÉ (CNRS, Orient & Méditerranée)

The 2017 excavation season at Madā'in Šāliḥ took place from January 10th to February 25th. Excavations were undertaken exclusively in the so-called residential area, which lies within the city wall of the ancient city. The excavations in the Jabal Ithlib, in the Nabataean tombs and in the Bronze Age *tumuli* are indeed finished and may only be the object of limited control in the future. On top of the excavations, complementary work was done in view of the publication of some of the material which was surveyed during the first five-year research programme of the project, which took place between 2002 and 2006. This is because some of the monuments or inscriptions which were surveyed at that time, particularly the inscriptions in all parts of the site and the religious monuments in the Jabal Ithlib area, required controls to be made or new photographs to be taken. This complementary work will be presented in the chapter “Other activities” at the end of this report.

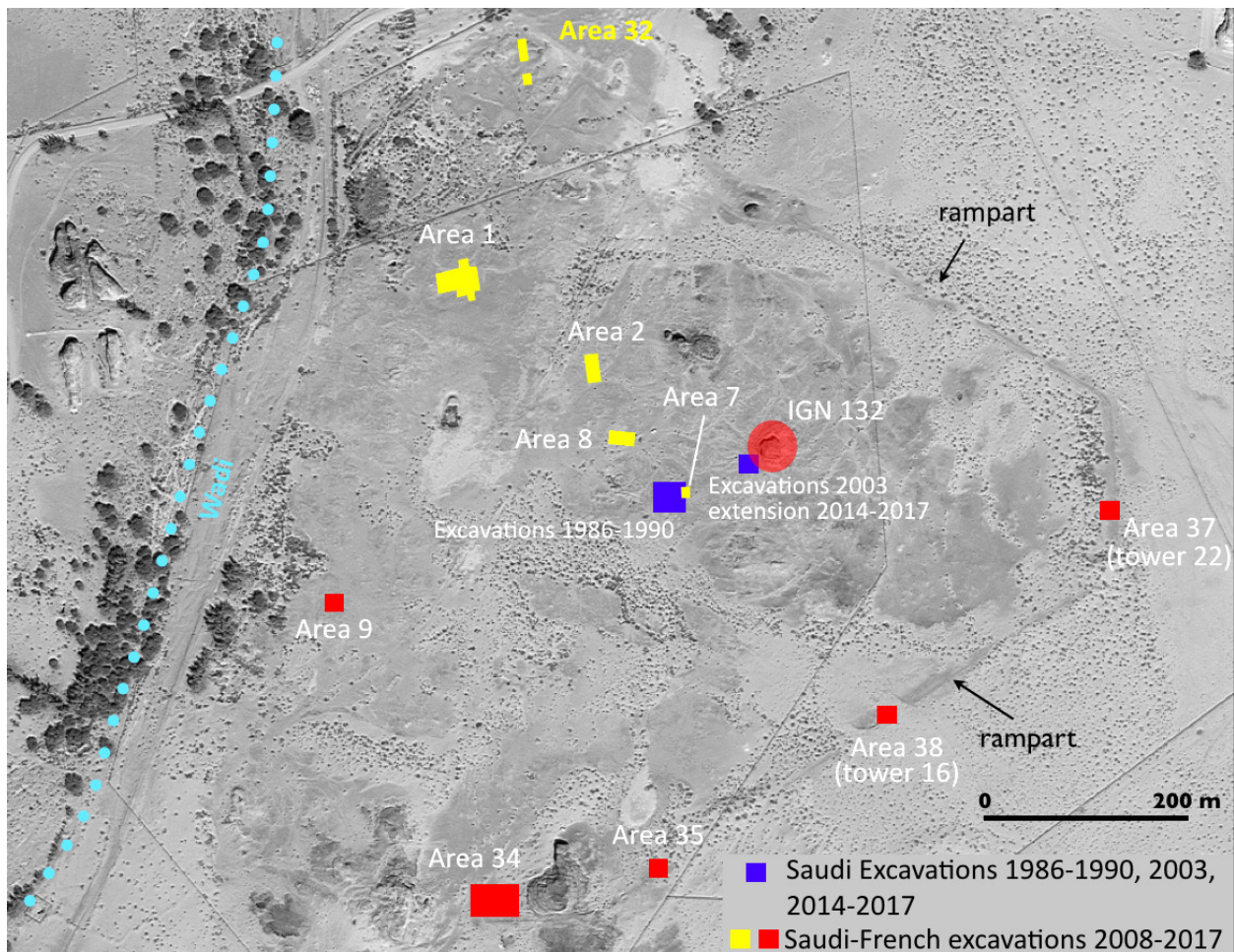
The 2017 season was an important season from the point of view of the excavations: eight excavation areas were opened simultaneously, which brought to light three categories of archaeological structures: military (Roman fort, gate on the rampart and bastions), religious (the Nabataean temple on top and around IGN 132), and domestic (probable residential unit south-west of IGN 132 and domestic area in the south-west part of the city). These eight areas (**fig. 1**) are briefly presented below.

– **Three** around IGN 132, which is certainly to be considered as the main religious monument discovered so far in Madā'in Šāliḥ (see the reports by Damien Gazagne and Laila Nehmé on the one hand, and Delphine Seigneuret on the other hand). This Nabataean sanctuary, built inside a large temenos area limited by a wall, is composed of an upper ‘temple’ (a paved tetrapylon surrounded by a courtyard) and a lower ‘temple’, the remains of which appear mainly as architectural blocks reused in or fallen in subsequent layers of occupation. To the south-west of the temple, there is a large architectural unit, with several rooms built around a central paved courtyard (see the report by M. al-Musa).

– **One** in Area 9, a domestic quarter located in the south-west part of the residential area, not far from the wadi. This area has been excavated consecutively by Z.T. Fiema and J. Rohmer in 2010, 2011, and 2014 and has yielded, like Area 1 – also located close to the wadi – one of the longest sequences of occupation of the site. Eleven phases of occupation had been identified, ranging from the 4th/3rd century BC (at the latest) to the late 4th or early 5th century AD. The excavations had been suspended in the last two years because of the unavailability of J. Rohmer, but it was necessary, in order to confirm the stratigraphy already obtained and to get a chance to collect more information on the early phases of occupation of ancient Hegra, to resume them for at least one season. In 2017, the bedrock was reached in two more soundings and a complete stratigraphy is now available in four different soundings of Area 9 (see Jérôme Rohmer’s report).

– **One** in the so-called south-east gate of the city, which is the largest and best preserved gate identified along the rampart (Area 35). This gate, flanked by two towers, has been excavated by François Villeneuve since 2014 (by P.-M. Blanc during F. Villeneuve’s absence for medical reasons in 2016). This gate is important for two reasons. Stratigraphically, because it gives evidence of a probably





**Fig. 1.** The so-called residential area of ancient Hegra, showing the location of the areas excavated since 2008. In red, those excavated in 2017.

continuous use of the gate – with slight orientation changes – from the late first century BC (two Nabataean phases identified) to the early third century AD. The main phases can be connected with the Roman annexation in the early 2nd century AD and with rearrangements and repairs undertaken around AD 175 (if we assume a connection between the chronology in Area 35 and the textual evidence provided by the Latin inscription found in 2003 near IGN 132).<sup>1</sup> The second reason is the discovery of an impressive collection of Nabataean, Greek and Latin inscriptions – more than thirty – all except two of which are written in parts of the walls of the gate which were visible when the gate was in use. The two invisible ones are beautiful Latin painted texts reused upside down in the foundations of the north-east wall of the gateway (**fig. 2**). The most interesting texts, i.e. fourteen Greek and Latin inscriptions, which mention *Legio III Cyrenaica, stationarii*, various officials and soldiers, seven deities, a new governor, etc., are being prepared for publication in the *Zeitschrift für Papyrologie und Epigraphik* by Z.T. Fiema, F. Villeneuve, and Th. Bauzou. They are extremely important for the understanding of the Roman involvement in the control of the Hijāz in Antiquity. — **Two** in bastions (full towers) which had been previously identified along the rampart: one along its short eastern section (tower no. 22, now Area 37) and one between this short section and the south-east gate (tower no. 16, now Area 38, see fig. 1). The reason why these trenches were opened

1. D. al-Talhi and M. al-Daire. 2005. “Roman Presence in the Desert: A New Inscription from Hegra”, *Chiron* 35: 205-217 (restoration of the rampart or of some other significant building c. AD 175–177).





**Fig. 2.** Latin painted inscription 35004-i09b discovered in 2017. It is reused in the foundations of a wall of the South-east gate. It may be dated to AD 161–169 (Marcus Aurelius and Lucius Verus) or AD 177–180 (Marcus Aurelius and Commodus) (to be published in ZPE by Fiema, Villeneuve and Bauzou).

is that some of the c. 38 bastions which have been surveyed along the rampart are large rectangular structures while some others are smaller and square. Because of this difference in shape and size, it was suggested that the rectangular and square bastions were not dated to the same period, the former being possibly Nabataean and the latter Roman. It was therefore decided to excavate one or two of them in 2017 in order to try to determine their date (see the report by P.-M. Blanc).

– **One** in the Roman fort, the excavation of which started in 2015, and which is now revealing most of its plan. This fort is the southernmost fort of the Roman Empire in the Near East, c. 500 km further south than the fort of Ḥumayma in Jordan, excavated by J.P. Oleson, which offers the best parallel to the fort of ancient Hegra. It was a permanent Roman fort built in the Roman fashion, using Roman construction techniques and Roman modular planning. Toward the end of the 3rd century AD, it was abandoned as such and was reoccupied by civilians who stayed within the – still standing – walls until, possibly, the end of the 4th century. The excavations have yielded very interesting bronze figurines, both animal and human. A few of them (at least four pieces, including a complete figurine of a domestic male goat) come from a votive deposit placed under an upside-down basin, presumably soon after the cessation of the military occupation of one of the rooms in the early 4th century. Finally, a large stone altar, bearing a complete Latin inscription mentioning Caracalla, dated to AD 213–217, was brought to light in Trench C. This altar was reused as a base or pedestal in the south-east corner of the fort, probably in the 2nd half of the 3rd century AD.

All these trenches were excavated by the members of the Madā'in Šālih Archaeological Project, which is why the 2017 team included ten archaeologists, a number never reached before.

In the laboratories now installed in one of the buildings of the Ḥijāz railway station, where the team now has its headquarters, the focus was put on the pottery (C. Durand and Y. Gerber), on the study of the coins (Th. Bauzou) and on the restoration of the metal objects (M. Peilet). J. Humbert and



R. Douaud took care of the field and objects/pottery drawings respectively and A. Pierre did the photographs of objects. Finally, Ibrahim as-Sahban did an enormous amount of work to restore the north-west sector of the IGN 132 sanctuary and particularly the two temenos wall.

As said above, the other field activities are presented in detail in the relevant chapter.

The 2017 team members were the following (**fig. 3**):

1. Khalid ALHAITI, SCTH Riyad, archaeologist, Saudi national;
2. Thomas BAUZOU, Université d'Orléans, numismatist, French national;
3. Pierre-Marie BLANC, CNRS, UMR 7041, archaeologist, French national;
4. Rozenn DOUAUD, CNRS, UMR 7041, draughtswoman, French national;
5. Caroline DURAND, post-doc, HiSoMa, Lyon, ceramologist, French national;
6. Zbigniew T. Fiema, researcher, Helsinki University, archaeologist, Polish national;
7. Damien GAZAGNE, archaeologist, Évéha, French national;
8. Yvonne GERBER, researcher, Basel University, ceramologist, Swiss national;
9. Jean HUMBERT, independent draughtsman, French national;
10. Muhammad AL-MATHAMI, SCTH al-Qunfudhah, archaeologist, Saudi national;
11. Maher AL-MUSA, SCTH Riyad, archaeologist, Saudi national;
12. Laïla NEHMÉ, CNRS, UMR 8167: archaeologist, French national;
13. Marie PEILLET, independent metal conservationist, French national;
14. Alain PIERRE, retired, administrator and driver, French national;
15. Jérôme ROHMER, CNRS, UMR 8167: archaeologist, French national;
16. Ibrahim AS-SABHAN, Masmak Museum, Riyadh, conservationist, Saudi national;
17. Delphine SEIGNEURET, post-doc, UMR 7041: archaeologist, analysis of blocks around IGN 132, French National;
18. Jacqueline STUDER, Natural History Museum, Geneva, archaeozoologist, Swiss national;
19. François VILLENEUVE, University Paris 1: archaeologist, French National.



**Fig. 3.** Most of the 2017 team members. From top left to bottom right: J. Rohmer, J. Studer, Z.T. Fiema, A. Pierre, F. Villeneuve, P.-M. Blanc, Y. Gerber, C. Durand, M. Peillet, D. Seigneuret, M. al-Mathami, A. al-Fageer, D. Gazagne, L. Nehmé, M. al-Musa, D. al-Talhi, I. as-Sahban, and S. al-Muqbil.

## Recent publications of the project

- Abu-Azizeh W., Delhopital N., Durand C., Fiema Z.T., Gerber Y., Nehmé L., and Villeneuve F. **Forthcoming**. Report on the 2014 and 2015 Excavation Seasons in some Areas at Madâ'in Sâlih. *Atlat*.
- Blanc P.-M., Fiema Z.T., Gazagne D., Nehmé L., Studer J., al-Talhi D., and Villeneuve F. (with the collaboration of Thomas Bauzou and P. Dal-Prà). **2016**. The Saudi-French Madâ'in Sâlih Archaeological Project". *Bulletin of the British Foundation for the Study of Arabia* 21: 29–31.
- Charloux G., Bouchaud Ch., Durand C., Gerber Y., and Studer J. **Forthcoming**. "Living in Madain Salih-Hegra during Antiquity. The Excavations of Area 1 in the Ancient City". Paper presented at the 2017 Seminar for Arabian Studies, London, British Museum.
- Dal-Prà P. **Forthcoming**. Les textiles des tombes nabatéennes d'Hégra en Arabie saoudite. Paper presented at the conference "Le coton dans l'Ancien Monde. Domestications, cultures, usages et commerces", 3-4 May 2017, Muséum national d'histoire naturelle, Paris.
- Durand C. **Forthcoming**. Banqueter pour mieux régner? À propos de quelques assemblages céramiques provenant de Pétra et du territoire nabatéen. In C. Durand and L. Tholbecq (eds), *Archéologie des rituels dans le monde nabatéen*. Proceedings of the workshop held in Amman in September 2015. *Syria* 94 (2017).
- Durand C. and Gerber Y. **In preparation**. Provisional title: *The Pottery from Madâ'in Sâlih, ancient Hegra*. See the report by C. Durand and Y. Gerber in this volume.
- Fiema Z.T., Villeneuve F., and Bauzou Th. **In preparation** (due November 2017). New Latin and Greek Inscriptions from Ancient Hegra. *Zeitschrift für Papyrologie und Epigraphik*.
- Nehmé L. (ed.). **2016**. *Report on the 2016 Season of the Madâ'in Sâlih Archaeological Project*. Forthcoming in "A Series of Archaeological Refereed Studies". Riyadh: SCTH. Available online: <https://hal.archives-ouvertes.fr/hal-01518460>
- Nehmé L. **2017**. A Note on an Alleged Nabataean Flower Pot Painting from Mada'in Salih. *Adumatu* 35: 37–40.
- Nehmé L. **Forthcoming**. New Insights into the Nabataean Long Distance Trade. In M. Luciani (ed.), *Proceedings of the Workshop 'Archaeology of the Arabian Peninsula: Connecting the Evidence'*, Vienna, ICAANE, April 2016.
- Rohmer J. **Forthcoming**. From Nabonidus to Aretas: a New Political Chronology for Northwest Arabia in the Later 1st Millennium BC. *Ibidem*.
- Rohmer J. and Fiema Z.T. **2016**. Early Hegra: New Insights from the Excavations in Areas 2 and 9 at Madâ'in Sâlih (Saudi Arabia). In M. Luciani (ed.), *The Archaeology of North Arabia. Oases and Landscapes. Proceedings of the International Congress held at the University of Vienna, 5-8 December, 2013* (Oriental and European Archaeology, 4). Vienna: Austrian Academy of Sciences: 281–298.
- Villeneuve F. and Fiema Z.T. **Forthcoming**. A Roman Military Camp in Ancient Hegra. *Proceedings of the the 23rd (2015) Limes Congress*, Ingolstadt, Germany.
- Reminder:** most of the yearly reports of the project are available online:  
 Report 2016: <https://hal.archives-ouvertes.fr/hal-01518460>  
 Report 2015: <https://halshs.archives-ouvertes.fr/halshs-01311865>  
 Report 2014: <https://halshs.archives-ouvertes.fr/halshs-01122002>  
 Report 2011: <http://halshs.archives-ouvertes.fr/halshs-00671451>  
 Report 2010: <http://halshs.archives-ouvertes.fr/halshs-00542793/fr/>  
 Report 2009: <http://halshs.archives-ouvertes.fr/halshs-00548747/fr/>  
 Report 2008: in printed form only.



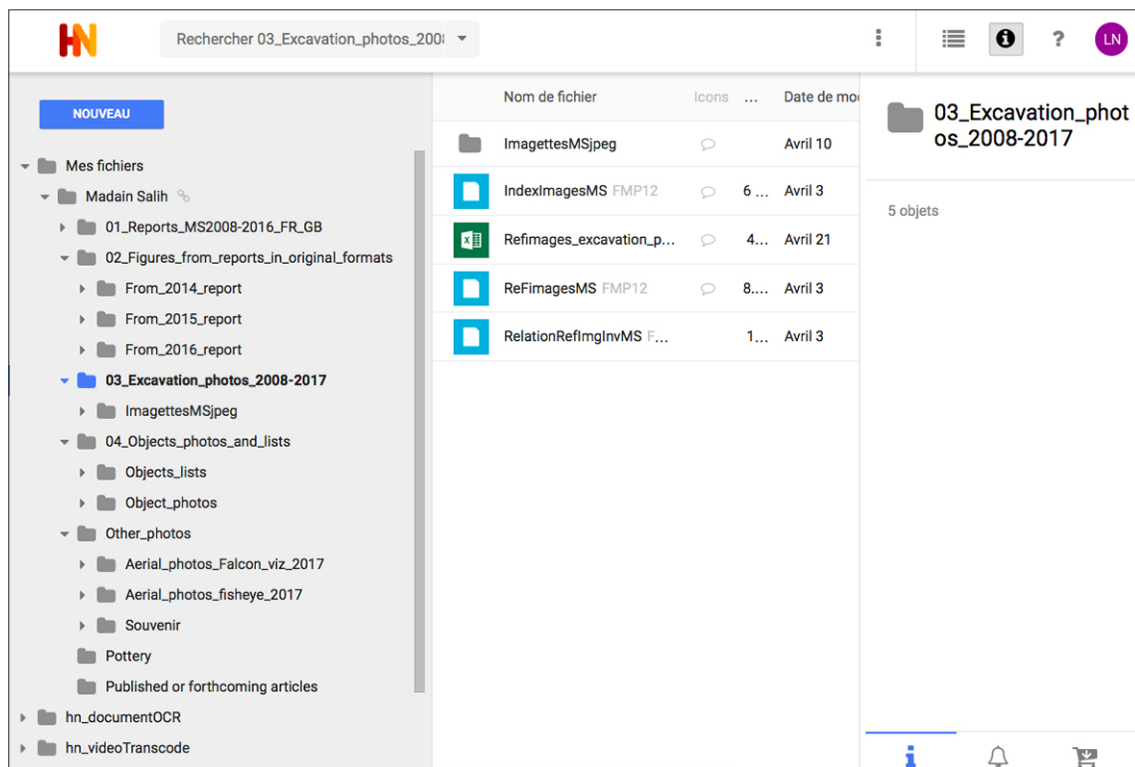
**Note:** the two volume book published at the end of 2015, entitled *Les tombeaux nabatéens de Hégra* (see <http://www.aibl.fr/publications/collections/epigraphie-et-archeologie/article/les-tombeaux-nabateens-de-hegra>) has been enthusiastically reviewed by M. Sartre in *Syria* (see **Appendix 1**).

## The Madā'in Šāliḥ project on the web and other

Since the beginning of the excavation programme, in 2008, the project has produced an enormous number of documents (reports, publications, photographs and their indexes, drawings, etc.), all of which are properly organised and made available to all the members of the team, i.e. about thirty persons. This, however, takes time, especially sending separately to people the documents they need in order to write their reports and publications. It was therefore decided, in 2017, to create a **shared storage space** which would always be available on the internet and the free use of which would be restricted to the members of team. Considering the facilities offered by the CNRS Huma-Num equipment project in terms of archive storage, a request was presented to Huma-Num, and a 1 TB storage space was allotted to the project on the “Sharedocs” platform. Most of the useful archive of the project was uploaded on the server and is now available, through a permanent link, to the members of the project (**fig. 4**).

The Madā'in Šāliḥ project does not have a website of its own but web pages on the project are hosted by the CNRS team Orient & Méditerranée, UMR 8167. These pages have been updated in July 2017 and take into account the latest results of the project. See <http://www.orient-mediterranee.com/spip.php?article1090>

For the same reason, since the yearly reports produced by the project are not published regularly by the SCTH, these are put online, one year after they have been handed over to the Saudi authorities, on the HAL open archive of the CNRS: <https://hal.archives-ouvertes.fr> (see the links under the Bibliography above).



**Fig. 4.** The homepage of the Madā'in Šāliḥ shared storage space.

Finally, in order to meet the “public relations” needs of the project, a new double-sided A4 brochure in English was produced with the help of Isabelle Prieto, who is in charge of the public relations department of the UMR 8167 (see **Appendix 2**).

## Various

The **26 mn documentary** which was filmed in June 2016 by the film production company TSVP for Arte was broadcasted on television on January 27th, 2017. The documentary, entitled “Hégra, sur les traces des Nabatéens”, focused on the chronology of the site and was among the most successful episodes of the series it was part of, “Enquêtes archéologiques” (Archaeological investigations).

See <http://www.dailymotion.com/video/x5aof0s>

## Appendix 1. M. Sartre's review of *Les tombeaux nabatéens*

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# Laïla NEHMÉ, *Les tombeaux nabatéens de Hégra (Épigraphie et archéologie 2)*

Maurice Sartre

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### RÉFÉRENCE

Laïla NEHMÉ, *Les tombeaux nabatéens de Hégra (Épigraphie et archéologie 2)*, Paris, AIBL/De Boccard, 2015, 2 vol. 24,7 x 32,5 cm, vol. 1 texte (433 p.), vol. 2, catalogue et planches (232 p. de 249 pl.), ISBN : 978-2-87754-328-6.

- 1 On croyait définitivement révolu le temps des publications luxueuses, celui où des chercheurs pouvaient faire connaître intégralement les résultats de travaux coûteux et conduits dans des conditions difficiles, sans lésiner ni sur les illustrations (dont on mesure mieux aujourd'hui en Syrie ou en Irak l'importance face aux risques imprévisibles de destructions), ni sur la quantité d'informations et d'analyses. Il est heureux que la mission française de Hégra puisse aujourd'hui célébrer de manière brillante le siècle qui la sépare de ses vaillants prédécesseurs de l'École Biblique, ceux qui, au début du XX<sup>e</sup> s., ont laissé cette œuvre irremplaçable que constitue la *Mission en Arabie* des Pères A. Jaussen et R. Savignac. Nul doute que ces précurseurs seraient fiers de voir aujourd'hui le flambeau repris avec autant d'autorité et de talent.
- 2 Car c'est bien un ouvrage majeur, destiné à former le socle de toute étude ultérieure que livrent ici Laïla Nehmé et trois collaborateurs, Jean-Claude Bessac, Jean-Pierre Braun et Jacqueline Dentzer-Feydy. Les deux forts volumes publiés sous le patronage des l'Académie des Inscriptions et Belles-Lettres réunissent une documentation sans égale sur les tombeaux de Hégra, seconde nécropole nabatéenne par ordre d'importance après celle de Pétra. Le premier volume (434 p.), après une présentation rapide mais essentielle du site, avec sa zone agricole, son espace urbain, son secteur cultuel, procède à une description sommaire des autres nécropoles nabatéennes connues en dehors de ces deux capitales que constituent Pétra et Hégra, à savoir ad-Dīsah et surtout al-Bad' au sud

d'Aqaba. L. Nehmé fournit alors une analyse du vocabulaire et esquisse une typologie des monuments funéraires nabatéens. On retiendra en particulier, au titre des nouveautés, d'une part une étude précise des procédés de fermeture (que ce soit pour les *loculi*, les caissons ou plus simplement les portes de la tombe), d'autre part une étude des rites funéraires à partir des vestiges d'étoffes, de cuirs et de dattes en collier trouvés dans la fouille de la tombe IGN 117 datée de 60/61.

- 3 Les inscriptions associées aux tombeaux, largement copiées par A. Jaussen et R. Savignac, puis systématiquement reprises par J. F. Healey dans son recueil, font l'objet d'une étude synthétique de L. Nehmé, non pas d'une publication nouvelle des textes (on les trouve dans le vol. 2), mais d'une analyse synthétique sur, notamment, le vocabulaire du tombeau, les interdits, les dates (avec le mystère relatif qui entoure la date de 75 à laquelle cesse la construction de tombeaux à Hégra, du moins celle des tombeaux datés), les métiers, les tailleurs de pierre (qui sont nombreux à être connus et constituent des familles de spécialistes dont L. Nehmé reconstitue avec patience les liens). Il y a là un trait qui distingue radicalement Hégra de Pétra puisque, à Pétra, les tombeaux sont désespérément anonymes (à l'exception de celui de Sextius Florentinus) alors que ceux de Hégra sont accompagnés d'une longue inscription dédicatoire dans un tiers des cas. Le parallèle établi entre Hégra et Palmyre paraît donc justifié, alors qu'on sera plus réservé sur le parallèle avec la Lycie quant aux formules de protection ; celles-ci sont répandues un peu partout dans le monde gréco-romain, et on trouverait d'autres parallèles aussi bien en Syrie du Sud que dans l'ensemble de l'Asie Mineure.
- 4 Jean-Claude Bessac, dont la compétence en ce qui concerne la taille de la pierre est bien connue, livre un beau chapitre sur « Artisans, techniques et économie des chantiers rupestres de Hégra », chapitre conduit dans la perspective d'une confrontation permanente avec les données fournies par Pétra. Avec la compétence du technicien et l'œil incomparable de celui qui travaille lui-même la pierre, il fait le tour des difficultés posées par le grès de Hégra (plus homogène cependant que celui de Pétra) et des solutions trouvées par les artisans pour les contourner ou les surmonter. De même, il établit avec soin la liste des outils utilisés, aussi bien pour tailler que pour contrôler l'aplomb ou dessiner les motifs sculptés. Grâce aux chantiers abandonnés à la suite de la découverte, par les tailleurs de pierre de conditions techniques insurmontables et imprévisibles, il décrit avec soin les procédés d'accès et d'échafaudage, l'évolution du chantier du haut vers le bas, identifie des mains de tailleurs différents et repère même une proportion inhabituelle de gauchers ! Le vocabulaire technique peut quelquefois dérouter le lecteur (un glossaire final aide à s'y retrouver), mais nous fait plonger au cœur du métier et permet d'en suivre le déroulement infiniment complexe : on mesure mieux quelle aventure technique (et donc économique) constitue le creusement d'un grand tombeau de Hégra. Malgré la relative simplicité technique et esthétique des tombeaux de Hégra, les artisans locaux ont à cœur de manifester leur savoir-faire et ajoutent ici et là des détails sculptés, souvent peu visibles, qui en témoignent.
- 5 Jean-Pierre Braun esquisse ensuite des « Éléments pour une analyse architecturale des tombeaux ». Sans vouloir établir à son tour une typologie qui, rappelle-t-il avec raison, s'accompagne souvent d'une chronologie implicite au moins relative en fonction de la complexité des édifices — il rappelle les diverses typologies établies depuis R. E. Brünnow et A. von Domaszewski —, il préfère établir la liste des divers éléments constitutifs des façades et regrouper les tombes en fonction des éléments retrouvés sur chacune. Il y a certes beaucoup à retenir de ces analyses, mais on notera en particulier le lien entre



tombeaux à rangées de merlons et inhumations féminines, que les inscriptions semblent imposer. De même, les tombeaux des éparques appartiennent tous à la catégorie de ceux qui portent une frise dorique, comme s'il y avait là un critère de distinction sociale. En fait, J.-P. Braun a raison de souligner que la courte durée de réalisation de ces tombeaux ne justifie guère une évolution typo-chronologique, alors que d'autres critères, sociaux et économiques, justifient le choix de tel ou tel type, de tel ou tel motif décoratif de façade.

- 6 Le premier volume s'achève sur une étude de plus de 150 p. de Jacqueline Dentzer-Feydy sur « Le décor architectural ». Sans chercher à remettre en cause *a priori* les trois approches – chrono-typologique, sociale et historique – proposée jusqu'ici, l'auteur se fonde d'abord sur l'analyse d'une documentation exhaustive et replacée dans le contexte topographique de la nécropole de Hégra. Tout le décor est donc passé en revue, aussi bien les éléments architecturaux que les motifs géométriques ou les éléments figurés. Cet inventaire commenté et raisonné sera évidemment un point de référence irremplaçable pour quiconque étudie l'architecture dans le vaste espace nabatéen, y compris dans le lointain Hauran syrien. L'inventaire des rosettes et des cartouches ne sera pas sans utilité pour les épigraphistes qui retrouvent sans cesse ces motifs sur des linteaux funéraires mal datés. Il y a là un travail de fond qu'on ne peut résumer, mais qui constitue un véritable lexique du décor architectural dont on ne pourra se passer. Comme le souligne l'auteur dans sa synthèse finale, comme un tiers des façades est daté par une inscription et qu'un sixième porte le nom d'un tailleur de pierre, on peut parvenir non seulement à une chronologie relativement précise de l'ensemble mais à l'individualisation des ateliers. Cela conduit à un exposé passionnant sur l'occupation de l'espace, sur les liens entre Pétra et Hégra par l'intermédiaire des tailleurs de pierre eux-mêmes, sur l'évolution des formes. Là encore, la publication des tombeaux de Hégra permet d'aller bien au-delà d'une simple présentation du site et invite à une mise en relation des découvertes de l'ensemble du domaine nabatéen.
- 7 Le second volume, composé de 231 p. et 249 planches constitue le catalogue exhaustif des tombeaux. Tous les tombeaux sont présentés et illustrés (en couleurs) en suivant le classement IGN adopté depuis les débuts de la mission française, et c'est là que l'on pourra trouver les textes gravés sur les tombeaux, avec leur traduction (y compris des inédits). Les intérieurs sont soigneusement décrits, le matériel retrouvé illustré et analysé, fournissant une fois encore aux chercheurs un ensemble documentaire d'une incomparable qualité. La première partie descriptive, accompagnée de photographies, doit être consultée en parallèle avec la seconde, les planches, où l'on trouvera des dessins, coupes et relevés divers de chaque tombeau publié.
- 8 La mission française de Hégra donne à la communauté scientifique, avec ces deux volumes, une splendide illustration de l'importance du site et des travaux qui y sont conduits depuis plus de dix ans. On ne doute pas que le reste du site sera l'objet à son tour le moment venu d'une publication aussi soignée et complète, scientifiquement irréprochable et esthétiquement pleinement réussie.

## Appendix 2. The double-sided brochure on the project, 2016 version.

**PUBLICATIONS**

**Excavation reports** (all to be published in "A Series of Archaeological Refereed Studies", SCTH, Riyadh). Years 2009, 2010, 2011, 2014, 2015, and soon 2016, are all available online at <http://halshs.archives-ouvertes.fr/> and keyword "Hegra".

**Summary of excavation reports:** see the Bulletin of the British Foundation for the Study of Arabia no. 17, 20, and 21 at: <https://www.thebfsa.org/publications/bulletin/>.

**Recent academic publications :**

Bouchaud Ch. 2014. "Exploitation végétale des oasis d'Arabie. Production, commerce et utilisation des plantes. L'exemple de Madâ'in Sâlih (Arabie Saoudite) entre le IV<sup>e</sup> siècle av. J.-C. et le VII<sup>e</sup> siècle apr. J.-C.", *Revue d'éthnoécologie* 4. Online: <http://ethnoecologie.revues.org/1217> (August 2014).

Bouchaud Ch., Sachtel I., Dal-Prà P., Delhospital N., Douaud R., and Leguilloux M. 2015. "New discoveries in a Nabataean Tomb. Burial practices and 'Plant Jewellery' in Ancient Hegra", *Arabian Archaeology and Epigraphy* 26: 28–42.

Ch. Bouchaud Ch. 2015. "Agrarian legacies and innovations in the Nabataean territory", *ArchéoSciences* 39: 103–124. Online at: <https://archeosciences.revues.org/4421>

Durand C. & Gerber Y. 2014. "The Pottery Production from Madâ'in Sâlih (Saudi Arabia) during the Nabataean Period. Preliminary Results", *Proceedings of the Seminar for Arabian Studies* 44: 153–168.

**2 volume publication:** Nehmé L. (dir.) 2015. With contributions by J.-C. Bessac, J.-P. Braun, J. Dentzer-Feydy, and L. Nehmé. *Les tombeaux nabatéens de Hégra*. Paris: Académie des Inscriptions et Belles-Lettres (2 vol). Order at: <http://www.deboccard.com/fr/>

Rohmer J. & Charlux G. 2015. "From Lihyân to the Nabataeans: Dating the End of the Iron Age in North-West Arabia", *Proceedings of the Seminar for Arabian Studies* 45: 297–320.

Villeneuve F. 2014. "Chez les Nabatéens: Hégra l'arabe et Pétra l'alexandrine?", in P. Leriche (ed.), *Art et civilisations de l'Orient hellénisé. Rencontres et échanges culturels d'Alexandre aux Sassanides. Hommage à Daniel Schlumberger*. Paris (Picard): 91–95.

**DOCUMENTARY FILMS**

"Pétra, capitale du désert", Arte France, ZED, Providence Pictures, Nova/WGBH. By O. Julien and G. Glassman, 2015 (80').

"Hegra", Arte France & Tournez s'il vous plaît. Agnès Molia and Camille Robert, 2016 (26'). **Released on the January 27th, 2017, 5.40 pm (or replay on Arte +7).**

**Public partners**

Saudi Commission for Tourism and Heritage;  
French Ministry for foreign affairs and French Embassy in Riyadh;  
National Center for Scientific Research (CNRS, France);  
University Paris 1 Panthéon-Sorbonne, Paris;  
French Institute in the Middle East (IFPO);  
LabEX Resmed.

**Private partners**

Simone and Cino del Duca Foundation;  
Airbus Group; Évêha.  
Former private partners: OTV-Veolia, Total.

**Awarded**

Grand archaeological Prize of the Simone and Cino del Duca foundation (2008);  
Clio Prize (2007).

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# Madâ'in Sâlih Archaeological Project



## Madāin Sālih

is one of the major archaeological sites in the Kingdom of Saudi Arabia and is certainly the one which receives the greatest number of visitors each year. In 2008, it was inscribed on the **Unesco World Heritage List**.

It is the site of the **ancient city of Hegra**, well-known in Greek and Latin literary sources, and in the Quran and later Arabic as al-Hijr, which is also the name of a neighbouring village. Hegra was part of the **Nabataean Kingdom** with its capital at the world-famous Petra in Jordan. The Nabataeans, whose civilization was at its height in the first centuries BCE and CE, acted as intermediaries in the transarabian trade of frankincense and other aromatics. These were brought north from ancient Dhofar and Yemen, where they were produced and imported, to the almost insatiable markets in Egypt, the Levant and the Mediterranean. The Nabataeans' role as intermediaries in this trade, and the taxes they imposed on the merchandise, enriched them considerably, and this allowed them to build large and sophisticated cities with magnificent temples, tombs, theatres, fountains, etc. Hegra was the most important Nabataean city in the southern part of the kingdom and it was also a **caravan station** and a **frontier post**. It was occupied before, during and after the Nabataean period, from about the 5th century BCE to the 5th century CE. Along with the rest of the Nabataean kingdom, in 106 CE, Hegra became part of the **Roman province of Arabia**.

Madāin Sālih is a **very large archaeological site**, completely protected by a fence and guarded. It is now accessed through an official gate built at the northern end of the **Hijāz railway station**, the buildings of which date to 1907 and have recently been restored to house the Visitor Centre and the Railway Museum. The site consists of four elements: an **oasis**, the hydraulic resources of which came from one hundred and thirty ancient wells; an urban/**residential area** of 52 hectares in the centre of the plain; a religious quarter known as the Jabal Ithlib, which forms an impressive group of sandstone outcrops; and groups of **monumental tombs** scattered around the urban area and usually facing it. Other remains include hundreds of simple rectangular tombs dug into the rock, which are likely to be Nabataean, as well as cairn-tombs which go back to a much earlier period, one of which was excavated in 2014.

### The project

The Madāin Sālih Archaeological Project is a **joint Saudi-French project** under the aegis of the **Saudi Commission for Tourism and Heritage** and the **French Ministry for Foreign Affairs**. Its members come from various European and Saudi Arabian academic institutions. They include archaeologists, epigraphists, anthropologists, ceramicists, numismatists, archaeobotanists, archaeozoologists, topographers, etc. Through the study of the various kinds of remains brought to light in the excavations, this interdisciplinary project aims at understanding the history and chronology of the site, with a particular interest in its ancient environment, the diet of the populations who lived there at different times, their way of life, their funerary and religious rituals, their economy, etc.

### The results

Since the excavations began, in 2008, more than **twenty excavation trenches** have been opened in the urban area and in Jabal Ithlib, where several Nabataean installations for banquets were excavated. These were used by the Nabataean fraternal societies, whose members gathered in them and carved their names on the neighbouring rocks. In addition, **six Nabataean monumental tombs** were excavated in the necropolises which surround the urban area. One of them, previously unknown, still contained twenty-seven undisturbed burials. The Nabataean tombs yielded large numbers of artefacts, among which were textile and leather shrouds, wooden coffins, bronze and vegetal jewellery (a date-palm necklace), all of which allowed the scientists to reconstruct the entire Nabataean burial process. In the city itself, not only was it possible to trace for

the first time the **outline of the city wall**, which was built in mud-brick in the first century CE with towers projecting at regular intervals, but one of the **city's monumental gates** was fully excavated. The walls of the passage through the gate contained blocks bearing Latin and Greek inscriptions, a very important source for the history of Hegra in the Roman period. A **Roman military fort** was also partly excavated. Finally, **five domestic areas** were excavated, which revealed the superimposition of occupation levels over a long period. As well as providing a clear chronology, thanks to a thorough analysis of the coins and the pottery found in the archaeological layers, these areas gave us a great deal of information on the building techniques used by the Nabataeans in Hegra.

Such a large and complex site does not reveal its secrets at a stroke. They can only be teased out, one by one, through the **meticulous work of specialists in various disciplines working together**. It will take many years of analysis before we can present a detailed image of ancient Hegra and the life of its inhabitants, but it will be worth it.



10 cm  
Date-palm necklace found in a tomb.

### Links

**On Hegra:** <http://www.scta.gov.sa/en/Antiquities-Museums/InternationallyRegisteredSites/Pages/MadainSaleh.aspx>

**On the excavations at Hegra:** <http://www.orient-mediterranee.com/spip.php?article1090> (in French)

### Interviews:

<https://lejournal.cnrs.fr/articles/le-royaume-oublie-des-nabateens> (in French)

<http://etc.ancient.eu/interviews/nabataeans-ancient-arabia/>



# Area 34: the Roman Fort

## Preliminary Report on the 2017 Season

Zbigniew T. FIEMA (University of Helsinki)

The 2017 fieldwork season of the Saudi-French Project in Madâ'in Sâlih (ancient Hegra) included the continuation of excavations in Area 34. This area is located directly to the west of Hill B – one of the two major southern landmarks in the topography of the Madâ'in Sâlih settlement. Its top once held a stone-built citadel, currently totally ruined. The western side of Hill B steeply slopes westwards forming a stony plateau, c. 135 m east-west × c. 90 m north-south (including the north-west slope of Hill B) which then turns into a long spur or flat ridge continuing north-westwards. The surface of the plateau is c. 10–15 m below the summit of Hill B and it remains a few meters higher in elevation than the surrounding area. The surface of the plateau is uneven. It gently rises from the southern edge (at c. 787 m) northwards to reach the elevation of c. 790 m asl in the northern part of the plateau, and then sharply drops to the level of c. 785–787 m.

The fieldwork in Area 34 directly relates to the extant city wall, traditionally referred to as the rampart, investigated through systematic ground and geophysical surveys, examination of aerial and satellite images, and actual excavations. The 2015 and 2016 excavations in Area 34 revealed that the stony plateau to the west of Hill B was occupied by a fortified camp which closely relates to the Roman military presence in Hegra. As argued here, considering its permanent character, this fortified complex finds a more appropriate designation as the Roman fort in Hegra (**fig. 1**). The area occupied by the fort is c. 84 m (east-west) × c. 62 m (north-south), i.e. c. 5208 square meters, thus slightly more than 0.5 ha. Detailed information on the rampart and the 2015–2016 excavations in Area 34 is presented in the previous reports.

The 2017 fieldwork in Area 34 included several interrelated activities:

- A. The clearance of the surface in the northern half of the fort as well as west of Area 34, where aerial photo indicated the existence of a large structure;
- B. The recovery of a unique group of bronze figurines from a sealed deposit located in Trench B (not completely excavated in 2016);
- C. Excavations in the south-west corner of the fort (= Trench C; Room XIV) where a deep clearance had been undertaken in 2016;
- D. Excavations in the north-east corner of the fort (= Trench D). However, as the fieldwork in Trench D requires further clarification and additional clearance, Trench D is not featured in this report.

### A. The surface clearance

As before, the surface clearance in Area 34 included the recording of extant walls and the collection of surface material – ceramics, coins, metals and stone artifacts. Particularly intensive clearance took place in the northern half of the fort, i.e. in the area rapidly sloping down northwards.

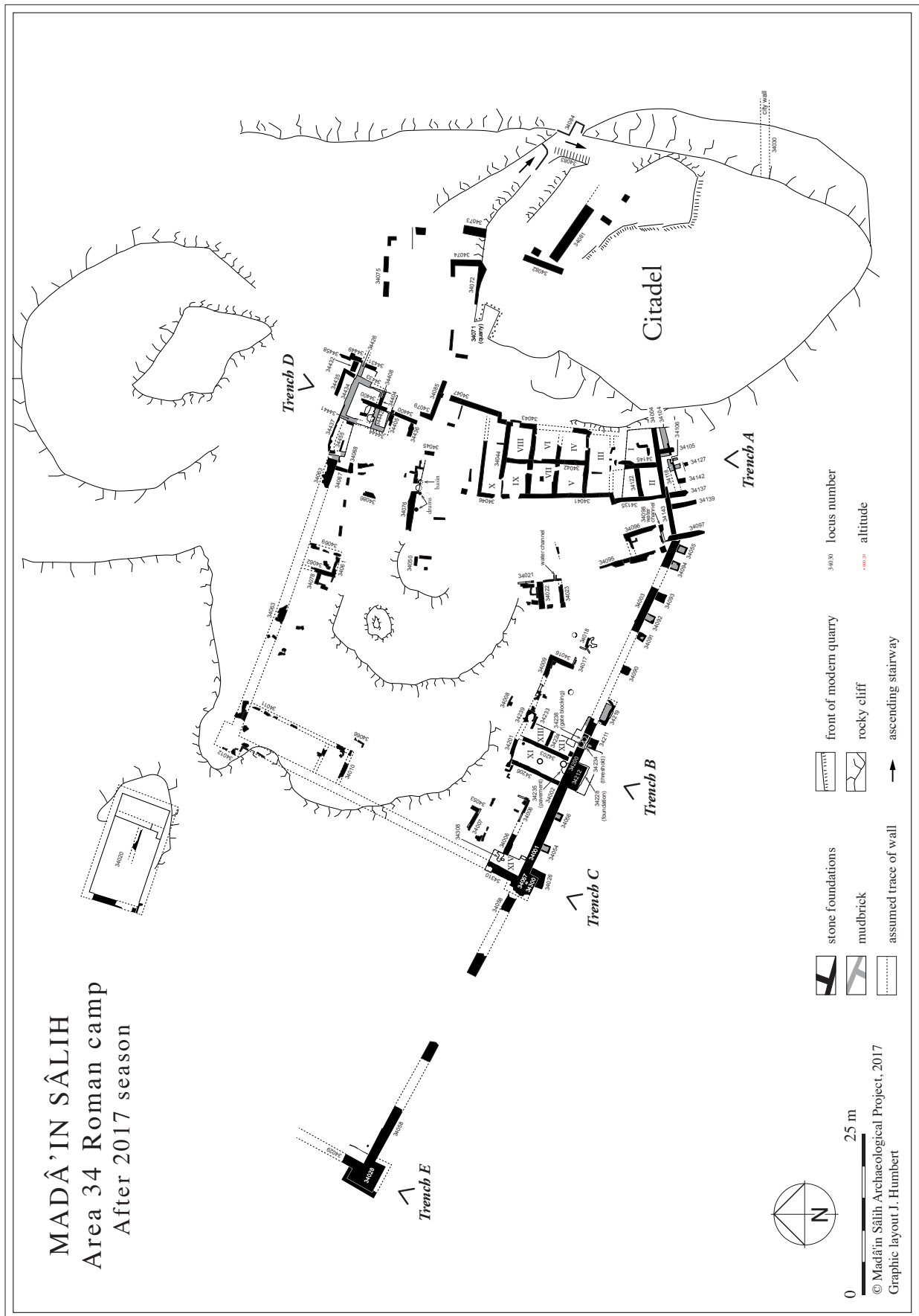


Fig. 1. The plan of Area 34 following the 2017 fieldwork season (J. Humbert).



The coin finds were particularly abundant in this part of the fort: 19 coins (and 12 coins from Trench D) as compared with 38 coins recovered altogether during the 2017 campaign in Area 34.

### *The northern area and the northern perimeter wall<sup>1</sup>*

The state of preservation of extant walls in the area was particularly fragmentary due to the sharply sloping terrain and thus significant erosion. One major wall – *locus* 34076 – running east-west, was located east of the highest point in the area. The most significant was, however, the localisation of the remains of the northern perimeter wall, *locus* 34063 (see fig. 1). This wall, c. 45 m long, is roughly parallel to the southern perimeter wall (*loci* 34001 = 34300, 34002 = 34200 and 34003) and, similarly, is c. 1.5 m wide (at least at its eastern end). The construction is the same – two rows of large ashlar (e.g., 0.8 × 0.3 m and 0.5 × 0.25 m), with the interior entirely filled up with flat and well-levelled smaller stones. It is highly probable that there were walls perpendicular to wall 34063, presumably forming room spaces abutting the inner face of the wall. At the western end of wall 34063, marked by the end of the bedrock, the very poorly preserved masonry remains (e.g., *locus* 34012) indicate that there could originally have been a corner tower with projecting sides, similar in construction and dimensions to the south-west corner tower (*locus* 34057) of the fort. This reconstruction, however, remains highly hypothetical.

### *The western area*

This area of the stony plateau is almost totally deprived of soil due to erosion and rainfall. The western perimeter wall is practically absent. However, few stones still *in situ*, as well as some parts of bedrock cut to accommodate stone foundations, indicate that there was a wall there which would have been a straight continuation, northwards, of wall 34059 (= 34310) located in the south-west corner of the fort. Thus the western perimeter wall apparently run northwards closely to the edge of the bedrock while further north, it climbed on top of the bedrock, which is low at this point. Very few, poorly preserved wall lines, e.g., *loci* 34010 and 34011, are still visible, indicating the presence of rooms directly abutting the inner face of the perimeter wall.

### *Corner tower 34028*

The 2016 clearance revealed that the south-west corner tower of the fort (*locus* 34300 = 34057) was abutted by wall 34058, which, similarly to other perimeter walls of the fort, was 1.5 m wide and of the same construction. Although featuring two major gaps, this wall could be very easily traced westwards for almost 50 m, roughly continuing the line of the southern perimeter wall of the fort. Aerial image revealed that at the end of that stretch there was a large, stone structure which, during the 2017 clearance, turned out to be a corner tower, very similar in construction to the fort's south-west corner tower but larger (**fig. 2**, see fig. 1). This tower, *locus* 34028, is c. 5.10–5.15 (east-west) × 5.10 m (north-south), i.e. an almost perfect square, integrated in the corner made by wall 34058 running east-west and wall 34029 which runs north and which is c. 1.45–1.50 m wide (**fig. 3**). The projecting parts of the tower are 2.38 m on the western side and 1.83 (originally, c. 2.25 m) on the southern side. Only the lowermost (foundation) course of the tower's structure is preserved and at this level (max 780.75 m), the interior is solid. Inside the corner made by walls 34029 and 34058, there were some exceedingly poorly preserved, and

1. To simplify the description, the main perimeter walls in Area 34 are designated according the cardinal directions. Thus wall 34001 = 34300 = 34002 = 34200 = 34003 is designated as the southern perimeter wall even if it runs north-west-south-east; wall 34310 is referred to as the western perimeter wall even if it runs roughly north-east-south-west, and wall 34063 is designated as the northern perimeter wall while it runs north-west-south-east.



**Fig. 2.** Area 34, aerial view. In the bottom-centre are Trenches C (left) and B (right). Corner tower 34028 and the wall (locus 34058) connecting it with the fort are in the lower left corner. The northern perimeter wall in the center (FalconViz).

probably late, stone remains, including a north-south enclosure and an anepigraphic altar which was reused as a reinforcement (?) of the connection between the tower and the inner face of wall 34058 (visible on fig. 3).

The pottery associated with the clearance of the interior and the outside of the tower (= soil *locus* 34027) was generally unindicative, being generally dated to the Nabataean-Roman period. But the construction and size of the blocks (ashlars in the outer rows) clearly resemble the south-west corner tower of the fort and its southern perimeter wall. The measurements of the tower, c. 5.10 × 5.10 m, are little over 17 Roman feet (p.M.) square. It is thus reasonable to associate the construction and the use of the tower with the Roman period. Its function, however, remains obscure. Walls 34029 and 34058 which spread out from the tower may, possibly, mark an expansion of the space of the Roman fort westwards, creating a very large, squarish (c. 50 × 50 m) annex to the original fort, and located on the low, predominantly sandy ground (see fig. 2). On the other hand, and more likely, wall 34058 may represent a Roman period enclosure of the town of Hegra, either built simultaneously with the fort, or soon afterwards (*infra*). In such case, tower 34028 would mark the south-west corner of the entire town while wall 34029 would mark the western limit of Roman Hegra. This, however, would mean that the extension of wall 34029 northwards clearly left some parts of the Nabataean town (e.g., a part of Area 9) *extra muros*, unless wall 34029 turned more to the north-west, somewhere north of the tower.

The ground survey extended further west in order to ascertain whether the remains of the presumed Nabataean rampart or any Roman successor can be found there. The results were





**Fig. 3.** Corner tower 34028. Wall 34029 in centre left. Wall 34058 in the centre, continuing up to the connection with tower 34300. The anepigraphic altar recovered during the clearance is temporarily set up east of the tower. View from the west (Z.T. Fiema).

inconclusive but c. 90 m west of corner tower 34028, remains of what appears to be a wall running north-west–south-east were detected and a fragmentary Thamudic B inscription (34077\_I01) was found. More work will have to be conducted in that part of the site.

## B. The votive/cultic deposit in room XI

Room XI in Trench B was excavated in 2016. One of the distinct features of the interior was a large stone basin which was found in two parts: *loci* 34214 (body) and 34215 (bottom). The basin broke at least twice and was repaired using copper clamps, some still *in situ*. During the latest, presumably non-military, occupation of the room – Phase 5 in Trench B – it must have got broken for the last time and not repaired, but both parts were retained for other use. The latter lay embedded in the surface of *locus* 34208 (Phase 4) while being partially covered by *locus* 34207 (Phase 5); they were apparently in use in Phase 5. The round bottom (34215) was found turned upside down (top at 785.88 m) and placed in the centre of the room. It was originally thought that during Phase 5, it might have served as a convenient pedestal or food-preparation platform but its initial function is suggested below. In 2017, it was decided to turn over the bottom in order to recover possible soil samples gathered inside during Phase 5 (and before).

The interior of the bottom part was tightly packed with soil (*locus* 34240) and significant finds occupied the top 1/4 of the deposit (**fig. 4**). Only c. 5 cm below the top of the soil deposit, at c. 785.75 m, there was a very well preserved bronze figurine of a domestic male goat (34240\_M01, **fig. 5**). Less than 3 cm below there was a deposit of bronze finds roughly placed around the centrally positioned triangular piece of stone. The bronze objects included an elongated object resembling a tree trunk, with three “branches” on the top. The object appears to be some kind of a sceptre (34240\_M02, **fig. 6**), probably suspended on a string from something as it has a perfo-





**Fig. 4.** Trench B. Basin 34215 overturned revealing deposit 34240. View from the north-west (Z.T. Fiema).



**Fig. 5.** Trench B, locus 34240. Bronze figurine 34240\_M01 (Madain Salih Archaeological Project).

ration at one end. Then there was a square plate (34240\_M03) with perforation or round socket and with traces of lead used for sealing the perforation or fixing something in it. Next was a male figurine carrying a soft sack (goatskin?) on the right left shoulder and with a stick carried or cloak (?) wrapped around its right arm (34240\_M04, **fig. 7**). Finally, two objects (34240\_M05 and M06, **fig. 8**) were parts of the same figurine of a seated adolescent male, in a very poor state of preservation. All bronze objects were made using lost wax technique: the goat, the “sceptre” and the male with a goatskin were full casts (no core, solid metal), while the adolescent male figurine features casting over a clay core. Also, on the same level, there was a small round stone stopper or lid with a perforated horizontal handle on the top (34240\_S01). Perhaps the most interesting find was a bone astragal with a piece of substance (probably incense) which appears to have solidified in the depression of the astragal’s surface. Additionally, a small burned wooden stick lay nearby. Small bone fragments and pottery sherds were also found in deposit 34340.

Particularly important is the determination of the way soil deposit 34240 was created as well as the function and significance of the objects located in its uppermost part. At first, it is apparent that the soil and objects tightly and completely filled the entire space of the overturned basin bottom. Upon the removal of the basin, the soil deposit had an exact form of a cylinder, c. 0.28–0.31 m high, reflecting the depth of the bottom part of the basin. Such form could only result from the overturned bottom settling down in the soft ground upon its weight and the subsequent depositions. This means that all bronze objects found in the uppermost part of *locus* 34240 were intentionally placed at this spot when it was still a part of the occupational surface, and this must have been *locus* 34207 of Phase 5. Only then, the bottom part of the basin was overturned and



**Fig. 6.** Trench B, locus 34240. Bronze object 34240\_M02 (Madain Salih Archaeological Project).



**Fig. 7.** Trench B, locus 34240. Bronze figurine 34340\_M04 (Madain Salih Archaeological Project).



**Fig. 8.** Trench B, locus 34240. Bronze figurine 34240\_M05 and M06, probably Harpocrates (Madain Salih Archaeological Project).

placed upon the spot with bronze objects. While slowly settling down, the basin “entered” the lower deposit – *locus* 34208 (Phase 4) compressing the soil trapped inside, which also included pottery and small bone fragments but no bronze objects. This may explain that while the majority of datable sherds in deposit 34240 were of the 4th century date, i.e. generally reflecting the datable material from *locus* 34207, some sherds also date to the 3rd century, presumably representing the material from *locus* 34208 trapped *inside* the slowly settling basin.

*Locus* 34207 contained quantities of ceramics and bones, two coins and the largest number of metal objects, mostly Cu / Cu alloy, comparing with any other *locus* in Trench B. It might be assumed at first, that the Cu / Cu alloy objects found under the bottom of the basin, were the result of the scavenging of the abandoned fort and were hidden under the basin to be retrieved later. This simplistic interpretation is belied, however, by some facts. Although the reasonable identification can only take place after the conservation is complete, it appears that at least two statuettes may represent deities, the adolescent male being probably Harpocrates. Furthermore, the objects appear to be intentionally placed around the triangular stone and the presence of astragal with burned substance – most probably incense – indicates some kind of “ceremony” associated with the “burial”. Therefore it may be at least tentatively proposed that the burial was intentional, included objects of probably cultic/votive significance and was accompanied by some kind of ceremony.

Since the overturned basin was not entirely covered by *locus* 34207, it may be that this ritual burial took place in the early stages of Phase 5 (i.e. in the early 4th century), presumably soon after the cessation of the military occupation of the room (but *infra*). It is apparent that these objects were buried not to be retrieved again. Anyway, the non-military occupation continued in Room XI, with the overturned basin bottom prominently featuring in the interior of the room, yet seemingly nobody attempted to turn it back again or move it to another place until it was done in 2017.

## C. The excavations in Trench C

The opening of this trench again relates to activities conducted in 2016. The fragment of paved area, *locus* 34025 was exposed then during the deep clearance, in the south-west corner of the fort, close to corner tower, *locus* 34057 (34300 in 2017). The pavement was covered by c. 0.20 m of soil on top of which there was a thin (c. 0.08–0.12 m) but extensive and horizontal layer of pure ash mixed with charcoal chunks. The ceramic material under the ash layer dated to the 2nd–early 3rd century AD, without any later dated sherds. Whether the ash layer originated from intentional destruction or from any other cause, was virtually unknown.

In order to ascertain the stratigraphic situation and to understand the formation of the ash/charcoal layer, a trench was opened here in 2017, its space designated as Room XIV. Trench C is c. 5.00 m long (north-south) and c. 3.00 m max (east-west) wide. It is limited to the south by tower 34300 and wall 34001 and to the west by wall 34310 (**fig. 9**).

### Phase 1. The construction of the fort and the early occupation

There is no evidence for any pre-annexation activity in this area, except for levelling deposit 34312 which contains pottery dated to the second half of the 1st century AD. It seems, however, that some deposits used to level the unevenness of the bedrock before main constructions took place in the fort, were apparently carted in from other locations at the settlement site, which were already abandoned by then, hence the relatively early pottery in these deposits. This fact is also amply confirmed by the evidence from Trench D.

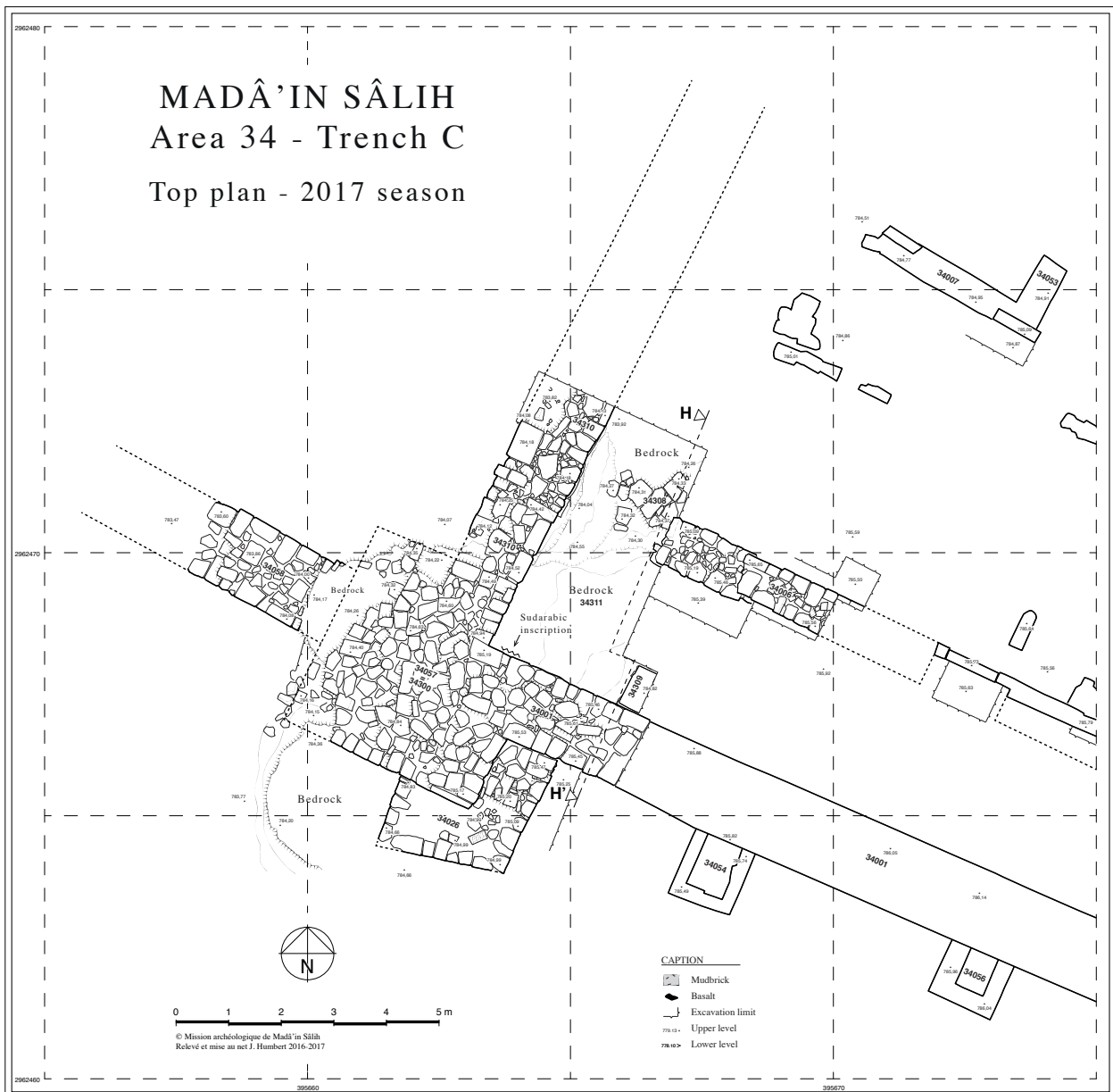
### Corner tower 34300 and wall 34058

As seen on its northern side, corner tower 34300 = 34057 was constructed directly on the bedrock. The tower (max. c. 4.1 × 4.2 m = almost 14 × 14 p.M.) is fully integrated in the corner formed by walls 34001 and 34310 = 34059 and at the current height (785.63 m), the tower is solid. On the inner, northern, side of the tower, it is at least 6 courses high but the courses are not very regular (**fig. 10**). Especially in the westernmost part, the courses feature chinking stones as well as a reused Ancient South Arabian inscription (**fig. 11**, see the contribution of I. Rossi). Perhaps this part of the tower was hastily reconstructed following some unknown emergency, such as that in Phase 3 (?). The tower projects outwards on the southern and western sides by 1.7 m (6 p.M.), i.e. exactly as the corner towers at the early 2nd century Roman fort in Humayma.

Of interest is the functional and spatial relationship between the tower and wall 34058 which continues westwards to merge with the westernmost corner tower 34028, a subject already treated above (see fig. 1-2). There are two ways how this relationship can be interpreted. At first, tower 34300 appears as a classic example of corner reinforcement in a quadrangular, fortified enclosure and, as such, its sides necessarily project south- and westwards. In this scenario, the fort was completed first as an independent entity, with its perimeter walls and corner towers. Only later on but seemingly still in the 2nd century (as the manner of construction indicates), the line of the southern perimeter wall of the fort was extended westwards, presumably to provide the enclosure for the southern part of the settlement in Hegra (*supra*). That initiative resulted in wall 34058 and the westernmost corner tower 34028. Perhaps some parts of tower 34300 were then dismantled and re-erected, especially in the northwestern part of the tower, resulting in some irregularities in coursing and overall plan.

Alternatively, the tower and the western extension of the perimeter wall (= wall 34058) as well as the westernmost tower (34028) were built simultaneously with the entire fort. In such case, tower 34300 may perhaps mirror Roman aptitude for following well-proven blueprints and well-tested regulations: since in this location was the corner of the fort, a proper corner tower (34300) was to be constructed, regardless of the perimeter wall continuing westwards (as wall 34058).



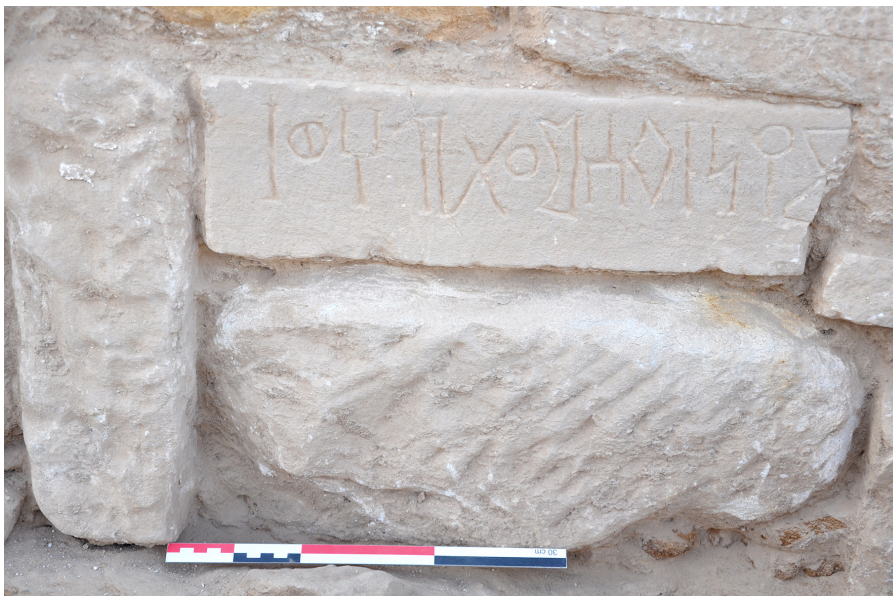


**Fig. 9.** Trench C. Top plan (J. Humbert).

One can also argue that while tower 34300 marked the south-west corner of the fort, *structurally*, it was more subjected to the conditions of the terrain, i.e. the spot where the relatively flat area of the rocky plateau rapidly dips down west- and southwards. Thus while the tower naturally projects southwards, its part projecting westwards may not only reflect the tower type but could be also interpreted as reinforcing – in a difficult, uneven terrain – the connection between the tower and the westward continuation of the perimeter wall (*locus* 34058). After all, the western-projecting part is located exactly at the spot where bedrock ends and the sandy plateau begins. Both propositions have its merits and the second one may seem easier to accept. It also needs to be observed that while wall 34058 follows the *general* direction of the southern perimeter wall of the fort yet it runs a few degrees further to the north. These differences are minimal and probably not intentional yet clearly visible on the site plans and aerial photos (see fig. 2). Thus it is not impossible that wall 34058 and tower 34028 were built slightly later, after the fort was already constructed, nevertheless still in the 2nd century.



**Fig. 10.** Trench C, final photo. Wall 34001 and tower 34300 in the background, wall 34006 on the left, wall 34310 on the right (observe the flat section of the wall, the perpendicular slab and the rectangular slab), bedrock-levelling stone layer 34308 in the centre. View from the north (Z.T. Fiema).



**Fig. 11.** Ancient South Arabian inscription in the inner face of tower 34300 (Z.T. Fiema).



### The perimeter walls

Both the southern and western perimeter walls of the fort firmly integrate with tower 34300. The southern perimeter wall, *locus* 34001 (c. 1.4 m wide, top at c. 785.49 m) was constructed directly on the bedrock. The western perimeter wall, *locus* 34310 (c. 1.35–1.45 m wide, top at 784.57 m), which bonds with the tower and its western projection, is also built on the bedrock. But c. 2 m northward from the connection, the bedrock very sharply dips down and thus the lowermost course of wall 34310 is slightly below and abutting the bedrock in order to follow the line of the western perimeter of the fort. Evidently, parts of the bedrock were cut off, creating a sort of a deep “foundation trench” for the wall (see fig. 10). Undoubtedly, wherever possible, the perimeter walls (and the corner towers) were built on the bedrock, and wall 34310 eventually mounts the bedrock further north. It was then an intention of the builders to construct the fort on the high stony plateau, a fact confirmed in other parts of the fort.

It is perhaps worth observing that c. 2 m north of its connection with tower 34300, wall 34310 features a large block set perpendicularly on the preserved top of the wall, in a “header” fashion (see fig. 10). The following stretch of the wall, c. 2 m long, features an unusually flat surface made of smaller, well-fitting slabs, all on the same altitude. Furthermore, in front of the wall, on the exterior and abutting the wall, a large rectangular slab has been found, flush with the top of the adjacent stones in the wall (**fig. 12**, see fig. 10). One might hypothesize that the large perpendicular slab had once formed a part of the southern doorjamb section of a small gate, and the unusual flatness of the stones in the wall, located further north, indicate that these served as the base for a threshold while the rectangular slab in the front was a step up to the level of the threshold. The presence of a small postern gate in this part of the fort, although highly hypothetical, would not be unusual. Such gate would have served to provide practical access to the area west of the fort, enclosed by wall 34058. Thus it is perhaps worth to keep in mind such speculation, especially in the context of Phase 3.



**Fig. 12.** Deep clearance in 2016. Wall 34310 (then 34027) on the right. Notable are the flat section of the wall, the perpendicular slab and the rectangular slab in the front. Bedrock-levelling stone layer 34308 (then 34025) in the centre left. Observe the extent of ash/charcoal layer 34306 which does not reach wall 34310. View from the north (Z.T. Fiema).

## The pavement

It is unknown whether the south-west corner of the fort, limited by walls 34001, 34310 and tower 34300, as exposed in Trench C, formed a regular room space in Phase 1, or was an open space. But it is certain that this area was paved and must have been somehow delineated, hence Room XIV designation. The bedrock (*locus* 34311) in this area is uneven and only c. 2.50 m north of the tower it sharply plunges north-westwards (c. 784.55–.60 m in the southern part of the trench and c. 784.15 in the northern part). To prepare horizontal surface for the pavement, an elaborate levelling was effected (**fig. 13**). The northern, lower, part was first covered by thin layer of soil (*locus* 34312) directly on the bedrock and further levelled by very thin and flat stones. On top of these, a layer of flat slabs was placed – *locus* 34308 (34025 in 2016), at 784.32–.37 m. Although these slabs are tightly fit, they are also very irregular and should be considered a levelling device for the actual pavement (see fig. 10 and 12). On top of this stone layer, a homogeneous deposit of greyish-brown silt was deposited, which contained few finds. This deposit (*locus* 34307) was spread not only in the northern (low) part of the trench but also in the southern part, directly over the bedrock.

The top of *locus* 34307 is at 784.46–.50 m. Striking is its horizontality which is then followed by the ash/charcoal layer 34307, directly above it. During the removal of the Latin inscription (Phase 3, *infra*), an extension or “annex” c. 1.00 × 0.50 m was made in the south-east corner of Trench C, revealing a large flat slab (0.8 m long, 0.12 m thick and at least 0.49 m wide; top at 784.82 m) with smooth surface, laying on top of *locus* 34307 (see fig. 13). This slab, *locus* 34309, which abuts wall 34001, is well levelled with small chinking stones placed underneath. Considering its size, comparable with pavement slabs from Trench B, it is most probable that it represents the original pavement in the south-west space of the fort.

## Dating

The levelling layer 34312 contained sherds datable to the 2nd half of the 1st century AD. The ceramic material found in *locus* 34307 was scarce and difficult to date, providing a general date in the 2nd century with possible but not necessary extension into the early 3rd. This high closing date is not unexpected considering the fact that with the removal of the original pavement, *locus* 34307 (*infra*) was no longer sealed and, especially in its southern part, prone to be affected by later disturbances. Generally, and similarly to the chronological scheme from Trench B, Phase 1 here should begin in the early to mid-2nd century. Since the removal of the pavement contributed to the disappearance of all material related to the occupation in Phase 1, the end of the phase will coincide with the dating of Phases 2 and 3 (*infra*), i.e. sometime around mid-3rd century.

## Phase 2. Removal of the pavement and the fire

This appears to have been a momentous event, counted in weeks or months rather than years and it had begun with the removal of the pavement. It is again important to stress the similarities with Room XI in Trench B as well as in some spaces in Trench D, where the pavement had entirely been removed in antiquity.

## Pavement removal

The pavement had been removed from the entire space of Trench C, measuring c. 5.0 m (north-south) × 3.0 m (east-west), adjacent to walls 34310, 34001 and tower 34300. Only in the “annex” of the excavations, one slab was found still *in situ* (*locus* 34309, *supra*). The removal must have fully exposed the top of the soil buildup 34307 on which very thin lenses of sandstone crust were detected, obviously detached from the bottoms of the slabs during the removal. The reasons for the removal are difficult to speculate upon but the evidence from other trenches demonstrates that this was not a unique event.



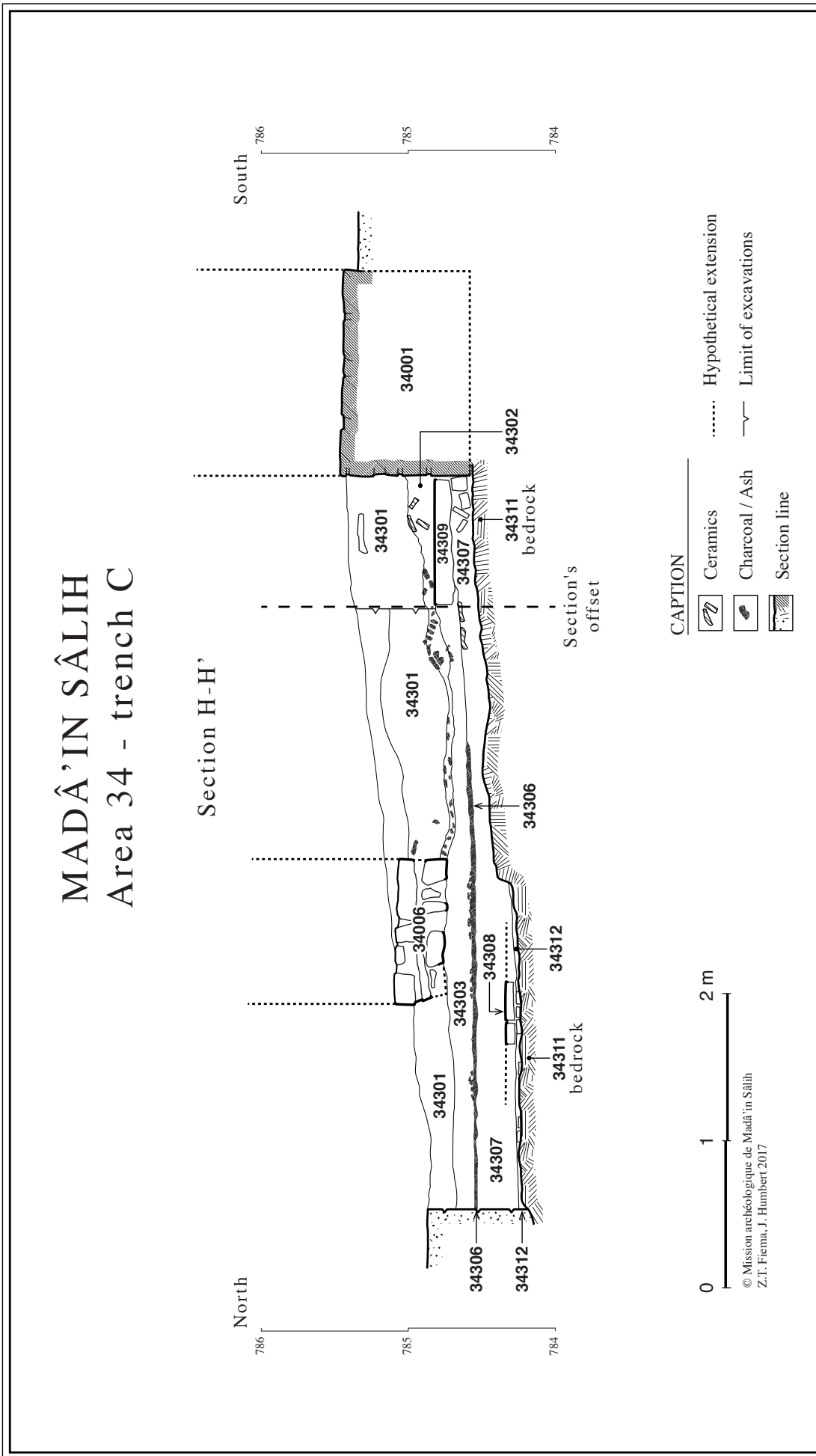


Fig. 13. Trench C. Eastern baulk section (Z.T. Fiema and J. Humbert)

### The fire deposit

The top of *locus* 34307 with its crust of limestone was in turn covered by a thin (0.05–0.08 m; top at 784.55–.58 m), very dense and compact layer of ash and charcoal (*locus* 34306) which, similarly to the top of *locus* 34307, was almost perfectly horizontal (see fig. 13). Although the compactness of the layer is notable, it also contained charcoal pieces, some in clusters, as well as clumps of totally burned fibers or reed the deposits of which preserve a rough north-south orientation (fig. 14). The spatial distribution of *locus* 34306 was very uneven. It occupied large space of Trench B, continuing, presumably, further east under the later wall 34006. However, deposit 34307 reached neither wall 34310 in the west, nor wall 34001 and tower 34300 in the south, stopping c. 1–1.5 m away from these structures. It was also entirely absent from the “annex” in the south-east corner where the pavement slab, *locus* 34309 is still *in situ*. In other words, the ash/charcoal deposit was restricted to a rough rectangle occupying the north-east quadrant of Trench C (see fig. 12).<sup>2</sup>

The interpretation of deposit 34306 is not easily forthcoming. The fact is that *locus* 34306 was deposited on the relatively compact and highly horizontal top of *locus* 34307. The idea that it represents debris collected from a fireplace and spread around should be rejected. Neither the high density of the deposit and its compactness nor the presence of still recognizable and roughly orientated (north-south) clumps of reed would support such hypothesis. Thus, *locus* 34306 either represents the burnt remains of wooden and thatched superstructure/roof of the space in the south-west corner of the fort, or the combined wood/reed deposit which burned *in situ*, on the ground. The first proposition is feasible yet the almost uniform thickness of the deposit as well as a rough north-south orientation of the charcoal/reed fragments are highly suspicious. One would expect a more random distribution, more variable thickness and perhaps a less horizontal top of the deposit, even if the deposit was further “compacted” by more than 0.8 m of later deposits. Also, there is no evidence – pillars, pilasters, voussoirs, etc. – of roofing found in Trench C although this argument is rather weak considering the very limited ground exposure in Trench C. That the deposit might have burned on the ground may be surmised from the following evidence: a very high density of the deposit, uniform thickness, orientation of distinguishable components and, above all, its spatial distribution which indeed resembles a rough rectangle. In such case, following the removal of the pavers and the continuation of some kind of remodelling/reinforcing activities, the dump of combustible material was accidentally (?) ignited and it burned *in situ*. It is rather less likely that the fire had resulted from an enemy action. Accident is perhaps more realistic but only the extension of Trench C eastwards might produce a conclusive evidence.

### Dating

No ceramic material was found in deposit 34306. But the removal of the pavement and the following fire would have taken place within a rather short period of time. Consistently with the dating of Phases 1 and 3, the short-lived Phase 2 should be dated sometime in the mid-3rd century AD, perhaps slightly later.

### Phase 3. Continuing occupation

Whichever way the activities in Phase 2 are interpreted, it is apparent that the occupation, presumably still military, was resumed in the south-west corner of the fort. Furthermore, while the function of the space in Trench C during Phase 1 cannot be determined, in Phase 3 it seemingly became a depot of storage and cooking vessels, maybe related to a cooking/food preparation area which, in such case, should be located further east.

2. While this cannot be seen on the photos taken in 2017, the total spatial extension of *locus* 34306 can be established on the basis of the 2016 photos.



**Fig. 14.** Trench C. Locus 34306 in the bottom centre and on the left, partition 34305 in the centre, locus 34304 on the right. The two basins belong to locus 34303. View from the north (Z.T. Fiema).

### Loci 34303, 34304 and partition 34305

Silty deposit 34303, directly on top of ash/charcoal 34306 (see fig. 13), was a relatively thin layer (c. 0.09–0.13 m) with a slightly harder surface at 784.65–.72 m (**fig. 15**). While it was c. 5 m long (north-south), its width was c. 1.5 m, i.e. it was restricted to the eastern part of the trench, almost exactly mirroring the westward extension of *locus* 34306. Standing on top of surface of *locus* 34303 and/or slightly embedded in it there were at least three large storage vessels (*pithoi* and basins), evidently broken *in situ*, while sherds of other storage jars and cooking pots were also found throughout the *locus*. Two almost complete bowls were laying upside-down and one large sherd represents an imported amphora, probably of Kapitän II type (see fig. 14–15). On the eastern side, *locus* 34303 was limited by three lowermost stones of partition, *locus* 34305, which were placed one after another in a rough north-south line. This partition or barrier apparently grew in time; with the constant raising of the occupational level, more stones were added on top of the original three, in order to continue separating the eastern half of the trench from its western counterpart (see fig. 14–15). Resulting was a partition c. 1.93 m long (top on the northern end at 784.62 m and 784.88 m on the southern end), leaning against the inner face of tower 34300.

West of that line, i.e. occupying the western part of the trench, and limited by wall 34310, was *locus* 34304 – a layer of silty-sandy soil, c. 0.20 m thick (max.) with its top at c. 784.70 m (see fig. 14–15). This deposit lay directly on the pavement buildup layer 34306 as the ash/charcoal layer 34307 was not present in the western half of the trench (*supra*). Puzzling is the fact that *locus* 34304 was completely deprived of any finds and did not feature occasional ash lenses visible in *locus* 34303. Again, one might hypothesize that if there was a door or small gate in wall 34310 (*supra*), sandy material coming from the west could have easily accumulated against partition 34305 forming *locus* 34304. This, however, remains a speculation.



### Paver 34309, the Latin inscription and wall 34006

The top of *locus* 34303 almost reached the top (784.82 m) of paving slab 34309, the only element of the original paving left *in situ* which, in Phase 3, could have served as a convenient step, seat or pedestal. A large block featuring a Latin inscription (**fig. 15**, see Appendix for details) was placed directly next to paver 34309 and abutting it. The inscription, dated to AD 213–217 and mentioning Caracalla, was placed face up (top at 384.90 m). Despite such placement and the probability that the reused inscription block served in Phase 3 as a table, seat or base for something, the inscription shows only faint traces of wear or damage. Sometimes toward the end of Phase 3, when partition 34305 reached its maximum height, a large storage jar was placed in the space between the inscription block and the partition, conveniently leaning against the inner face of wall 34001 (see fig. 15).

Wall 34006, running east-west, is the latest addition to this area during Phase 3, perhaps relatively late in the duration of that phase (see fig. 9, 10, 13). What is visible at the eastern edge of Trench C is the lowermost, foundation course, c. 1.05 m wide and at 785.09–785.19 m. Further east, the lower part of the actual wall is preserved, with the top at 785.56–.65 m, being 0.80 m wide, and featuring two parallel rows of blocks, with smaller stones in-between. The construction is of good quality and the wall resembles other internal walls of the fort. The foundation course lay directly on top of *locus* 34303. The location and orientation of the wall indicate that it must have continued westwards in order to abut wall 34310 (but see *infra*). No traces of that wall were found inside Trench C although it is apparent that it could not have ended where it currently ends.



**Fig. 15.** Trench C. Locus 34303 in the foreground. Partition 34305 in the upper left and centre. Latin inscription in lower left. View from the east (Z.T. Fiema).



### The nature of occupation and the dating of Phase 3

The presence of a relatively well constructed wall 34006 should indicate that the occupation in Phase 3 in the space of Trench C was still military. Following the enigmatic events in Phase 2, the eastern half space was now turned into a storage of ceramic vessels, perhaps related to a presence of a food preparation/consumption located nearby. The surviving paver and the inscription blocks would have served as convenient elements of “furniture”. What is puzzling, however, is a clear abandonment of the western half of the trench, i.e. the space of *locus* 34304 (see fig. 14 and *supra*), which does not show any traces of occupation. Even more puzzling is the consistency of that *locus*, made of silty sand. To think that wall 34310 was now down to a level allowing sand to penetrate the interior is perhaps too radical. The “gate” interpretation cannot be easily proven either. In case there *was* a door in wall 34310, wall 34006 would have entered its space, which is impossible to accept. So either there was no gate there at all, or it was blocked (with paving stones?) in Phase 3, before the construction of wall 34006. The uniformly low preservation of wall 34310 in this area may perhaps indicate that the blocking was inferior and quickly fell, depriving wall 34006 of its “anchoring”, and, perhaps ultimately, bringing it down within the space of Trench C. The dating of this phase is dependent on the ceramics from *locus* 34303 which were generally labelled as “late Roman” more specifically representing the time-span from mid/late 3rd century to sometime in the 1st half of the 4th century.

### Phase 4. The latest occupation

Phase 4 is the latest occupation phase of the space in Trench C. The deposit of ceramic vessels (Phase 3) seems now to have been turned into the disposal place of disused/broken pots. Whether this occupation was still military or civilian (mirroring the situation in Trench B), cannot be unequivocally stated although the latter is a possibility.

### *Loci* 34302 and 34301

*Locus* 34302 was a deposit of greyish-brown silt, which abutted inner faces of wall 34001 and tower 34300 at the level of 784.95 m then gradually dipping northwards where its top was at 784.75 m (see fig. 13). This *locus* entirely covered paver 34309 and was largely on top of the Latin inscription block. Similarly to the deposit directly below, *locus* 34302 contained quantities of ceramics, some broken in pieces, other incomplete, embedded in silt and tilted. There were quantities of ash pockets everywhere and many clusters of relatively large charcoal pieces some of which looked like large branches. Large storage vessels and cooking pots predominated but only in the southern part of the trench. Comparing with *locus* 34303 directly below, the main difference is that *locus* 34302 now spread all over the southern and central area of the trench, largely covering the north-south partition 34305 and spilling over upon the top of *locus* 34304 on the western side. Another difference is that the pots and sherds in *locus* 34302 appear to be either thrown in and broken (upon impact or by collapsing stones later on) or were already broken when thrown in. Generally, the distribution of ceramics is dense but very chaotic and, in opposition to *locus* 34303, *locus* 34302 has clearly sloping surface which is further characterised by the presence of random depressions filled with ash or sand and of mounds of broken sherds. *Locus* 34301 (top at 785.01–.24 m) also gradually sloped northwards and may perhaps be considered as the continuation of 34302 (see fig. 13). The main difference between these two *loci* is that *locus* 34301 was deprived of charcoal pieces and its soil was uniformly darker than that in *locus* 34302, probably due to the increased contents of ash. Again, quantities of broken ceramics were present, including storage jars, and similarly to *locus* 34302 but in opposition to *locus* 34303, they were mainly located within a band of c. 1.5 m away from the inner faces of *loci* 34300 and 34001 (fig. 16). Undoubtedly, some pots were broken *in situ*, perhaps by stones from deteriorating stone structure directly to the south. But some sherds in both 34302 and 34301 must have been thrown

in against the wall and further fractured. While the impression of *locus* 34303 is that of a rudimentary depot of storage jars and pots, *loci* 34302 and 34301 more resemble a disposal place or a midden which also, in case of both *loci*, contained large quantities of bones.

### Dating

Regrettably, dating of ceramics from *locus* 34302 was not available at the time this report was written. Most likely these sherds would date to the late 3rd–early 4th century. As for the material from *locus* 34001, it was preliminarily assessed as “Early Byzantine” (4th century).



**Fig. 16.** Trench C, locus 34301. View from the south (Z.T. Fiema).

## Preliminary observations on the 2017 season

### *The fort and the town*

With the firm localisation of the northern perimeter wall, there can no further doubt that the complex in Area 34 is a permanent Roman fort built in the Roman fashion, using Roman construction techniques and Roman modular planning (see fig. 1-2). The excavations in Trench D (not featured here) further confirmed locational and functional relationship between the fort and the citadel on Hill B, which will be further investigated. The continuation of the southern perimeter wall (*locus* 34058) and the discovery of corner tower 34028, are significant especially as no prior (Nabataean) rampart remains were found in the area so far (except for a short stretch in the south-east corner of Area 34 in 2015). In the opinion of the writer, the fort, wall 34058 and tower 34028 must belong to the same grand design effected by the Romans in the 2nd century in Hegra even if the construction of these components might not have been simultaneous. Probably, since the southern part of the town would have been particularly vulnerable to a potential external attack, it received fortifications of the same type and quality as the fort garrisoning Roman troops.

### Bronze objects from Trench B

These are definitely the most interesting and unique find from the fort so far. The conservation and further stylistic studies will have to be undertaken to identify the statuettes and find proper parallels. If the dating of this deposit is correct – early 4th century – it represents a ritual burial of valuable, sacred (?) artifacts, associated with some kind of ceremony (burning incense) either at the very end of the military occupation of the fort or at the beginning of the civilian occupation. It is symptomatic that the “burial” remained intact despite the fact that the basin could have easily moved out of the way.

### Trench C

The excavations there confirmed some basic information already retrieved through the work in Trenches A and B. Significant is the removal of paving slabs which seemingly occurred in every other excavated area of the fort and which should be dated to around mid-3rd century or slightly later. Possibly, the defences of the fort had to be rapidly reinforced, presumably in light of a serious imminent external threat which may or may not materialised. Paving slabs are certainly a good and convenient construction material and could have been easily stacked up, for example in the highly hypothetical door/gate in wall 34310. The ash/charcoal layer 34306 implies extensive fire damage but whether or not it resulted from an enemy action or was accidental, cannot be easily ascertained. Notably, neither in Trench A nor in B, any traces of extensive fire destruction have been detected. Following the fire, the area was occupied again serving most probably as a depot for ceramic vessels, perhaps associated with food processing/consuming activities nearby. But later (Phase 4), the area was turned into a place of disposal of disused ceramics. Such transformation is equally well evidenced in Trench A. Puzzling is the complete lack of any valuable objects in Trench C; neither coins nor bronze objects were found there, only one very fragmentary ceramic lamp and few indistinguishable scraps of bronze. Phase 3 still bears some marks of military occupation and its ending date is somewhere in the early 4th century. This already exceeds the duration of the military occupation in Hegra as postulated by stratigraphy and finds in Trench B (end of the 3rd century). However, it is not entirely impossible that the military forces still stationed in Hegra at the beginning of the 4th century. It is hoped that future excavations will allow to clarify this problem.

### Appendix: the Latin inscription

Large stone altar (0.43 m long, 0.23 m wide, 0.63 cm high; **fig. 17**). Front face with two lateral horns in a shallow relief; bevelled base. Top surface roughly chiselled and featuring a central depression (diameter c. 0.21 m, c. 0.015 m deep). Sides roughly smoothed but the backside very rough and uneven, i.e. the altar was not free-standing but rather set against or partially integrated in a wall. The Latin inscription has 11 lines.

*Dis deabusque imm(ortalibus) / pro salute Imp(eratoris) Caes(aris) M(arci) Aur(elii) / Severi Antonini Aug(usti) Pii Fel(icis), / Parthici max(im)i, Brittanici (sic) max(im)i, / Germanici max(im)i, et Iul(iae) Aug(ustae) / matri Aug(usti) et castrorum et / senatus et patriate, genio / hospiti et Fortunae Reduci / et Marti Conservatori, Aur(elius) / Gloriosus, Aug(usti) lib(ertus), adiutor / tabularior(um) votum solvit.*

“To the immortal gods and goddesses, for the well-being (welfare) of Emperor Caesar Marcus Aurelius Severus Antoninus Augustus, Pius, Felix, Parthicus Maximus, Britannicus Maximus, Germanicus Maximus, and for Iulia Augusta Mother of Augustus and of Camps, and for Senate and Homeland, to genius hospiti, Fortuna Redux and Mars Conservator, Aurelius Gloriosus, imperial freedman, adiutor tabulariorum, fulfilled his vow”.



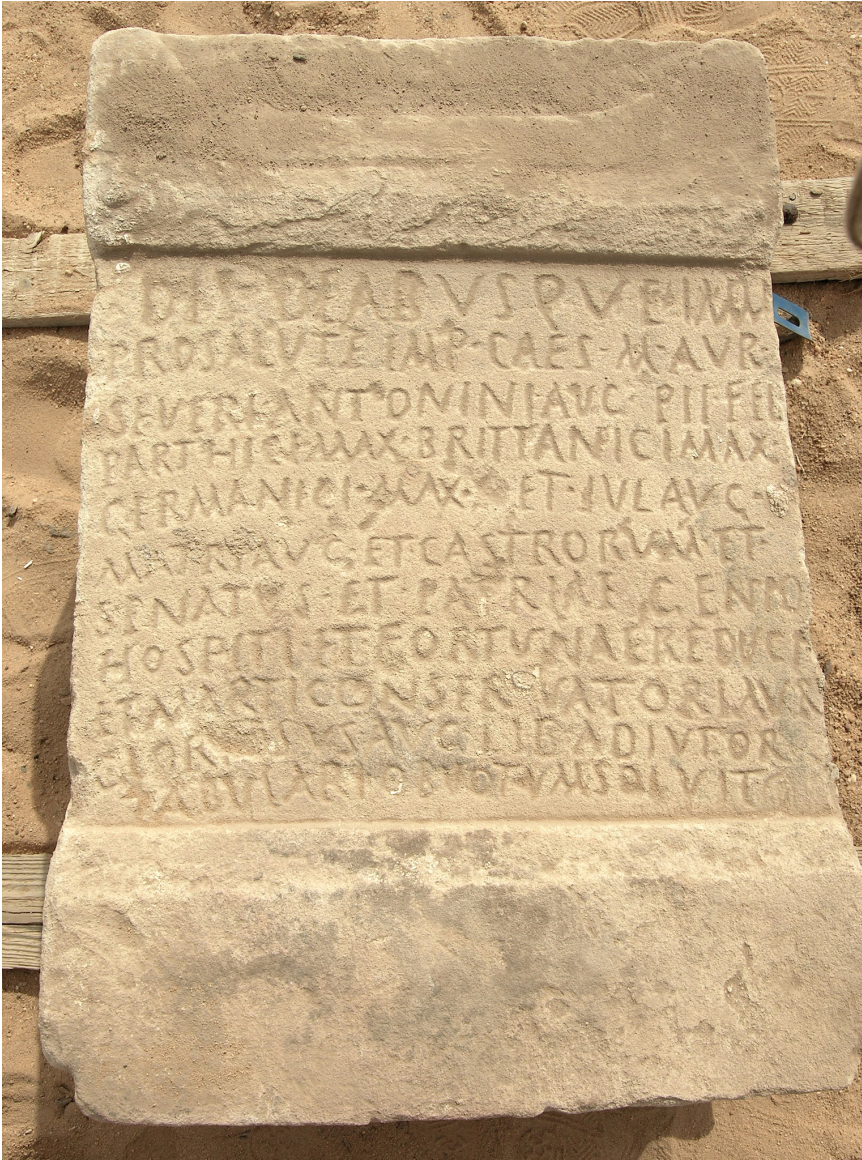


Fig. 17. Latin inscription 34303\_I01 (Z.T. Fiema).

The inscription dates to AD 213–217, i.e. during the reign of Caracalla. The altar was set up as a dedication by Aurelius Gloriosus, imperial freedman and *adiutor tabulariorum* (the latter may or may not have military connotations). As the dedication mentions *genius hospiti*, Fortuna Redux, the patroness of safe return journey, and Mars Conservator who accords military protection, it may be that Aurelius Gloriosus was on a governmental mission from which he safely returned and set up the dedication. Some time after this altar was set up somewhere, the block was unceremoniously re-used as a base or pedestal in the south-east corner of the fort, probably in the 2nd half of the 3rd century. The full commentary of this text will soon be published in *Atlat* and *ZPE*, together with other Greek and Latin inscriptions from Hegra.



# A Fragmentary Ancient North Arabian inscription from the Area of the Roman Fort of Hegra

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## Introduction

The text under examination, numbered 34077\_I01 (**fig. 1**), was discovered in 2017 during the surface clearance undertaken at the western end of Area 34, i.e. the Roman fort, c. 90 west of corner tower 34028 (see Fiema's report in this volume and his fig. 1). It is written on a small block of friable sandstone, 17 × 22 cm, found on the surface of the ground. It consists of eight glyphs and is broken at both its beginning and end. The original orientation of the text is unknown. Our study will begin with the half-circle glyph, reading left to right. The following discussion will identify the phonemic values of the glyphs, attempt an interpretation and diagnosis of the script.



**Fig. 1.** Photograph of inscription 34077\_I01 (L. Nehmé).

## Reading of the glyphs<sup>1</sup>

– Glyph 1:

The first glyph is nearly complete, although the damaged rock may have removed the left-most features. Its shape most easily permits an interpretation as a <b> in Safaitic or Hismaic or possibly

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1. All general references to Ancient North Arabian glyphs follow the forms on the script chart of Macdonald 2000.

as an <r> in Thamudic B, although in the latter case, it would be more compressed than usual. A <k> is also possible if a projecting arm was removed by the damage.

– Glyph 2:

Damage dips into the top part of the letter, obscuring any diagnostic features. What remains is a straight line, most likely an <l> and less likely <n>. The <n> in Thamudic B is significantly shorter than the <h>, which does not seem to be the case here, and in Hismaic, the glyph is usually a dot. The <l> is almost always hooked in Thamudic B. Thus, a Hismaic or Safaitic <l> is the best interpretation.

– Glyph 3:

The letter is clearly an <h> but its shape is common to Thamudic B, Safaitic, and Hismaic.

– Glyph 4:

The most likely identification is an *alif* <ʾ>, although damage on the top may have obliterated a closing line, in which case it should be read as a <š>. The *alif* of this shape is common to Safaitic and Hismaic, and rarely found in Thamudic B.

– Glyph 5:

Two arms protruding at one end of the shaft make this letter most likely a <k>, although its shape is rather irregular, as the arms stretch out at an angle rather than perpendicular to the shaft. Nevertheless, the shape bears a clear resemblance to Hismaic k, e.g. (Jacobson D.20.1) (**fig. 2**).

– Glyphs 6 and 7:

These two glyphs are straight lines, most likely <l>.

– Glyph 8:

The final glyph is a rectangle with two intersecting lines. This shape is encountered in Thamudic B for <w> but not yet in Hismaic or Safaitic. It seems difficult to interpret the glyph as a <t>.

The inscription likely continues beyond this point, and there seem to be remnants of a glyph following the <w> although it is impossible to determine its identity.



**Fig. 2.** Hismaic k in Jacobson D.20.1 (from OCIANA).

## Preliminary reading:

The inscription could be a fragment of a variant of the common signature formula in Hismaic: / PN + *substantive* w PN *ḥṭṭ* “inscribed” (King 1990).

If we assume this, then we may reconstruct the text as follows:

[I-] *blh* ʾ-*kll* w [PN *ḥṭṭ*]

*blh*: a personal name, also attested in Hismaic (CH.R337.1) and Safaitic (BS 122).

*kll*: A quantifier, “all, every” (Al-Jallad 2015: 324) and common in Hismaic and Dadanitic as well.

Note, however, a few irregularities: the formula / PN *kll* is attested twice: / *ḥmmt kll* “By *ḥmmt* all [of it]” (JS 614); / *ʾlt bn wdd kll* (CH.R701.6), occurring much more frequently preceded by the verb *ḥṭṭ* “to carve”.

The form *kll* is never preceded by a glottal stop <ʾ>. This is expected as Hismaic lacked any overt means of nominal definition (i.e. a definite article) (King 1990, Macdonald 2000). However, a text from this region may have made use of a definite article. Indeed, both the *h*- and ʾ- articles are known from the Ḥiḡāz, and the author seems to have employed the latter. Thus, ʾ-*kll* would be equivalent to Classical Arabic *al-kull* “the whole, totality”.

One may also parse the first part of the text differently. Rather than taking *blh* as a single name, it is possible that the *b* is the final letter of a name, and the *lh* comprises the dative preposition and 3rd person pronominal suffix, producing the following: ----*b lh ' -kll w----*, “----*b*, everything is his and ----”. This formula is very common in Safaitic, although the conjunction *w* usually separates the personal name from the prepositional phrase; to illustrate with the ' - article, consider HaNSB 312: *l-h ' -frs<sup>1</sup>* “the (image of the) horse is his” (Al-Jallad 2015: 75). According to this interpretation, it is impossible to determine what may have followed the *w*.

## Remarks on classification

The inscription is far too short and fragmentary to make any secure claims about its classification. Its letter shapes are generally in line with Hismaic, with the exception of the *w*, which finds an analog only in Thamudic B. In terms of writing formulae, the inscription can be interpreted best through the signature formula of Hismaic and Safaitic rather than Thamudic B. Yet, the main diagnostic feature of Thamudic B, the introductory particle *nm*, is impossible to detect as the beginning of the inscription is missing.

## Sigla

**BS.** Safaitic inscriptions of the OCIANA badia survey 2015, published in OCIANA.

**CH.R.** Hismaic inscriptions in Corbett 2010.

**Jacobson.** Hismaic inscriptions from David Jacobson’s collection, published in OCIANA.

**JS.** Thamudic inscriptions in Jaussen and Savignac 1909–1914.

**HaNSB.** Safaitic inscriptions in Ḥarāḥiṣah 2010.

**OCIANA.** <http://krc.orient.ox.ac.uk/ociana/>.

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## An Inscription in Ancient South Arabian Script, 34057\_I01

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### Description of the provenance and support of the inscription

During the 2017 excavation season in Area 34, a short fragmentary text (siglum 34057\_I01; **fig. 1**) in Ancient South Arabian (ASA) *musnad* characters was brought to light. It is inscribed on the side (c. 48 cm × 12.5 cm) of a stone block which was reused as a construction element in a wall of the corner tower of the Roman fort (**fig. 2**; see the report on Trench C by Z.T. Fiema in this volume). The right end of the stone is broken in the middle of an inscribed letter, cutting off the beginning of the text, while its left end is intact. The text runs parallel to the upper edge of the block, which is regularly cut. The height of the non-inscribed stone surface below the text is not sufficient to carry a second line of text. Therefore, the inscription most probably ran on a single line of which the preserved words form the final part. This is proved by the wide empty space (4 cm) between the left edge of the stone and the last inscribed sign – a word divider, the presence of which is not unusual at the end of the ASA epigraphs.



**Fig. 1.** *Inscription 34057\_I01* (Z.T. Fiema).



Fig. 2. Archaeological context of inscription 34057\_101 (Z.T. Fiema).

## Writing style

The text is carved on the polished surface of the block. Although the ductus is not very regular, a search for formality in the register of the script<sup>1</sup> is apparent. The writing style is characterised by:

- serifs at the extremities of the vertical strokes;
- acute angles between the strokes of the *n* sign;
- bipartite vertical structure of the letters *h* and *s*<sup>1</sup> (i.e. equivalent height of the upper part and the lower part);
- squared form of the upper and lower parts of *h* and *s*<sup>1</sup> respectively;
- “open” and curved structure of the *m*. This letter shows also a peculiar decorative indentation of the upper oblique line.

These features are not found in the ASA writing style before stage C1 (beginning around 300 BC) of P. Stein’s palaeographical grid (Stein 2013: 189–190). In particular, the shapes of *m*, *h* and *s*<sup>1</sup> comply with stage C3, covering the centuries between the mid-1st and the 4th AD. However, given the foreign milieu where this inscription was produced, a proposal of a palaeographical classification based on the criteria established for the ASA inscriptions from Yemen will be avoided for this text.<sup>2</sup>

*Transcription:*

[... ... ]{z}yn |f-s<sup>1</sup>m t |l-hw|

*Translation:*

[... ... ]zyn, may She listen to him!

*Commentary:*

The reading of the text is quite clear. The restitution of the first visible letter as a *z* (partially cut off by the break of the stone) is sure. The *prima facie* uncertainty in the interpretation of the fifth and fourth signs from the end of the text (as a *ġ* or as a word divider plus *l*) is overcome by the autoptic reading by L. Nehmé: notwithstanding the closeness of the two vertical strokes and their slight curving, resembling a *ġ*, their top serifs are not joined and therefore they are parts of two

1. For the definition of register of script, see Macdonald 2015: 4.

2. The style of the few remaining letters differs also from that of the Minaic inscriptions from Dadan, the site which hosted the nearest ASA community producing a number of monumental inscriptions and graffiti, probably following a proper graphic canon. We recall that the Minaean settlement in Dadan is attested in the second half of the 1st millennium BC.



different characters. The reading of a word divider plus a letter *l* is also confirmed by the syntax of the text and is relevant in defining its language.

In fact, although the inscription is written in the ASA script and mentions the theonym 'zyn (al-'Uzzā) according to the ASA spelling, the verb *s'm'*, "to listen" is followed by the preposition *l-* introducing the indirect object. This construction is never attested in ASA, where the verb *s'm'* is regularly followed by the direct object (e.g., *w-dt Hmym l-ts'm'n-kmy*, "and may (the goddess) *dt Hmym* listen to you"; inscription 'Abdallāh 1996, l. 1–2). The verb *s'm'* followed by the preposition *l-* is found in Ancient North Arabian (ANA), and specifically in Taymanitic (Kootstra 2016: 100), where it recurs in a peculiar religious phraseology for which the semantic nuance "to obey (to a god)" can be inferred (e.g., *mn s'm' l-šlm l twy* "whoever listens (= obeys) to *šlm* will not perish"; WTay2).<sup>3</sup>

In 34057\_I01, the verb is in the suffix conjugation (feminine: *s'm't*) introduced by the conjunction *f-*. Such a construction is common in ANA with an optative or imperative function. In Dadanitic, it is found in the final clause of several texts recording a ritual action performed by the author, in consequence of which the divine benevolence is asked: *f-rđ-h w-ḥrt-h w-s'd-h* "and so favour him and his descendants and help him" (AH 009). Also for Safaitic, Al-Jallad (2015: 163) notes that "in cases where the first clause of the narrative is introduced by *f*, e.g., *l- PN f sc*, the following verb has an optative sense",<sup>4</sup> as in the example "KhMNS 13: *l's' bn br'h f'd* [...], "For/by 's' son of *Br'h*, and so may he return".

An optative clause in correct ASA would instead require the following pattern: (*f* or *w* +) *l* + verb in the prefix conjugation, as in the final clause of a Minaic inscription from Qaryat al-Fāw: *f-l ys'm'-s'm'* "and may they (= the gods) listen to them" (Riyād 302F8, l. 14; cf. also the above-mentioned quotation from 'Abdallāh 1996). Actually, many occurrences of *f* + suffix conjugation are also found in ASA, but with an emphatic, consequential sense in the past: "and then", "and indeed".<sup>5</sup>

Given the fragmentary state of the epigraph, one should not exclude in principle the possibility that the subject of the verb, the gender of which is feminine, is a woman mentioned in the lost part of the text – possibly the author. This would be in line with the syntax of the above-mentioned Taymanitic inscriptions, where the god is not the subject but the indirect object of the verb *s'm'* introduced by *l-*. Moreover, other restorations besides the theonym 'zyn cannot be excluded for the fragmentary first word of the text [... ...]{z}yn (a proper name, a family name, a *nisbah*, etc.).

However, the ASA name of the goddess al-'Uzzā, 'zyn (in which the final *n* is the mark of determination corresponding to the preposed article in ANA and Arabic, and to the final ' in Aramaic), is the most likely restoration and the most plausible subject of the verb. This interpretation is corroborated by the occurrence of a similar formulaic clause involving al-'Uzzā in a text from Qaryat al-Fāw (Ja 2138, see *infra*) and in some Nabataeo-Arabic texts from the Darb al-Bakra (UJadh 313, 345, 364), the goddess being the one who is asked to "listen to" the author's prayer (*šm't 'l'z' l-*; personal communication by L. Nehmé).

As mentioned, the closest parallel to 34057\_I01 is found in l. 3–4 of the inscription Ja 2138 (fig. 3), in the Riyadh Museum (Jamme 1970: 120, 137): <sup>1</sup> {št}{...} | <sup>2</sup> 'l' | {y}n{b} <sup>3</sup> hqny | 'l'zy <sup>4</sup> f-s'm' | l-h. Written in the ASA script, it employs the typical ASA verb of dedication, an ANA spelling of the

3. In Safaitic we have examples of the verb followed by object clauses, *s'm' n* "to hear that" (Al-Jallad 2015: 165). In general, it has to be underlined that any consideration on the syntax of the verb *s'm'* in the epigraphic languages of Ancient Arabia is based on scanty evidence, and the hypothesis cannot be discarded that, in the ANA and in the ASA occurrences of *s'm'*, different verbal stems are attested, each requiring a specific construction.

4. PN = personal name; sc = suffix conjugation.

5. Cf. the citation of just some examples in Nebes 1995: 53–55 and the thorough discussion of the use of the *f-* coordination in Northern Middle Sabaic in Stein 2007: 21–24.

name of the goddess al-‘Uzzā (with article ‘l),<sup>6</sup> the construction *f* + suffix conjugation, the construction *s’m’* + *l*, and the enclitic third person pronoun *h* (either masculine or feminine in ANA, feminine in ASA). Jamme maintained that the inscription was purchased in Yemen and interpreted it as ASA, translating: “has dedicated ‘l’azay [a personal name]. So may He [= the god] listen to him”. Ten years later, J. Ryckmans (1980: 197–198) corrected Jamme’s interpretation of ‘l’zy, suggesting that this is actually the North Arabian form of the theonym al-‘Uzzā (see also W.W. Müller 1982: 28),<sup>7</sup> and he corrected the information on the provenance of the inscription, which was actually found on the surface at Qaryat al-Fāw by the Philby-Ryckmans-Lippens expedition in 1952. Moreover, on the basis of Jamme’s facsimile, it seems to us that the tribal name ‘l’{h}n{k}[t] might be restored instead of ‘l’l{y}n{b} in l. 2 of Ja 2138. From the Hellenistic period, the ‘l’hnkt seem to have been based in Qaryat al-Fāw, where they are attested in several inscriptions.<sup>8</sup>



Fig. 3. Ja 2138 (Jamme 1970: 137).

That the language of Ja 2138 is not Sabaic but an Ancient North Arabian variety used at Qaryat al-Fāw was pointed out by N. Nebes (1995: 55, n. 117), adducing the comparison of two texts in ASA script from Qaryat. Of these, only the photographs were published, without the edition of the text, by al-Ansary (1982: 147, fig. 6; the inscription is hereafter referred to as QF 147, **fig. 4**)

6. The article ‘l is attested occasionally in Dadanitic and Safaitic, besides (Old) Arabic, see Al-Jallad 2014: 457–458.

7. Jamme’s interpretation was probably suggested – or at least corroborated – by the gender of the verb *s’m’*, requiring a divine masculine subject. Ryckmans’s identification of ‘l’zy with the goddess, being not only the object of the verb *hqny* but also the most probable subject of *s’m’*, assumes an error of the scribe or mason, who would have omitted the feminine marker on the verb.

8. Some attestations of ‘l’hnkt – as a tribal name or a *nisbah* – are also found in South Arabia and in the region between Najrān and Qaryat al-Fāw, plus one in Dadan. A list of them is provided by Robin (in Robin and de Maigret 2009: 90–91) and can now be enriched with the occurrence of the tribal name in an inscription from Qaryat al-Fāw published in al-Ghabban *et al.* 2010 (318, cat. 128) and hypothetically in Ja 2138, as mentioned. Actually, with regard to the occurrences of the *nisbah*, note that Macdonald (2000: 52) argues that the ASA forms ‘hnkn, ‘hknyn and ‘hnytn found in a number of Northern and Central Middle Sabaic texts could not be produced from the name of the tribe ‘hnkt. However – as Mascitelli (2006: 114, n. 34) points out – there are many examples of *nisbah* directly derived from the singular or from the root of an ethnonym or name of tribe. A toponym/tribe name *hnk* is found in the Early Sabaic inscription Demirjian 1, which records the destinations of its author’s expeditions abroad. The editor, Robin, writes: “La question qui reste en suspend est de savoir s’il existe un rapport entre ‘l-‘hnkt (ou hn-‘hnkt) et Hnk. C’est possible sans être démontrable. De manière très hypothétique, je suggère donc de localiser Hnk à Qaryat al-Fāw en supposant que ‘hnkt est une appellation qui dérive de Hnk”.



Fig. 4. QF 147 (al-Ansary 1982: 147, fig. 6).

and by Ghoneim (1980: 323, fig. 10; **fig. 5**). Interesting for our purpose are the last words of the two texts: *f-s<sup>1</sup>m<sup>1</sup> l-hw w-l-d<sup>1</sup>-tr-h* (QF 147) and *f-s<sup>1</sup>m<sup>1</sup>t l-hmw<sup>9</sup>* (inscription in Ghoneim 1980).

M. Kropp (1992: 60), discussing the latter and in particular the *f-s<sup>1</sup>m<sup>1</sup>t l-* formula, also compares the fragmentary inscription in ASA script from the Riyadh Museum Ja 2142, l. 2–3: “*f-s<sup>1</sup>m<sup>1</sup>[<sup>1</sup> l-h] {w}*” (**fig. 6**). He notes that the “whole final precative formula *fa-sami<sup>1</sup>at la-humū* is a specific feature of this group of texts (Ja 2138.4; Ja 2142 (fragmentary); QF 147.6). It is characterized by the use of the optative perfect”, instead of the ASA syntagm *l + prefix conjugation*.<sup>10</sup> Thanks to Ryckmans’s revision (1980: 198–199) of Jamme 1970, it is sure that Ja 2142 also comes from Qaryat, where it was found on the surface by the Philby-Ryckmans-Lippens expedition.

These textual comparisons from Qaryat al-Fāw may also help us understand the nature of the final enclitic personal pronoun *hw* in 34057\_I01. This spelling is typically ASA because *hw* is the masculine third person enclitic pronoun in all the varieties of Sabaic, and the feminine in some inscriptions in Middle Sabaic (otherwise, the feminine is normally *h*). In a correct ANA inscription one would find *h* as the third person enclitic pronoun of both genders. However, in the language of the Qaryat al-Fāw inscriptions in ASA script the masculine pronoun can be both *hw* and *h* (cf. *supra* QF 147, 6: *l-hw w-l<sup>1</sup>-tr-h*).<sup>11</sup>

9. The subject of the verb is the goddess *Lt*.

10. To these texts, we may hypothetically add Ja 3237 (**fig. 7**), a short text roughly inscribed on the side of a bronze camel figurine from Qaryat al-Fāw. This was read by Jamme as <sup>1</sup>*bdwd|hqny-d<sup>2</sup>s<sup>1</sup>mwyl-l-s<sup>1</sup>m<sup>1</sup>-l-h*. However, the reading of the conjunction *l-* is uncertain on the photograph and also on Jamme’s facsimile, where it has been traced like an *f* lacking the lower left oblique trait. Therefore, we might envisage the possibility that the above-mentioned precative formula is to be restored in Ja 3237 too. Although in his recent edition of the text C. Robin (in al-Ghabban *et al.* 2010: 330, cat. 147) reads only the verb of dedication and the theonym, the photograph in al-Ansary 1982 (106, fig. 1 left) allows us to verify that Jamme’s reading of the formula could possibly be revised as *supra*.

11. Analysing the co-occurrence of both the forms *hw* and *h* in the *Rbbl bn Hf<sup>1</sup>m* grave inscription from Qaryat al-Fāw, A. Al-Jallad (2014: 542) writes: “the 3 ms clitic pronoun is represented as *-h* in nearly every consonantal Semitic script. The spelling *hw* in the same text may suggest the use of the Sabaic form as an ideogram, to be read in the local language”. More generally, to define the language of this text, he writes: “As a working hypothesis, the language of this inscription could reflect a transitional dialect between the southern ANA varieties and ASA, perhaps related to the substratum of the <sup>1</sup>Amīritic dialect of Sabaic” (Al-Jallad 2014: 562).





Fig. 5. Ghoneim 1980: 323, fig. 10.



Fig. 6. Ja 2142 (Jamme 1970: 137).



Fig. 7. Ja 3237 (1: Jamme 1995: 133; 2: al-Ansary 1982: 106, fig. 1, left).

## Conclusions

In sum, the script and phraseology of 34057\_I01 agree with those found in the group of monumental inscriptions from Qaryat al-Fāw discussed above. 34057\_I01 may therefore provide direct proof of the presence in ancient Hegra of at least one individual from one of the communities composing Qaryat al-Fāw's society, like the 'l 'h<sup>h</sup>nk<sup>t</sup>. It has to be recalled that such a connection is already mentioned in the inscription JSLiḥ 71 from Dadan, which records that a man of the tribe *hn-'h<sup>h</sup>nk<sup>t</sup>* (i.e. 'l 'h<sup>h</sup>nk<sup>t</sup> spelled in the Dadanitic form) "was 'amīr in al-Ḥigr" (l. 4–5: 'mr b-l-ḥgr).<sup>12</sup> The capability, in a foreign milieu, of producing an inscription of formal register (which is I think the case of 34057\_I01) applying the rules codified by the scribal school of the place of origin, always brings to mind the possible presence of a community which could appreciate (and – to some extent – read) the text and even be provided with a scribe. This, however, remains speculation. As far as the chronology of the inscription is concerned, according to the excavator of Area 34, Zbigniew T. Fiema, the construction of the wall where the epigraph was reused may date to the

12. The last edition of the text in the OCIANA database has been followed (the readings proposed by the various former editors differ considerably one from another).

1st half of the 2nd century AD. He adds however that “it is theoretically possible that some sort of reconstruction took place in this part of the tower. If so, such reconstruction probably dates to the 2nd half of the 3rd century AD”. The 2nd half of the 3rd century AD is therefore the latest *terminus ante quem* for 34057\_I01 (obviously, a time gap between the production of the inscription and the reuse of its support for building purposes has to be taken into consideration).

While awaiting the publication of the results of the Qaryat al-Fāw excavations, we can simply say that the above-mentioned group of texts from the Central Arabian town has been dated in general and with some uncertainty between the 1st century BC and the 3rd century AD (for a concise outline of the history of Qaryat, see Robin 2010: 94–95). This chronological range does not contradict the dating suggested on the basis of the archaeological context of the Madā'in Sālih inscription.

Of course, although the Qaryat al-Fāw texts analysed above are the closest parallels to 34057\_I01, the latter's fragmentary nature and its singular features within the epigraphic corpus from Madā'in Sālih make the reconstruction proposed a working hypothesis. One should not discard alternative interpretations justifying 34057\_I01's ASA/ANA mixed features, like the possible presence in Hegra of people from South Arabia, who – in writing this text – applied their homeland script and pronominal morphology, but used a North Arabian formula to invoke the goddess's help. If the restoration of the theonym 'zyn is accepted, the attestation of the typical ASA spelling of the goddess's name in a linguistic and cultural North-Central Arabian context is at least noteworthy.<sup>13</sup>

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I wish to thank M.C.A. Macdonald for his precious remarks to my hypotheses and for allowing me to see the photographs and read the edition of the ASA graffiti of the Darb al-Bakra before publication, in order to check any useful datum for a better comprehension of 34057\_I01.

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'Abdallāh 1996. Stein 2006: 185.

**Demirjian 1 = B-L Nashq. Bron and Lemaire 2009:** 12–29, pl. I–IV; **Robin and de Maigret 2009:** 82–96, fig. 14.

**al-Ghabban et al. 2010:** 318, cat. 128.

**Ja 2138.** Jamme 1970: 120, 137 (facsimile).

**Ja 2142.** Jamme 1970: 122, 137 (facsimile).

**Ja 3237.** Al-Ansary 1982: 106, fig. 1 (left); Jamme 1995: 133; al-Ghabban et al. 2010: 330, cat. 147.

**JSLih 71.** Jausen and Savignac 1914: 452–454, pl. LXXXVIII, CX; English online edition in OCIANA: [[http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA\\_0034210.html](http://krc.orient.ox.ac.uk/ociana/corpus/pages/OCIANA_0034210.html)], accessed 03/07/2017.

**KhMNS 13.** Al-Jallad 2015: 163.

**Riyād 302F8.** Robin in al-Ghabban et al. 2010: 324.

**QF 147, 6.** A.R. al-Ansary 1982: 147, fig. 6.

13. In general, however, it has to be recalled that the goddess is very rarely attested in the ASA epigraphic corpus – either as a divine entity or in theophoric proper names. We cannot exclude that the ASA form of the theonym was in use among other communities outside the cultural borders of Ancient South Arabia.

**Rbbl bn Hf'm grave inscription.** Al-Jallad 2014: 450–451.

**WTay2.** Kootstra 2016: 118.

**W. Ghoneim 1980: 323, fig. 10.**

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# The South-East Gate of the Rampart (Area 35): Fifth and Final Season of Excavations

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*Note that all the drawings, unless otherwise stated, are by J. Humbert, and all the photographs, unless otherwise stated, are by F. Villeneuve.*

## 1. Review of earlier stages and objectives of the 2017 season: final excavation of the Roman gate and confirmation of the existence of an older gate, glimpsed in 2015 and 2016

The south-east gate of Hegra, whose location was suspected after a detailed prospection undertaken in 2010 and confirmed after excavation in 2011, has undergone a total of five seasons of excavation in 2011, 2014, 2015, 2016, and 2017 (**fig. 1**).

The short (fifteen-day) 2011 season firmly established its location and showed that its masonry consists of a mixture of reused stones and mud bricks and bears Latin, Greek, and Nabataean inscriptions and graffiti. A deep sounding opened in the southern corner (south-west end of wall 35001) appears to show that it was built on completely virgin soil. Moreover, analysis of the construction has revealed several major alterations.

The (five-week) long 2014 season enabled a very thorough excavation of this gate, with the exception of the surroundings *intra muros* and the interior of one of the two towers (north-east); many other inscriptions were discovered.

The equally long 2015 season dealt with the interior of the north-east tower. A deep sounding (H deep, **fig. 1**), opened as a precaution in front of the eastern corner, unexpectedly revealed traces of underlying constructions just ahead of the north-east tower.

Finally, the brief (fifteen-day) 2016 season led by Pierre-Marie Blanc, who extended sounding H deep both laterally and vertically, suggested that there are two closely dated ancient construction phases – turn of the Christian era and first century AD – and provided indications, though uncertain and without reaching the bedrock, that these remains are closely related to an older gate (more or less under the more recent gate, but slightly out of alignment).

The results were presented in the mission's 2014, 2015, and 2016 detailed reports. For simplicity's sake, we will hereafter refer to a second-state gate to describe the completely excavated construction with its two towers (**fig. 1**), and a first-state gate to describe the older, much more damaged structures, which were excavated in depth in front and to the east of the second-state gate, from sounding E deep to sounding M. It must be emphasized that each of these two states actually comprises a number of phases, which are not examined in detail here due to the constraints of a preliminary report.

The second-state gate, within a mud-brick rampart measuring more than 2 m wide, flanks a 3.75 m-wide gateway formed of two roughly rectangular towers, measuring



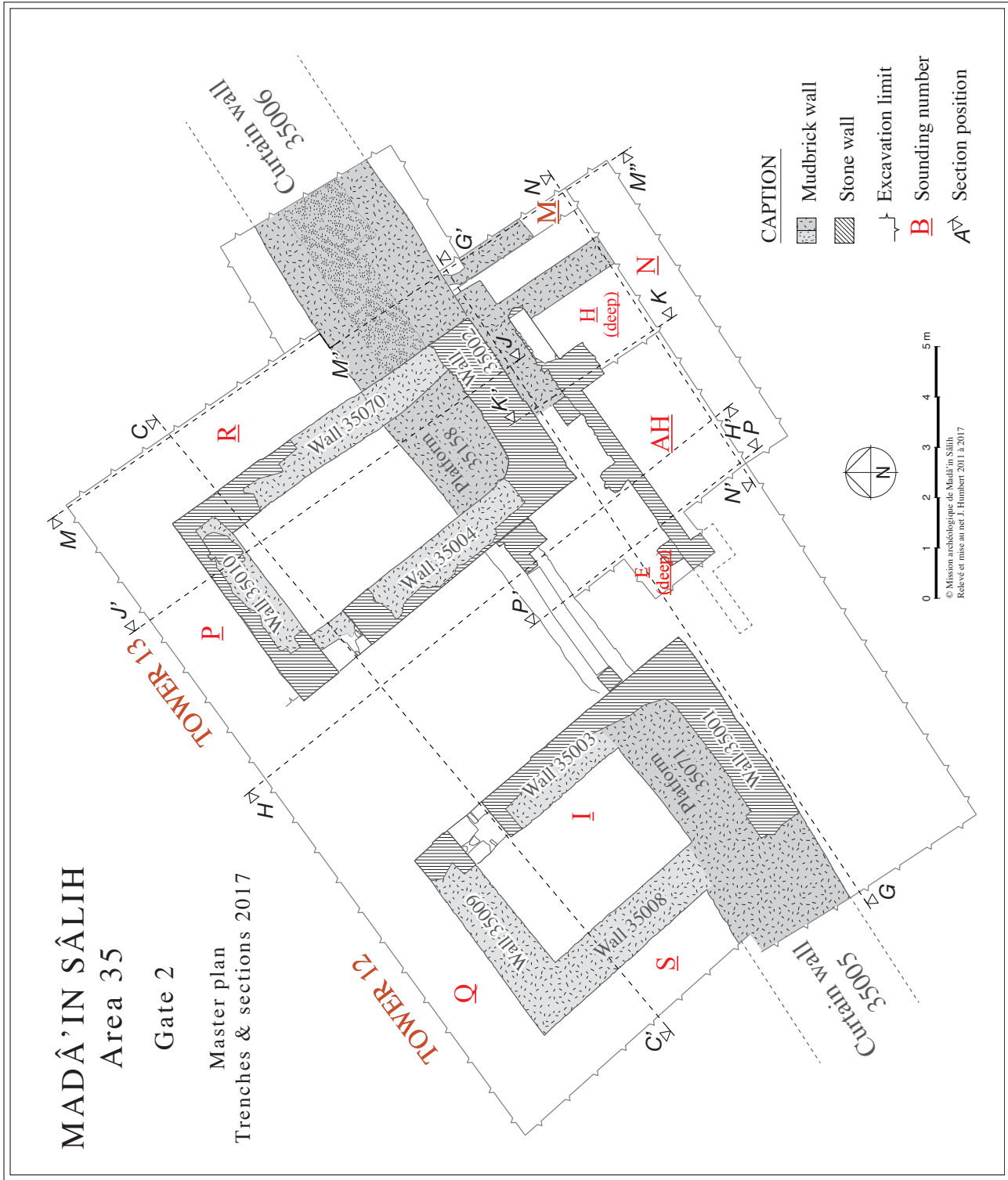


Fig. 1. Area 35: a master plan showing the position of the trenches in 2017 and the location of the sections mentioned in the report.

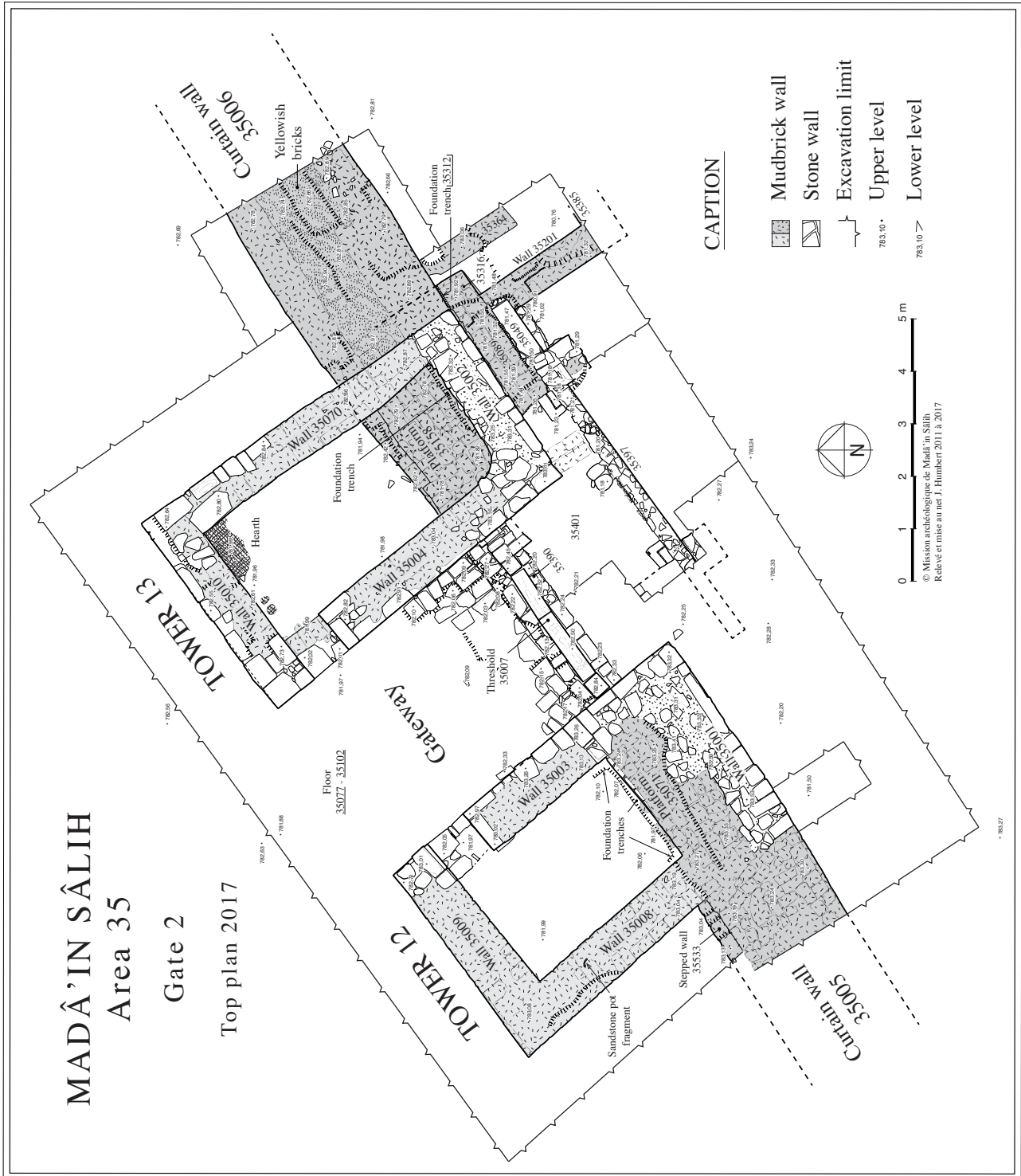
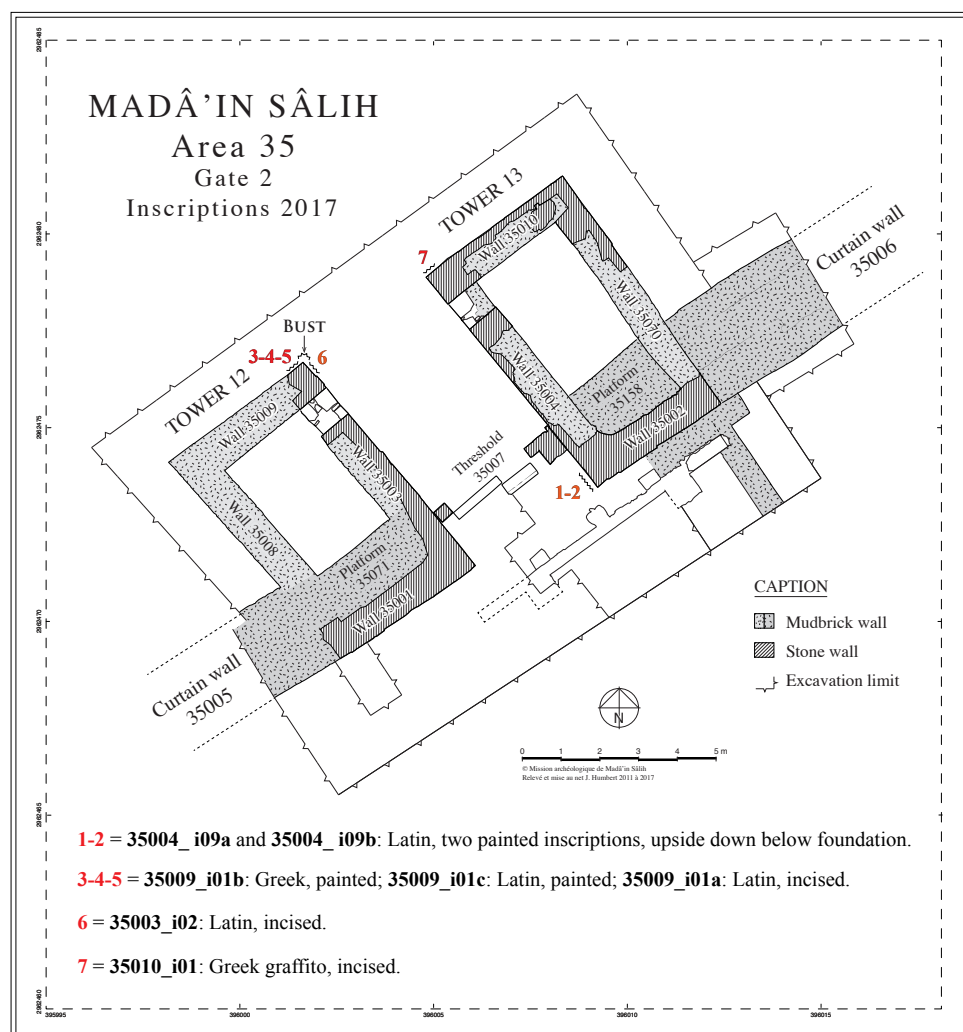


Fig. 2. Area 35: an archaeological plan of the structures of the two major states of the gate.

6.70 × 4.25 m (Tower 12), and 7.15 × 4.15 m (Tower 13). The construction of this gate dates to the Roman period, at the earliest to a fairly late phase of the second century, as several engraved Latin military inscriptions, *reused* in the masonry, date no earlier than AD 106, the date of the annexation of Hegra.

At the end of the 2016 season, the first state was only identified by means of the narrow sounding H deep (3 × 3 m). It clearly underlies the foundations (one course of mud bricks, three courses of stones) of wall 35002 of the second state (**fig. 4**). Some of its features (**fig. 2**) – the remains of a mud-brick wall (35089), a ‘solid mass’ of masonry (35316), which could form the corner of a tower and, cutting into 35089 (according to P-M. Blanc), a solidly founded stone structure (35049) which projects under a long and remarkably well-cut ashlar block – jut out by about 1 m under wall 35002, suggesting an older state of a curtain wall or the facade of a tower, north-east of a probable gate. Another feature, the narrow mud-brick wall 35201, considered by P-M. Blanc to be of earlier date and whose south-east limit and foundation were unidentified at the time, has yet to be interpreted. Under these circumstances and with a view to closing the excavation of Area 35, the (five-week long) 2017 season had two objectives:

- to excavate the areas around Towers 12 and 13 (sectors S, Q, P, R, see **fig. 1**), which had until now remained outside the excavation limit, in order to obtain visual evidence of this gate and enable later conservation work and evaluation;
- to extend considerably the in-depth excavation sector east of the second-state gate in order to confirm the presence of an earlier gate, reach the bedrock, and clarify the chronology.



**Fig. 3.** The location of the inscriptions and graffito discovered in 2017 in the south-east gate.



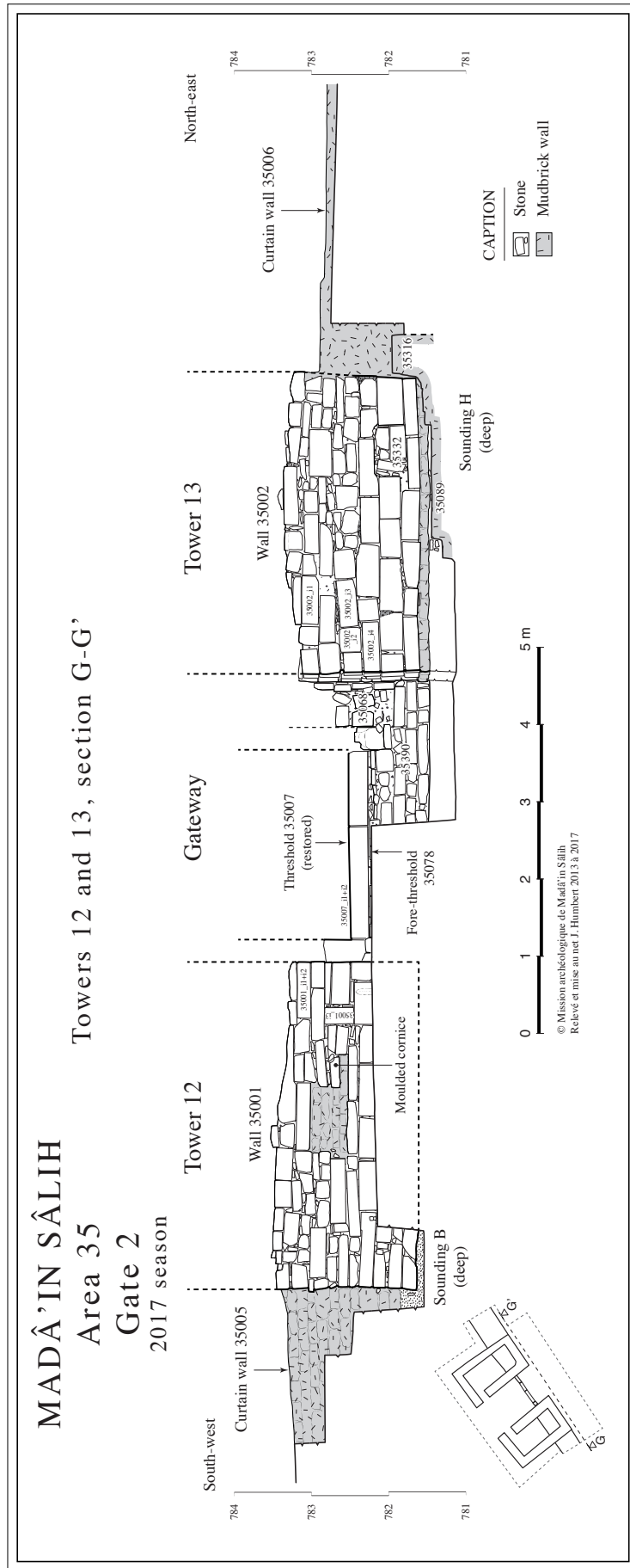


Fig. 4. A vertical section of the external (south-east) face of the gate (Roman state).

## 2. Brief account of the 2017 excavation (see fig. 1)

The excavation was led by F. Villeneuve with two to five workmen, from 21 January to 23 February, and from 5 February assisted by J. Humbert who made numerous observations and drew the plans. The work was conducted in tandem: on the one hand, cleaning and excavation of the areas *intra muros* of the second-state gate (simple operations); on the other, a thorough and complex excavation of the lower levels immediately to the east of the second-state gate.

After removing the protective layers on the walls, floors, and inscriptions and cleaning the floor of Tower 13, a week was devoted to the second-state monument, which included scraping the walls, floors, and foundation trenches in Tower 12. During the final two weeks the *intra muros* areas around Towers 12 and 13, sectors P, Q, R, and S, were excavated over a width of 1.50 m. On 22 February, the unexpected discovery of an isolated human skull was made in sector S, in a recessed refuse dump located beside the rampart.

Sounding H deep, opened in 2015 and 2016, was clearly too narrow to provide the necessary answers for the first state, and work began on the extension of the south-eastern and north-eastern limits (sectors N and M) and clearing out accumulated sand. The stratigraphic sections ultimately reached almost 2.50 m, mainly in sand (fig. 7, right; fig. 9). Over soundings H deep and M, a western area left unexcavated in 2016 was then dismantled and the sounding was extended to the bedrock to cover all the areas unoccupied by any built structure. Around 1 February, sounding AH, a large section of sounding H deep extending south-west up to the median axis of the second-state gate and its threshold, gradually took over from sounding H deep. From 1 February, excavation of the foundations of the southern corner of Tower 13 revealed a reused stone bearing two Latin military inscriptions *painted* onto two panels. Two other painted but very faded military inscriptions were later found in the northern corner of Tower 12, on a stone that was uncovered in 2011 and very carefully protected since then. As the aim of sounding AH was to discover the *layout* of the first-state construction and identify its function, the sounding was halted, without reaching the bedrock, once these objectives had been achieved. Finally, from 19 to 23 February, in order to obtain in the south-west a clear understanding and a plan of the construction revealed by sounding AH, a small sounding E deep, measuring 1.50 × 1 m, was opened in the relevant location to confirm the symmetry of the construction.

During the final days of excavation, a curious ‘fill’ in a cavity in the foundation of the second-state facade wall 35002 was dismantled, then reassembled exactly as it was (fig. 25–26); rather than the cache or tomb that one might have imagined, it provided interesting information of an indirectly epigraphic nature.

The work ended with the replacing of the protective layers of the walls, floors, and inscriptions and the consolidation of the exposed foundations of Tower 13.

## 3. Further excavations in Tower 12. Excavation of the peripheral *intra muros* areas around Towers 12 and 13. A decapitated head lying beside the rampart.

In Tower 12 (fig. 1, sector I), earlier excavations on the main floor level (before the extensive alterations and partial filling of the tower) corresponding, in figure 6, to the threshold of the door and to an occupation level (35367) under 35059B, had revealed a situation which was puzzling for two reasons: 1) wall 35003 seemed to have been *founded*, over (only) 1.30 m of its length (and only this wall) on four thick, flat, irregular stones (35363) that appeared to be the remains of paving, lying 10 cm *above* the level of the threshold; 2) cleaning by P.-M. Blanc in 2016 had led him to posit foundation trenches for walls 35003 and even 35008 as well as even for the north-west face

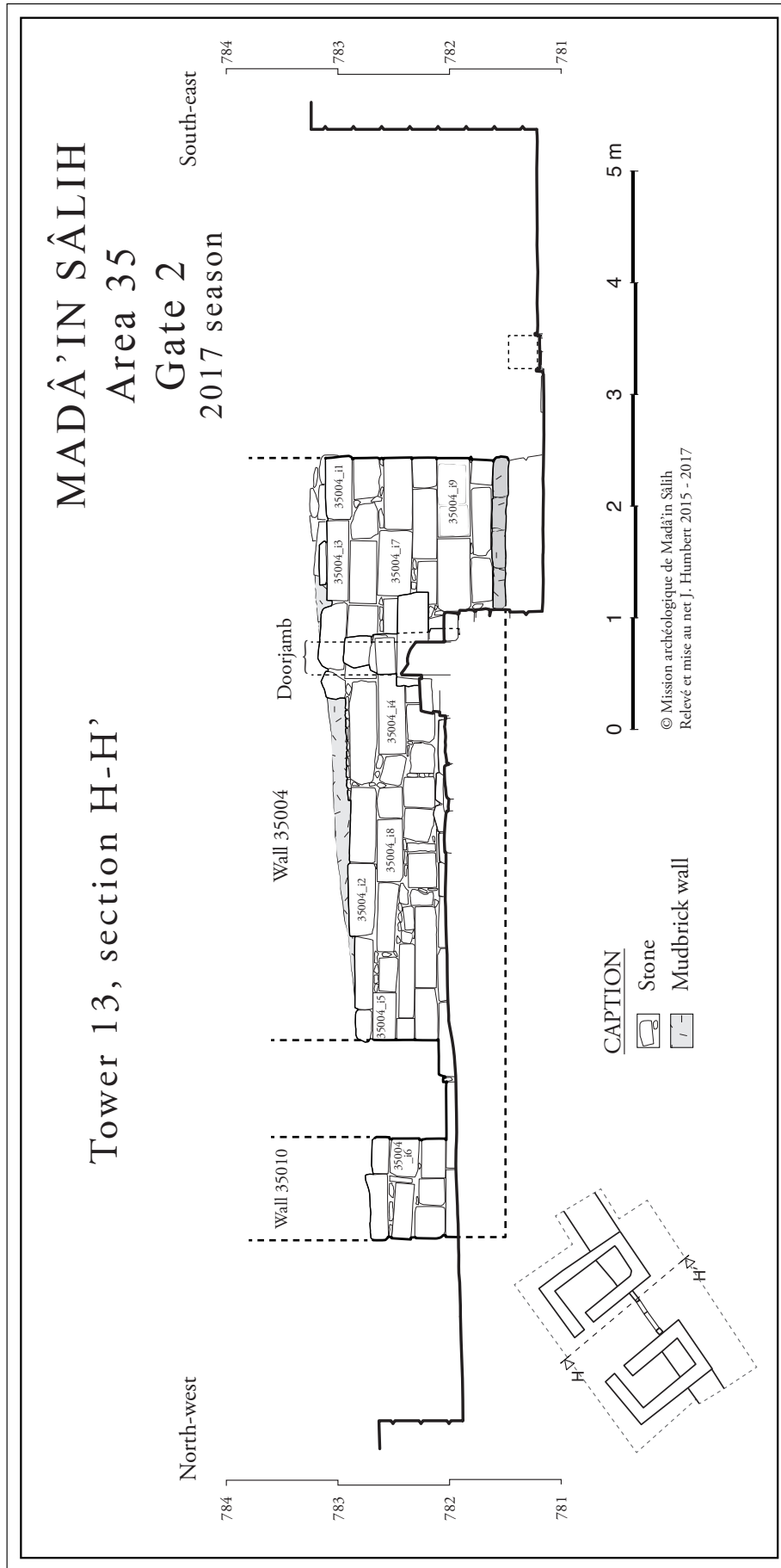
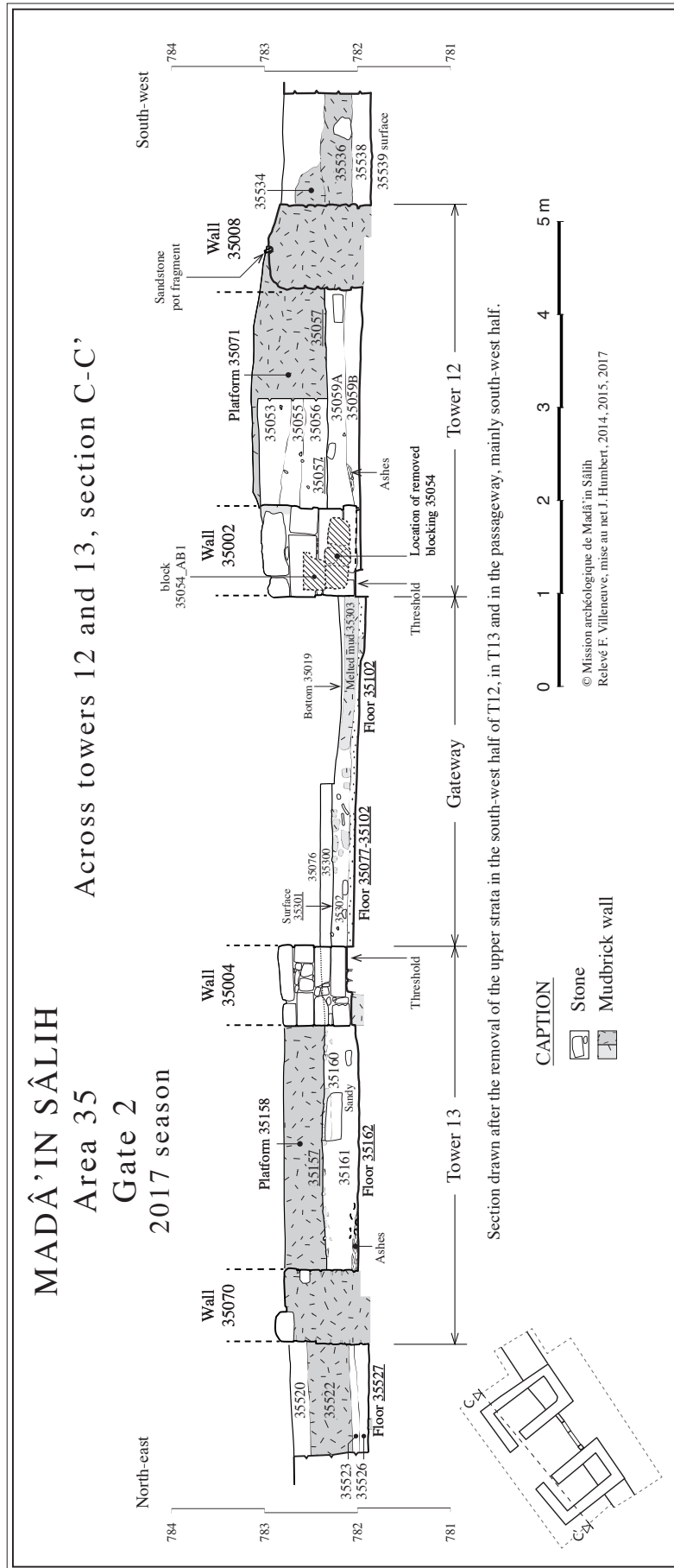


Fig. 5. A vertical section of the south-west face of Tower 13, leading out onto the passage inside the gate (Roman state).





**Fig. 6.** Stratigraphic north-east/south-west section (C-C') of the gateway, perpendicular to the main direction of movement (survey F. Villeneuve, final drawing J. Humbert).

of 'platform' 35071 (which is probably none other than part of the rampart wall 35005), in the ashy occupation floor 35367, whose surface at 781.98 m was nevertheless perfectly consistent with the level of the threshold of the gate at 782.05 m. Consequently, we were faced with the absurd situation in which the walls are more recent than the floor of the room they delimit. The first problem was solved when it was realised that the internal faces of the walls of Tower 12 had not been sufficiently scraped and were still masked by the clay that had filled this tower. Vigorous scraping, especially of wall 35003 (**fig. 11**) revealed that the four stones (35363), far from lying *under* the wall, are instead fixed *against* it. This stratigraphy now clarifies the situation. The question of the stones' function, however, has yet to be answered. Are they the remains of a paved floor that was almost completely dismantled? Do they represent the early stages of a paved floor that was never laid? Or are they simply a local stone fill? Cleaning of the bases of the walls after scraping, excavation of occupation *locus* 35367 – mostly sandy, very rich in pottery, animal bones, and ashes – followed by careful excavation of the supposed small foundation trenches (**fig. 12**), have also led to more intelligible results. Walls 35003 and 35008 abut the north-west face of 35071, which can therefore be considered as forming part of the mud-brick rampart wall that dates before the construction of Tower 12 (i.e. a continuation of wall 35005 to the north-east). There are no foundation trenches in occupation *locus* 35367 for the north-western wall, 35009 (**fig. 12**, foreground). Nor are there any on the longest stretch of wall 35008, while a trench is plausible for a good part of wall 35003, and certain for 35071. Whatever the case, these trenches, whether partial, possible, or confirmed, correspond to restoration work on the internal faces of the walls, after the construction of the tower and after a certain period of use, which is already well attested by the ashes, bones, and sherds lying on layer 35367. The latter lies over a thick layer of ash, particularly in the northern part of the tower; the ash appears to butt against the large stone flakes found at the base of wall 35003 (the foundation, or rather the first course of this wall, which is almost entirely built of mud brick). All this ash suggests either a ceiling fire or a really large, uncleaned hearth on the floor, dating before occupation *locus* 35367. The fire had burned two stones reused in the construction of wall 35003 near the gate, at a height of 45 cm in relation to the threshold. Ideally, excavation is needed to reach the level of this burnt floor, which is very likely the level of the first floor of Tower 12, prior to the restoration work on the mud-brick wall faces and the resulting foundation trenches.

Excavation around Towers 12 and 13 inside the rampart (sectors P, Q, R, S, **fig. 1**) was less problematic and revealed only one surprise, albeit a significant one. The floor levels, naturally all earthen, were found where they were expected in relation to the threshold levels of the doors of Towers 12 and 13 and the threshold of the second-state gate (**fig. 5**, north-west; **fig. 6**, north-east and south-west: floor 35527, surface 35539; **fig. 7**, north-west, floor 35527; **fig. 8**, north-west, foundation of layer 35503); indeed they are found at a level regularly close to 781.90 m. The destruction layers above this level are not difficult to interpret and do not reveal any reoccupation on higher levels. See for example sector R (**fig. 7**), in the north-west, largely formed by the disintegration of the large mud-brick rampart wall 35006. As for the architecture of the tower walls, there is a noticeable contrast between the north-west walls (35009 and 35010), facing the town, and the towers' lateral walls (35008 and 35070). The former (**fig. 13**, wall 35010 in the foreground) comprise reused stone courses under the mud bricks at the base – three to four courses for wall 35010, only one for wall 35009, but two to four at the north corner of Tower 12 and close by. The latter, lateral walls (**fig. 14**, wall 35008 in the foreground) are entirely built of mud brick. As all the walls of the second-state gate are now visible up to their preserved height (urgent conservation will need to be undertaken), we now know that only the facade walls 35001 and 35002, wall faces 35003 and 35004 looking out onto the gateway, and wall faces 35009 and 35010 facing towards the town, in other words the most visible parts of the gate, have a stone base. This shows that the builders of the second state, who had neither the means nor the time to cut new stones, only had access to a small stock of reusable stones.

South-west of Tower 12, at the south-eastern end of sector S, the mud-brick rampart wall (35005) becomes thicker by 25 cm under level 783.10 m, creating a stepped wall (**fig. 14**, far right at the top), numbered 35533 (**fig. 2**). At one time, it was believed that a stairway had been built for access to the top of the rampart at Tower 12, but the results of the excavations have disproved this interpretation. Feature 35533 is definitely a reinforcement lining the rampart, dating later than the construction of the tower because it abuts the south-west facing of wall 35008.

In the well-sheltered and fairly well-hidden corner formed by walls 35008 and 35533 (the tower and the rampart), one would have expected traces of occupation and refuse. Indeed, over a good 30 cm of thickness above the badly defined floor level at 781.80 m, there is a loose but fairly ashy refuse dump, layer 35538, containing a lot of large pottery fragments from jugs and bowls, as well as many animal bones. At the bottom of 35538, on level 781.80 m, 25 cm from the corner of the tower and the rampart, lay a human skull (**fig. 15**), which had either been placed there or had simply fallen and landed there. The head, lying on its side and horizontal, faced south-west. The bone was well preserved, the jawbone still in place (though slightly displaced by the initial strike of the pick during excavation), attesting to the fact that the skull had got there shortly after death. The articulation of the jawbone is particularly unstable and is one of the first to become disjuncted. It is much more unstable than the joints of the spine. No other human bone was discovered in the whole of the remaining excavation of sector S nor, for that matter, anywhere in the gate.<sup>1</sup> A bronze coin, 35538\_C01, was discovered a short distance away, on exactly the same level. It bears probably no relation to the skull, is completely undecipherable, and is the only artefact found on this level, under the potsherds and animal bones of the scattered refuse dump.

Examination of the skull, especially the state of the vertebrae, could not be undertaken in 2017 as no osteologist was available. It should confirm whether the head was separated from the body by decapitation. No other explanation seems possible for the presence of this isolated skull, in a good state of preservation and with the jawbone still attached. It is certainly possible to suppose the existence of a tomb – or several tombs – in the unexcavated area in the south-western part of sector S, an area that starts barely 1 m from the find spot. If this is the case, in principle the skull could have come from a burial in this – or these – tomb(s). Because of the jawbone articulation, however, it could only have been removed post mortem and post-burial, a theory that is too complex to be plausible. It thus appears that we are dealing with an individual's decapitated head. It was either thrown on the ground, at some distance from the body, and rapidly covered by rubbish from dump 35538, or it just fell there – a torture victim's head fixed on a pike and displayed as an example on the south corner of Tower 12 – in a very public location at one of the main entrances to the town; affected by the passing of time and weather conditions the head subsequently fell to the ground. Scientific examination of the lower part of the skull will, it is hoped, tell us more.

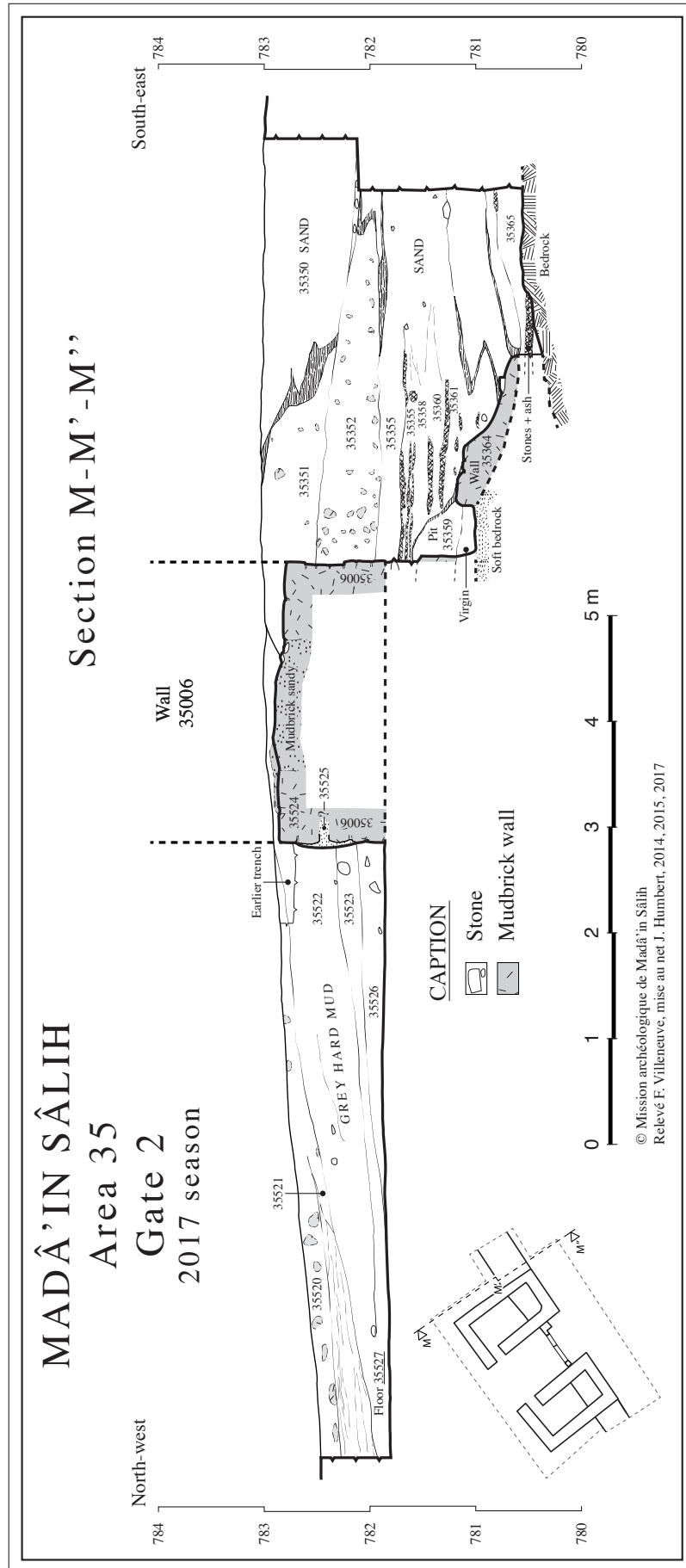
## 4. In-depth and lateral excavation in front of Tower 13 and the gateway: the ancient gate

### 4a. Review of the 2016 propositions

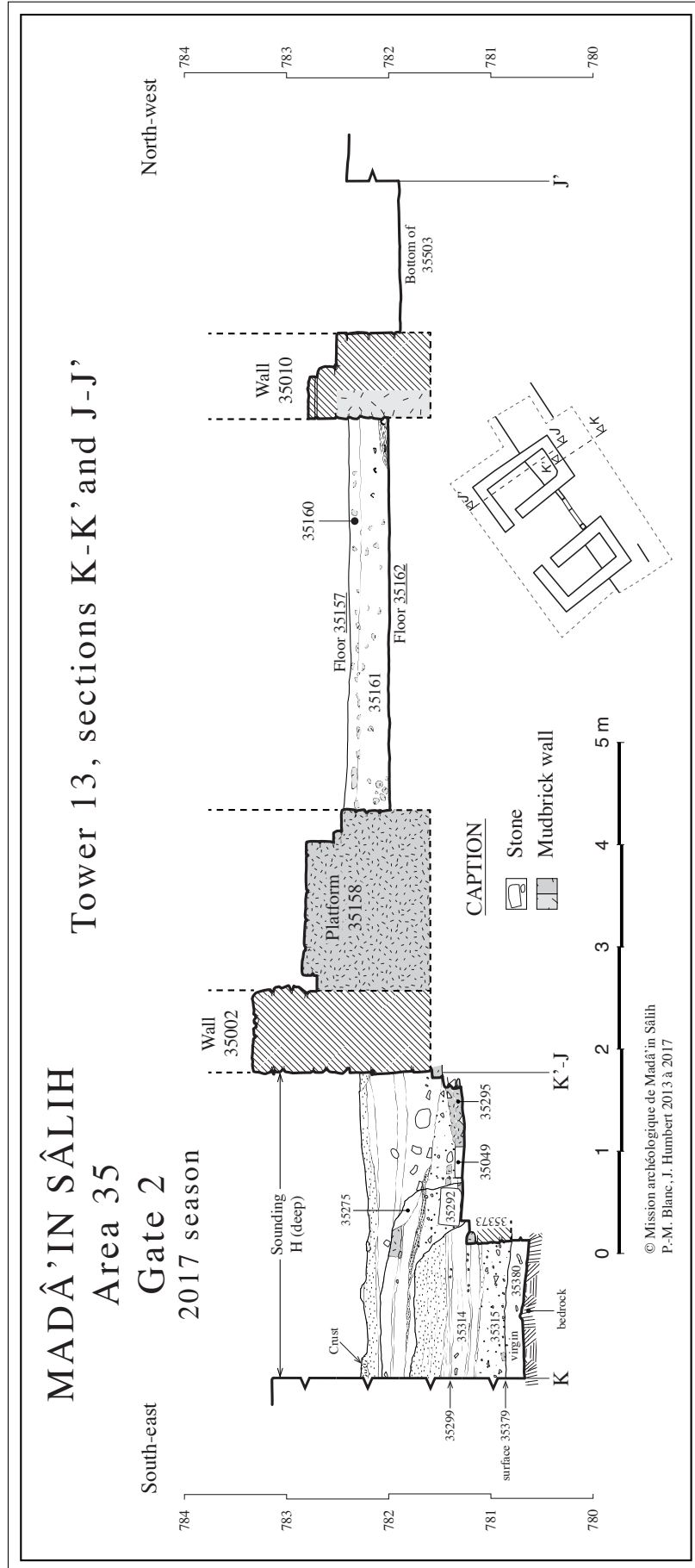
At the start of the 2017 season, a few features clearly dating earlier and underlying the second state were identified solely by means of the narrow sounding H deep opened in 2015 and 2016 (**fig. 1**). In some parts, the sounding had not reached the bedrock and a small unexcavated area had survived in the western section. These features consist of the following built structures

1. The sole exception is a few short fragments of human long bone (35053\_B01 and B02) *inside* Tower 12, more than 1 m above this level and in a completely unrelated stratigraphic context.





**Fig. 7.** Stratigraphic north-west/south-east section (M-M'), covering the entire length of the north-eastern limit of the excavation (survey F. Villeneuve, final drawing J. Humbert).



**Fig. 8.** Stratigraphic south-east/north-west section (K-K' and J-J') of Tower 13 of the Roman gate and its surroundings (survey F. Villeneuve, final drawing J. Humbert).

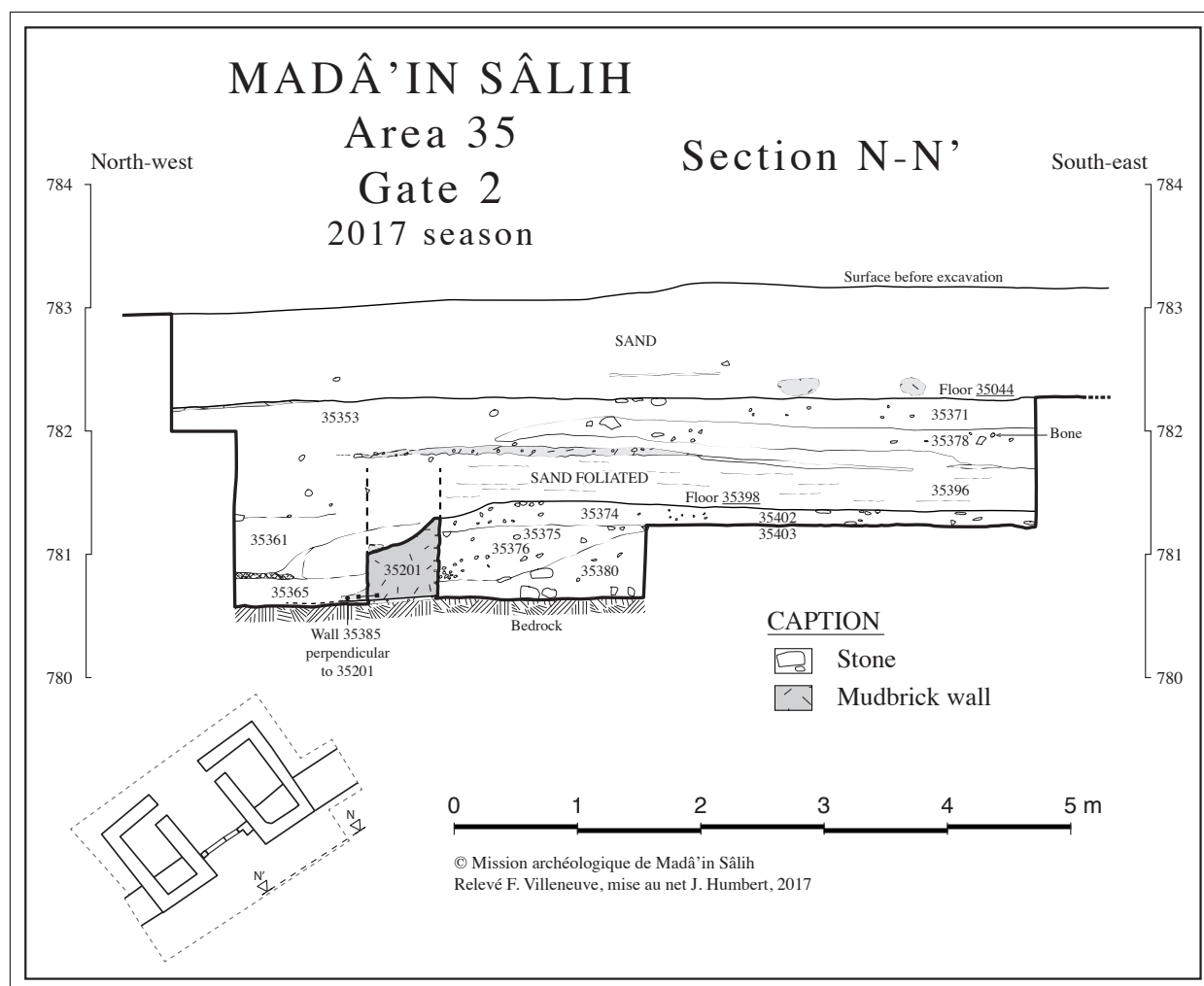
(**fig. 2**): 1) a section of mud-brick wall, 35089, directly beneath the foundation of wall 35002 and jutting forward about 60 cm in relation to the latter; 2) in front of this structure, a fine stone wall base, 35049, consisting of an overlapping foundation formed of very good-quality reused stones making up the first course; 3) directly south-west of this, the structure has an overhang of 50 cm to the south-east, feature 35373 (shown in section on **fig. 8**, bottom left). To the north-east, 35089 continues, in plan, as the mud-brick 'mass' 35316, preserved at a considerably higher level (**fig. 16**, back and left). Finally, the end of the narrow mud-brick wall 35201 (60 cm wide) to the south-east, lying at right angles to features 35049, 35089, and 35316, has not been identified yet. In P.-M. Blanc's opinion, wall 35201 is earlier than the others and was covered and cut into by features 35089–35316, in which 35316 is viewed as the corner of a piece of mud-brick masonry (tower?). This idea is shown in **fig. 2** by the dotted line drawn from the east corner of 35316 and running 'across' wall 35006. P.-M. Blanc has also posited that the stone structure 35049 and the overhang 35373, for the construction of which the mud-brick masonry 35089 was cut into, date later than 35089 and 35316. He suggests, therefore, that the first state comprised two main phases. The first phase is represented by wall 35201, which is assumed to belong to a construction perhaps earlier than any rampart or gate. A handful of potsherds suggests a possible date towards the end of the first century BC. The second phase, preceding the second-state gate since it includes features parallel to its orientation, can be divided into two sub-phases: first, the mud-brick wall 35089 with 35316 as the eastern corner; second, the upgrading of this probable facade with stone cladding 35049 and a possible buttress, 35373. According to the material found, these two sub-phases can be dated to the first century AD. It is assumed that we are directly north-east of a rampart gate, whose stone feature 35373 acted as a kind of foundation in the form of a large north-eastern flanking pilaster. The 2017 excavations have shown that, with the exception of the identification of wall 35201 and feature 35316, the correct analysis and assessment have been made.

#### *4b. Methodology and chronological description of the work undertaken; items discovered*

Confirmation of the 2016 results and propositions and improving on them entails, on the one hand, exploiting the sounding H deep up to its limits, both in depth and laterally; on the other, extending it extensively to the south-west to cover an area calculated as accurately as possible to include the whole width and some of the depth of the estimated first-state gate, but without involving any unnecessary extension. Taking into account the fact that sounding H deep is enclosed between high sandy berms, as well as additional information we hoped to obtain for wall 35201 (its south-eastern limit) and for 'mass' 35316 (what lies further to the north-east?), sounding H deep (**fig. 1**) was extended by 1 m to the south-east (sector N) and by 0.5 m to the north-east (sector M); the previously unexcavated area west of the sounding was excavated, before descending into all accessible areas up to the bedrock (**fig. 17**). This enabled complete sectional drawings to be made (**fig. 7**, south-east; **fig. 8**, south-east; **fig. 9**, north-western half). Towards the end of this process, the large extension towards the south-west, sector AH, was opened to provide the maximum amount of information both on the layout and the nature of the first state, as well as on its stratigraphic relationship with the second state, at the same time providing additional information on the foundations of the second state. In this sounding, measuring 5 × 3 m, made irregular by the foundation of the south corner of Tower 13 and which provided copious and complex data, progressive scraping was undertaken up to a thickness of 1 m, taking into account a great number of irregularities and a fairly dense microstratigraphy, between the main floor of the second state, 35044, and the main floors of the first state, 35401–402 (**fig. 9–10**). At the end of the sounding, significant results had been obtained: the presence of an ancient gate and the identification of its function. The south-western end of the actual gate was still missing, however, but

evidently not by much. In the last few hours of the 2017 season, the small south-west extension E deep (fig. 1), hurriedly opened in a now identified stratigraphy, enabled us to locate this feature. Below is a description of the features uncovered, progressing from north-east to south-west, after which an interpretation is proposed.

At the far north-eastern end of the excavated area (fig. 16), the south-east end of wall 35201 was found, with a return (wall 35385, fig. 2 and 9) preserved only over a few centimetres in length and height but quite evident. A parallel wall to the north-east of wall 35201 was also found, wall 35364 (fig. 2 and 7), of which only a stump measuring 1.50 m long and 30 cm high survives. Feature 35316, already identified, appears to be jointed to walls 35201 and 35364. The four elements 35201, 35316, 35364, and 35385 define a short (2.30 m) and narrow (75 cm) rectangular space. They are founded on virgin soil on different levels depending on their location (fig. 7 and 9). This virgin soil presents variously as a hard and grey bedrock, on a *downward south-east–north-west* slope (both here and further south-west in sounding H deep), a soft pale yellow rocky surface (under 35316), or a light brown virgin soil (under the north-western end of 35201, founded on an *upward south-east–north-west* slope); where no soil has survived, it was probably removed by the builders. This small rectangular structure is extremely worn, as though it has been unevenly polished, and has disappeared in places (fig. 9 and 17). The corner formed by features 35316 and 35364 was destroyed by a roughly cylindrical vertical pit, 35359 (fig. 16, top right). The large

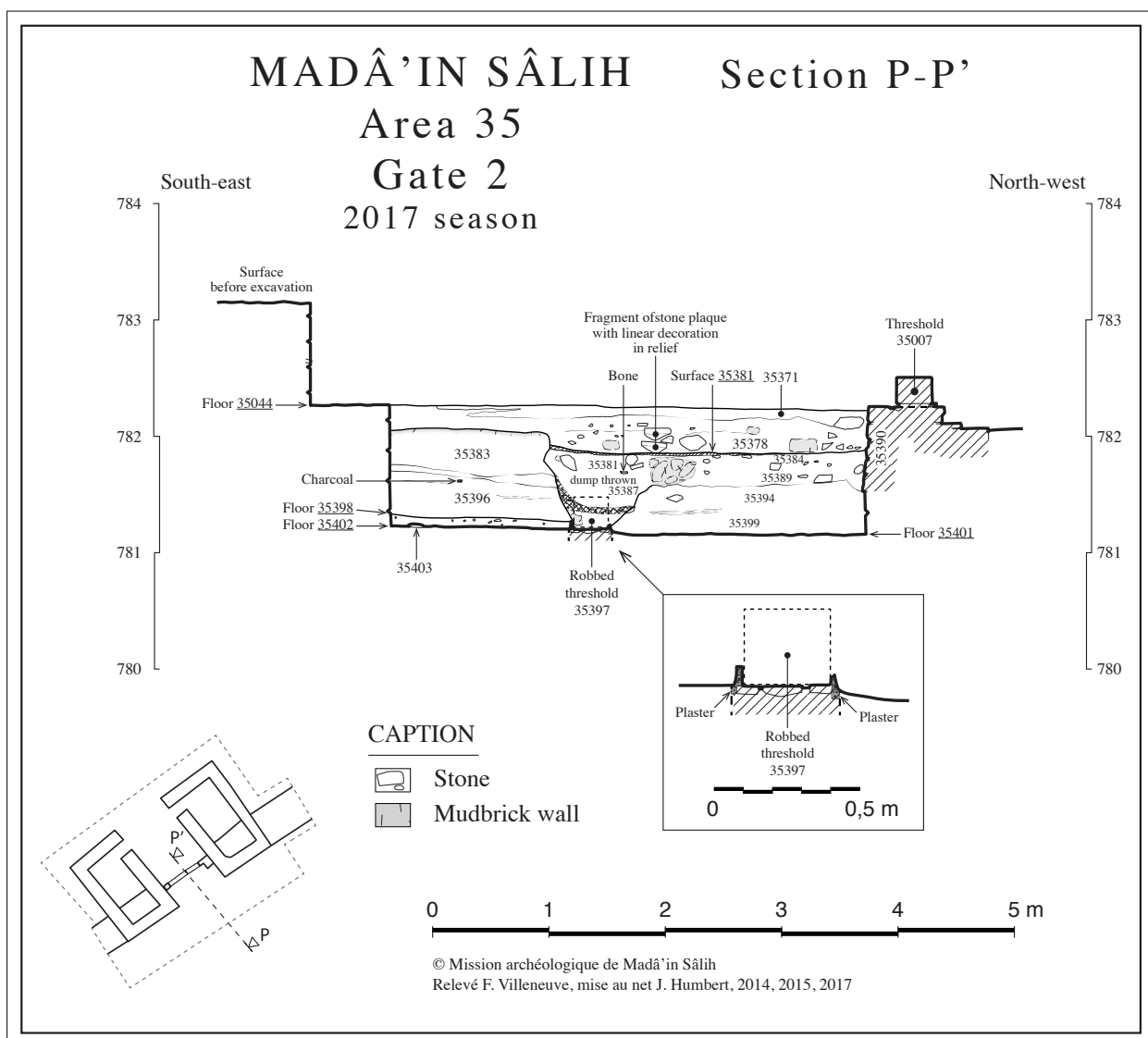


**Fig. 9.** Stratigraphic north-west/south-east section (N–N') on the south-western limit of the excavation, in front of Tower 13 and the Roman gateway and in front of the Nabataean gate (survey F. Villeneuve, final drawing J. Humbert).



cut mark visible between the north-west face of feature 35316 and the south-east face of wall 35006 does not necessarily mean that 35316 was cut into in order to build 35006. The latter could have been built *against* the north-west face of 35316. By contrast, the corner 35201–316 was definitely cut into for the stone masonry 35049, and was possibly also cut into for the mud-brick masonry 35089, unless the latter was simply built against it.

The mud-brick masonry (probably a wall feature?) 35089 is only 2.40 m long. It does not really stretch beyond the south-western limit of the sounding made in 2016 (**fig. 2**; **fig. 4**, directly under the first mud-brick foundation course of Tower 13's facade, wall 35002). It remains likely but not certain that 35089 was cut into in order to install the fine stone cladding (35049) and the overhang (35373) (**fig. 22**, stratigraphic section in the foreground: horizontal layers in bottom left, likely associated with 35089, cut obliquely, then vertically, in front of 35373). If this is the case, the cut would have been very deep as the overlapping foundation of 35049 and that of 35373 have three courses of stone (**fig. 21**), founded on the same virgin soil (35380) as the north-western end of wall 35201. The good-quality flat stone in the first visible course or stone cladding of wall 35049 was extended to the south-west by at least one other similar reused block, found displaced during the excavation. The overhang 35373, already partially uncovered in 2016, is



**Fig. 10.** Stratigraphic south-east/north-west section (P–P'), through the deep layers, in the main direction of movement, south-east of the threshold of the Roman gate (survey F. Villeneuve, final drawing J. Humbert).



**Fig. 11.** Tower 12, interior, wall 35003 in the process of being scraped down to the mud-brick masonry. Leaning against the base of the wall are the remains of what was identified as paving (35363). Looking north-east.



**Fig. 12.** Tower 12, interior. Small foundation trenches for walls 35003 (left) and 35008 (right) and the wall of platform 35071 (back of picture) in the beaten-earth floor 35367. Looking south-east.



**Fig. 13.** Tower 13 after excavation of its peripheral area, sectors P (foreground) and R (left). Looking south-east.





**Fig. 14.** Tower 12, after excavation of its peripheral area, sectors Q (left) and S (right). Looking east.



**Fig. 15.** Isolated and uninterred human skull lying on occupation level 35538, outside Tower 12, in a small space between the wall of the tower (35008, left) and the rampart (35533, background, scraping incomplete). Looking south-east.

not a simple projection marking a widening of the wall to the south-west, but forms part of the masonry of a buttress overhanging by 50 cm, over a width of 70 cm (**fig. 17** and **18**).

Further to the south-west, the soundings AH and E deep continued from second-state floor level 35044 (**fig. 9** and **10**) uncovered the following: the present features forming the foundation of the second state; stratigraphic indications on the intermediate period between the first and second state; and architectural features as well as the floor-level of the first state.

The foundations of Tower 13 (walls 35002 and 35004) and of threshold 35007 (**fig. 2**), which all rest on the same level at 781.50 m, are solid although the builders did not attempt to reach the bedrock in order to lay them. The foundations of the north-eastern half of wall 35002 (**fig. 4**



**Fig. 16.** Soundings H deep and M. Remains of a rectangular mud-brick buttress (?) (wall 35201 on left; mass 35316 at back; wall 35364 on right, cut through by pit 35359 at back right and completely removed in foreground), founded on bedrock or virgin soil, depending on the location. Background on left: corner of the stone foundations of wall 35002, cutting into mass 35316. Looking north-west.



**Fig. 17.** Soundings H deep and M. Middle ground: remains of rectangular mud-brick buttress (?) (wall 35201 seen from the front, mass 35316 at back left, wall 35364 at back, its right section completely removed). Foreground, left: stone foundation of pilaster (?) 35373; stone foundations of wall 35049 with overlapping footing, entrenched within mud-brick masonry 35089, further to the left, and cutting into wall 35201. All these features, which flank the first-state gate on the north-eastern side, are founded on bedrock or virgin soil, depending on the location. On the far left: corner of stone foundations of wall 35002 and mud-brick wall of the rampart (second state) cutting into or running along mass 35316. Looking north-east.





**Fig. 18.** Sectors AH and E deep, excavation completed. Bottom right: see captions for figures 16 and 17. Bottom left: remains of the first-state gate – robbed threshold 35397–35410, flanked by two stone sockets; in the foreground, orange-coloured floor 35402; in the middle ground, grey-coloured floor with mud bricks 35401. In the background, on a higher level, the second-state gate. Looking west.



**Fig. 19.** Soundings H deep and M. Bedrock at bottom. In the middle ground, from left to right, preserved features of the first state: stone foundations of pilaster (?) 35373; stone foundations of wall cladding 35049, and directly behind completely destroyed mud-brick wall 35089 – all founded on virgin soil 35380. In the centre, mud-brick wall 35201 at right angles to mud-brick mass 35316, on soft yellow bedrock, and vestiges of wall 35364 on grey bedrock, forming a buttress used in construction. The second-state walls, 35002 (stones) and 35006 (mud bricks), cut into these features, can be seen in the background, on a higher level. Looking west.



and 8) rest on the destroyed mud-brick masonry 35089. The other foundations rest on a mainly sandy deposit containing clay and disintegrated mud brick (fig. 10, layers 35399–394 under the foundation of threshold 35007). The first course of the foundations of walls 35002 and 35004 (fig. 4, 5, 18, and 23) is made of mud brick, but this does not apply to the foundations of the threshold, which are built entirely in stone. Above the mud-brick course, three stone courses make up the foundations of walls 35002 and 35004; they are fairly regular (apart from the ‘fill’ 35332, fig. 4, see below) and are built entirely of reused stones. The most obvious sign of reuse (fig. 5 and 23) is in the corner block located in the second course of the foundations: its south-east facing (wall 35003) bears two rectangular panels on which are painted two Latin inscriptions, 35004\_i09a and 35004\_i09b, placed upside down, and discussed below. The foundations of threshold 35390 (fig. 2, 4, 5, 10, 18, and 23) abut, but are not jointed to, that of wall 35004. They are, however, exceptionally strong for a threshold, probably in order to support the gate’s architecture, in particular Towers 12 and 13 standing opposite each other. These foundations comprise five courses which overlap by a good 30 cm or so in relation to the threshold above. They are built of reused stones, but contrary to reused stones found elsewhere in the second-state gate, including the foundations, they have never been finely cut but are only roughly trimmed down. Above the third course of the foundations, stretching along 1 m starting from wall 35002, the structure 35068 (fig. 4) is very irregular, even at the level of the threshold itself. This might be evidence, as suggested in figure 4, that the gateway was narrowed during a late phase of the second state. The stratigraphy corresponding to the period between the first and second states (fig. 10 and 22) can be roughly described as follows, starting from the earliest. Over the floor levels that correspond to the first state lie fairly sandy layers mixed with some softened clay – 35399, 35394, 35396, 35383, depending on the location. An irregular 80 cm-wide trench then cuts through layer 35383 and slopes down for over 80 cm, 2.50 m south-east of where the foundations 35390 would later



**Fig. 20.** Sounding E deep. South-western end of robbed threshold 35410, on the left of the picture, bordered in the foreground by the remains of a flanking buttress (?), in the middle ground by the stone hinge socket. The white stone in the top left of the picture (western corner of the sounding) is what remains of the south-east/north-west wall running perpendicular to the threshold inside the gate, in the first state. Seen from above, looking north-west.



**Fig. 21.** Sounding E deep on right, AH on left. Connexion between, on the left, the north-eastern end of the robbed threshold (first state) 35397 with the stone hinge socket and, on the right, the stone foundations of a lateral pilaster (?) (35373) and a stone cladding (35049). Masonry 35373 has reused the quarter section of a pilaster with ogee moulding, which would have been invisible during the period of use of the threshold and the gate. Looking north-west.

**Fig. 22.** Sounding AH in progress.

The horizontal floor in the background, 35044, belongs to the second-state gate, over fill 35378.

The trench in the middle ground and in the second stratigraphic section, filled with ashes, rubbish, and stones (35381–35387), is the robbing trench of the threshold of the first-state gate, still undetectable at this stage of the excavation. It is cut into layers of abandonment (sand, disintegrated mud brick) 35396–35383 (on left) and 35399–35394 (on right) of the first-state gate. Looking south-west.



**Fig. 23.** Sounding AH. On the left, the solid stone foundations, 35390, of threshold 35007 of the second-state gate. It abuts, on the right, the foundations (a small course of mud brick, three courses of reused stones) of the north-east tower (Tower 13) of this gate. On the second foundation course, a stone with two recessed panels bears two painted Latin inscriptions (35004\_i09a and 35004\_i09b); it has been reused upside down. Looking north.



be built. The layer of soil covering 35394 on the same level as 35383 was removed by the trench diggers. The trench and the cavity above 35394 were filled in, after the construction of foundation 35390 (which slightly cuts into 35394) and of the foundations of walls 35002 and 35004, with whatever coarse material was available – mostly ashes and refuse (especially discarded pottery in the fill of trench 35408, in the small final sounding E deep). Above the relatively flat surface of this fill, 35381, a scattering of horizontal layers containing hard materials, 35378 and 35371, creates a levelling for the earth floor 35044.

Beneath all this, at the relatively constant level of 781.20 m (**fig. 9, 10, and 18**), the location of the reddish soil (35402) in the south-east and the more greyish soil in the north-west (35401), of which a number of constituent mud bricks are still visible (**fig. 2**, two mud bricks at level 781.18 m, and three others nearby, further to the north-east), traces of completely demolished architectural features were observed. They are symmetrical and form part of the linear continuation of features 35089, 35049, and 35373 (already identified), 1.15 m in front of the line of second-state walls 35001–002, or 2.70 m in front of the second-state threshold 35007. The most noticeable feature is a long straight mark left after the robbing of a stone-built structure, measuring 30 cm wide and almost 4 m long, founded on a very flat bed of small stones. At the north-east and



south-west ends of this phantom feature are, in the south-eastern face, traces of the demolition of the foundation of buttress 35373, already identified, and traces of a symmetrical demolition. In the north-west face lie two very flat stone blocks each with a gamma-shaped rabbet: one of the blocks is located within the group of features at the south-western end (**fig. 20**), directly behind the dismantled phantom feature; to the left of the phantom feature, is a stone belonging to the base of a dismantled wall (symmetrical to the dismantled elements of 35049 mentioned above); directly in the foreground on the left, the remains of the symmetrical masonry of buttress 35373; finally, in the background, on the far left, two small white stones suggest a demolished wall orientated south-east–north-west, which abuts the phantom feature and against which the left edge of the stone bearing the gamma-shaped rabbet was wedged.

#### *4c. The central elements of the first-state gate: a long, robbed threshold with its toadstones; external flanking pilasters; traces of the gateway walls*

The phantom feature can safely be identified as a phantom threshold, chiefly because two long blocks of exactly the same width from this threshold were reused in the second state, threshold 35007. This enables an estimate of the height of the first-state threshold (see **fig. 10**, the detailed drawing of the threshold). The blocks bearing the gamma-shaped rabbet are toadstones, in other words the bases of gate hinges. Thus, the first-state gate has been uncovered and clearly identified. The masonry base 35373 protruding at the north-eastern end and its south-western counterpart seem at first sight to project a bit too much for a pilaster base but as these are foundations, they can jut out more than the feature they supports. The distinction between steps, buttresses, and pilasters involves decorative or descriptive features as opposed to structural support. Due to the lack of stones (or mud bricks) in the wall, it is not possible to define their exact nature. We know the width of the gateway of the first-state gate, behind the threshold, thanks to the observations mentioned above: in the south-west, two small stones surviving from the south-west wall of this gateway (**fig. 2**, north-east face of this wall shown by a dotted line); in the north-east, the previously mentioned south-western limit – not caused by demolition of the masonry – of the mud-brick masonry 35089, under wall 35002. The width of the gate is thus 3.99 m, slightly more than that of the second-state gate which is 3.73 m.

The difference in height between the floors of gates 1 and 2 is 1.05 m. We were also able to establish that gate 2 is set back from gate 1 by 2.70 m, when comparing the position of the two thresholds, or by 1.15 m when comparing threshold 1 with the facades of towers 2. We do not know the reason for this discrepancy (including a slight change in orientation, see **fig. 2**) all the more so as we have absolutely no idea of the structure of gate 1 towards the north-west (did it have towers?), and there is great uncertainty about the appearance and position of the wall to the right and left of gate 1. Nothing is known in the south-west, and in the north-east clues are tenuous and vague. Beyond buttress 35373, the masonry resulting from the addition of 35089 (mud bricks) and of 35049 (stones and good-quality cladding) continues in alignment with the threshold, over a maximum of 1.30 m, 1.60 m for mud-brick structure 35089. It could not have continued further – the data uncovered in sounding H deep are clear on this point – especially in the case of stone masonry 35049 which, in view of its large overlapping foundation, could definitely not have disappeared beyond the point at which it is preserved; one should emphasize that the builders of the second state did not dig through this level again.

These observations have led us to suppose that the layout of the rampart wall associated with gate 1 does not differ much from wall 35006, but probably with a south-east face located more to the north-west ('within' wall 35006, as it were, but in depth) and corresponding symmetrically, in the south-west, to walls 35001 and 35005. It is notable that the 2011 sounding in front of the corner of Tower 12 (**fig. 1** and **2**) only revealed apparently 'virgin' sand in front of and under

the foundations of walls 35001 and 35005; this necessarily means that the wall of the first-state rampart, there, was located further to the north-west than that of the second state.

These observations and interpretation, however, lead to the hypothesis of a projecting gate *in front* of the rampart, with a threshold directly within the facade, which is disconcerting as one would have expected a projecting flanking structure in front of the threshold. This is clearly problematic.

#### *4d. Features excavated east of gate 1: traces of mixed, random fill and of a buttress worn down by repeated haulage of materials? (fig. 2, 4, 7, 10, 17, and 19)*

The narrow wall 35201, which at the end of the 2016 season was considered to be a unique constructed example of a kind of zero state and dating earlier than any rampart or gate, no longer stands in isolation. We have seen that it is one of the four narrow (60 cm) contemporaneous walls of a very narrow rectangular construction made up of elements 35201, 35316, and 35385; the exterior measurements are 3.50 m by 1.85 m, while the interior only measures 2.30 m by 75 cm. There is no longer any reason for this structure to belong to a phase earlier than the second-state gate and its north-eastern surroundings. Indeed, an earlier dating is impossible: the overlapping foundations of 35049 and the north-western end of wall 35201, for example, are laid on the same level, in the same location, and on the same virgin soil (35380). It is therefore not possible that this small rectangular structure functioned as a tomb, the only function that could be readily associated with such dimensions. Moreover, there is no indication of this in the finds.

The interpretation we reach must take into account the state of preservation of the features of this structure; in places, there are clear and very distinguishing signs of extreme or total wear. On **fig. 19** it can clearly be seen that this rectangle appears to have been smoothed according to a definite downward slope from west to east, to the extent that almost all of wall 35385 and the south-eastern end of wall 35364 have disappeared. We suggest that this small structure (comprising 35201, -316, -364, and -385) represents a simple construction device, a kind of buttress to support, to the east, the eastern corner of the first-state gate during the construction of its foundations and perhaps also, from the south-east, the base of the first-state rampart wall (which is located, as we have seen, under 35006, set back in the north-west).

This theory appears to be confirmed by the presence (see **fig. 19**), just in front of element 35316, of two or three post holes in the soft and yellow rock surface, which might suggest some sort of scaffolding.

Why was such a buttress necessary? Because the surface of the hard, grey rock (see **fig. 7**) was on a well-defined downward south-east–north-west slope, the inverse of what was suitable to build the foundations of the gate and rampart. Having dug very deep in order to reach the bedrock, the builders finally gave up because of the increasing depth of the foundations, and were forced to support them at the point where they had stopped digging.

The irregularly worn appearance of the buttress is easily explained by the progress of the construction works: the surface of this buttress was used as an access way up to the eastern base of the gate, along which construction materials, including heavy stones, were hauled.

#### *4e. Gate 1 probably dates from the Nabataean period, first century AD*

The construction levels (35403, **fig. 9, 10**) under the floors in front (35402) and behind (35401) the first-state gate, were not excavated. One must thus rely on the finds in the deep levels of sounding H deep in front of masonry 35373, 35089, and 35049 (e.g. layers 35375–376, **fig. 9**; layer 35380 is virgin soil). These finds (pottery and small fragments of architectural blocks) appears generally datable to the first century AD, as observed in 2016, but they are very scarce and very fragmentary, and their detailed examination, especially by the mission's ceramicists, has yet to

be completed. As a result, dating to the Nabataean era can only depend on indirect evidence. All the excavations on the rampart undertaken since 2008 concur with a dating of the construction to the first century, with no change of layout. The rampart, therefore, existed in the first century. There is a second-state gate of Roman date, as mentioned above, dating at the earliest to the late second century, but it is soon apparent that it dates in fact to the *end* of the second century at the earliest. Could the first-state gate be an older Roman gate? The answer is no, as it is founded on virgin soil, and it would necessarily have been associated with a – Roman – state of the rampart. In this case, there would not have been a Nabataean rampart, which means that either it never existed (which makes no sense) or was totally destroyed (very unlikely). It is thus very plausible that gate 1 is first-century Nabataean.

Could it be older perhaps? That would be problematic, as the foundations of the buttress or pilaster 35373 include the reused quarter section of a moulded cornice (**fig. 21**). It is clear, given the level it is on, that this was not a visible decorative element but a randomly reused piece of stone. It comes, therefore, from an earlier dismantled monument – possibly one of the tombs that we suspect existed in the area of the rampart before its construction. This moulding, however, without being given a precise date easily slots into the interval between the mid-first century BC and the end of the first century AD. Given the length of time that must have elapsed during which the older demolished monument was in use, this *terminus post quem* essentially precludes a construction date, for gate 1, before the first century AD.

## 5. Report on the newly acquired information on the construction of the Roman gate

### 5a. Post-abandonment level rise and robbing of the threshold of the Nabataean gate

Stratigraphic interpretation is straightforward on **fig. 9** and **10**. While gate 1 was functioning, the exterior floor level rose slightly, by about 10 cm, caused by gravel deposits 35374, until it reached the final floor level 35398. By contrast, within the gate, which was probably regularly cleared so that the doors could open freely, the floor level (35401) remained the same. At a certain point and for some unknown reason, this gate ceased to be used and deposits, mainly sand mixed with some clay (disintegrated mud brick), accumulated inside the gate, reaching a thickness of about 80 cm. This represents (**fig. 9–10**, 35399, 35394, 35396, 35383) a progressive stratification, rather than the result of fallen stones or collapse, and therefore a period of abandonment rather than a sudden destruction.

When the decision was taken to rebuild the ruined gate and create gate 2, the builders, as we have seen, dug a well-defined trench, visible in the centre of figures 10 and 22 (background), down to level 781.20 m, in order to retrieve the threshold blocks at the bottom, which they would reuse in the new threshold, 35007 (**fig. 10**). In order to lay the foundations of this new gate, at a similar level – 781.50 m – in the north-western end of the trench, they removed the equivalent in thickness of the abandonment deposit 35383 (without bothering to reach the bedrock or even the first-state floors at 781.20 m), leaving in place the deposit in the south-eastern end of the trench. These gaps were of course later filled in, after the foundations were laid.

The interpretation of this process raises a question: given the level from which they started to dig, almost 782 m, the builders could not have seen the threshold they wanted to reach. They were able to guess its location, however, which suggests that the ruins of the first-state gate were sufficiently visible and observable to enable the location of its threshold to be estimated without



difficulty. Furthermore, we can extrapolate from this that not only were the threshold blocks retrieved for the rebuilding of gate 2, but so were all the other stones.

From these observations, we have concluded that the Nabataean gate was not suddenly demolished, but gradually fell into disrepair during its period of abandonment, and that it still stood at a substantial height when it was decided to replace it with gate 2.

### *5b. Construction of the foundations and erection of a gate, slightly out of alignment*

The foundations were described in paragraph 4c above. The process was simple. On the cleared surface at level 781.50 m, the foundations of walls 35002 and 35004 were first laid (thus probably also those of Tower 13 as well as those of Tower 12), by reusing cut and dressed course blocks. These were taken from the ruins of the Nabataean gate as well as from other buildings. We have already mentioned the reuse, as a south cornerstone in the second foundation course of Tower 13, of a stone bearing two Latin inscriptions placed upside down (**fig. 23**; **fig. 3:1–2**), which could not have come from the Nabataean gate. This therefore means that blocks were also retrieved from another – Roman – monument, most probably in the vicinity. Once the foundations – or even the stone visible section of the wall – of Towers 12 and 13 had been laid, the large foundation of the threshold (35390, **fig. 4**) was wedged laterally against wall 35004 (and of course against wall 35003 at the other end of the threshold).

The question arises, why, instead of building the Roman gate directly above the Nabataean gate – threshold aligned with threshold, for example – did the builders shift it to the north-west, by a little less than 3 m for the threshold, and a little more than 1 m for the whole facade? The answer can only be hypothetical, all the more so since at the end of paragraph 4d above, it was emphasized that only a very few elements of the layout of the Nabataean gate are known, and that the position of the external face of the rampart can only be *assumed* to be slightly more (tens of centimetres?) to the north-west than the Roman rampart. It should be noted that this theory is very uncertain. Similarly, the reconstruction of the very abraded group of features 35201, 35316, etc. as a 'buttress' is only a proposition, and nothing prevents us from positively interpreting the walls 35201–35385 (**fig. 2**) as the southern corner of a flanking, jutting tower of the Nabataean gate, although the extremely narrow width (60 cm) of wall 201, makes this very unlikely.

Furthermore, not only do we need to explain why the Roman gate has shifted slightly to the north-west, but also why it has shifted to the south-west.

There is not necessarily a very rational answer to these points. On a rather rushed construction site (retrieval of ill-assorted rather than finely cut good-quality stones; foundations on a random level before reaching the bedrock; construction of towers with crooked angles and uneven dimensions), the positioning may have been decided on without much precision.

We can only suggest that, as far as the position of the Roman *threshold* is concerned, which is set quite far back in relation to the Nabataean threshold, the builders of the Roman gate had probably thought to 'set it back' as far as possible in order to leave a space in front of the threshold, which would be flanked by the two towers; this layout is better suited to the usual defensive measures than a threshold aligned with the facade of the rampart, or even positioned in front of the facade, as was reconstructed (with some hesitation) for the Nabataean gate.

### *5c. Solving the mystery of the 'filling stones' in the foundations of Tower 13's facade and the consequences for the epigraphic chronology – the Greek graffiti are in situ*

In 2016 excavation in the foundation courses of wall 35002 – facade of Tower 13 – had already detected a strange anomaly close to the eastern corner (**fig. 4**, 35332). Mainly as part of the second foundation course, a small section of wall, 67 cm wide and 40 cm high, cuts through the

regular courses of reused stones. Visible there (**fig. 24**) are clear traces of the removal of a normal course block and, in particular, marks made by metal tools on the lower part of the blocks above; the fill of the space left after removal of the block, though carefully made, consists of a random collection of blocks and rubble.

Considering the total absence of any stratigraphy that would have revealed a hole made in the floor in front of the facade at this point, various propositions of a 'cache', or even a tomb, were not very realistic. The removal followed by the refilling could only have taken place during the laying of the foundations, before the final fill to create the floor. Nevertheless, it was necessary to make sure.

As expected, the delicate and cautious removal of the fill (**fig. 25**) revealed absolutely nothing; once the stones making up the filling had been removed only a wall made up of very hard earth and loose stones remained. The conclusion was that this is evidence of a change of mind during the construction: initially, the builders had, in error, placed a particular stone in the second foundation course. The stone was considered sufficiently 'precious' for someone to strike the lower part of the course of stones lying above with carving tools, in order to avoid damaging the stone when it was removed. Evidently, the builders had placed the stone there by mistake and the team leader had made sure this was rectified.

But which stone had been taken out? The hunt was on to find a stone with the same dimensions as the outline of the fill 35332, and it was successful (**fig. 26**, top left, in the final course of a preserved wall, near the southern corner). In fact, this stone, which is very worn and so scored that it looks as though it is made up of two superimposed blocks, bears some very interesting features: a large irregular, almost coarse, Greek graffito (**fig. 4**, 35002\_i01), published in our 2014 report ('Let's not forget Chasetos Baris!') incised across two rectangular panels, ignoring both the edges and the horizontal plane. These panels, as will be seen in paragraph 6, are the conclusive evidence of the presence of painted inscriptions, of the type found, upside down, in a cornerstone of the southern corner of Tower 13.

The construction manager had thus his ignorant builders to task for tucking away a double painted inscription on a panel, in *locus* 35332, in the foundations of wall 2. He made them remove it carefully and place it in a conspicuous location 75 cm above the floor, near the most exposed corner of the tower, visible to all, reflecting the strong desire for remembrance in the Roman army. Exposed to all weathers, the stone lost all traces of a painted inscription, but the graffito incised by Chasetos Baris remained visible.

Why was the stone, already mentioned twice and bearing two painted inscriptions (35004\_i09a and b) located in the southern corner of Tower 13 (inscriptions placed upside down, also evidence of the builders' ignorance or indifference), not removed again and placed in a more convenient location? Probably because its removal, from this corner, could not be undertaken without risking the stability of the components already in place above it.

The removal, from *locus* 35332 to its current location, of the stone bearing graffito 35002\_i01, incised on two panels – bearing a now faded painted inscription – provides us with very important information on the chronology of the Greek graffiti. Walls 35001, 35002, 35003, and 35004 (as well as 35010, see below) of the Roman gate bear seven or eight incised Greek graffiti, in fairly homogeneous script. They are all found at about head height, in very visible locations, notably near corners. This appears to suggest that they were incised *in situ*, in other words on the walls of the gate after its construction; they are also all the right way up. It should be noted, however, that each one is incised on the surface of a single stone – the theory that these graffiti were incised on the stones before their reuse therefore remains conceivable, but the amusing story of the stone block that was first placed in *locus* 35332, then taken out and re-located near the southern corner of Tower 13 shows that this theory should be ignored. The block was moved because it bore two fine painted inscriptions on well-defined panels, which could be easily seen and had not yet been



**Fig. 24.** Sounding H deep. Detail of the masonry of the foundations of wall 35002 (second state of the gate, facade wall of Tower 13): the evident fill (35332) of a cavity, marks left by extraction tools on the de facto lintel of the cavity. Looking north-west.



**Fig. 25.** Sounding H deep. Location of the fill (35332) after removal. The cavity left behind did not reveal anything other than the interior of an ordinary wall. Looking north-west.



**Fig. 26.** Face of wall 35002 after the original fill (35332) was replaced exactly as it was. The fill (red frame in bottom right) had replaced a stone (red frame at top left) whose dimensions are exactly those of the cavity. This stone bears two recessed panels (now very worn) and hence two painted inscriptions that a later Greek graffito (35002\_i01) has completely obliterated. Looking north-west.

defaced by Chasetos' awful graffito. Chasetos had thus incised his little memorial message once the Roman gate was built and functioning.

What is true of Chasetos' Greek graffito is true for all the others as they are incised in the same way. All the Greek graffiti thus date from the period when the Roman gate was functioning, and not earlier. This conclusion will be very useful for establishing the chronology of this gate.



## 6. The epigraphy: Latin and Greek painted military inscriptions

### *Two painted Latin inscriptions on a reused stone, placed upside down on the southern corner of Tower 13*

The stone in question has already been mentioned several times (**fig. 5**, 34005\_i09; **fig. 23**). On the plan of newly discovered inscriptions (**fig. 3**), these are inscriptions 1 and 2. **Figure 27** shows the two texts (right way up, the stone was photographed upside down). The stone's face measures 70 × 29 cm. Two panels have been outlined and the two documents are complete. The two texts are by a different hand. The text on the left (35004\_i09b) is more carefully written, the text on the right (35004\_i09a), less so.



**Fig. 27.** Two painted Latin inscriptions 35004\_i09a (right) and 35004\_i09b (left) on a stone block reused upside down in the second course of the foundations of wall 35004, on the southern corner of Tower 13. Looking north-east, photograph taken upside down.

#### 1. Inscription 35004\_i09a (**fig. 28**)

Painted in black inside a recessed panel measuring 25 × 25 cm, recess 5 mm deep. There are twelve lines and the letters are 2 cm high.

I·O·M·HAM·FELICIT·  
 PRO SALVT·ET VICTO  
 RI·IM·D·N·M·AVRE  
 LIO ANTONINO AV  
 G·ITEM·CL·QVINTI  
 ANO LEG·ITEM·GN  
 OPTATO·7 LEG III CYR  
 CUIVS VIXILLATIO V  
 NIVERSI GRATIAS AGVNT  
 M·COCCE·AMBRILIANVS  
 ET SALVIVS CASTRICIVS  
 MIL LEG·III·CYR·S



**Fig. 28.** Painted Latin inscription 35004\_i09a. Looking north-east, photograph taken upside down.

*I(ovi) O(ptimo) M(aximo) Ham(moni) felicit(er) / pro salut(e) et victo(ri)a Im(peratoris) d(omino) n(ostro) M(arco) Aure(lio) Antonino Au(gusto) item Cl(audio) Quinti(ano) leg(ato) item Gn(aeo) / Optato (centurioni) leg(ionis) III Cyr(enaicae) / quius (sic) vixillatio(nis) (sic) u/niversi gratias agunt / M(arcus) Cocce(ius) Ambrilianus/ et Salvius Castricius / mil(ites) leg(ionis) III Cyr(enaicae) s(tationarii)?*

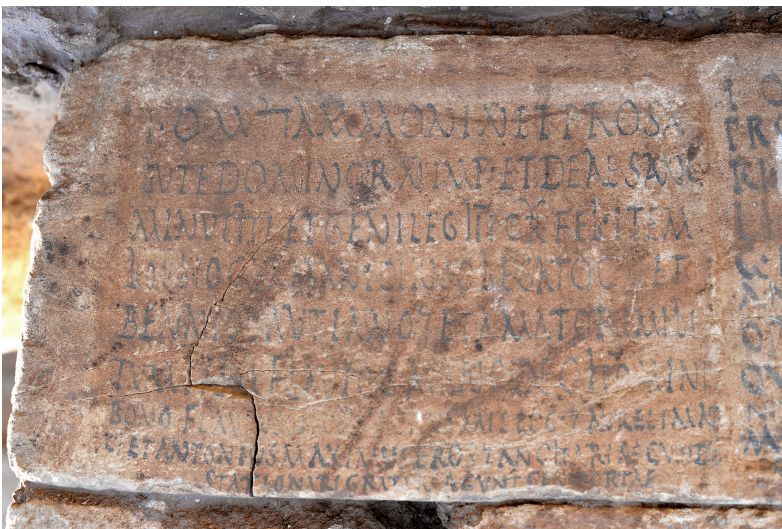
'To the most good and great Jupiter Hammon, good fortune! For the safety and victory of the emperor our lord Marcus Aurelius Antoninus Augustus, and also for Claudius Quintianus the legate, and also for Gnaeus Optatus, centurion of the Legio III Cyrenaica, all the soldiers of the detachment give thanks, Marcus Cocceius Ambrilianus and Salvius Castricius, soldiers of Legio III Cyrenaica, *stationarii* (?) (made).'

It is a dedicatory inscription to Jupiter Hammon, god of the legion, already honoured with two, possibly three, inscriptions reused in the same gate and published in our 2014 report. The emperor mentioned could refer either to Marcus Aurelius, or Caracalla, or Elagabalus. A fairly plausible suggestion is that it refers to Marcus Aurelius during the period when he ruled alone (AD 169–177). The legate is quite probably the governor of the Roman province of Arabia and at the same time commander of the legion. This governor, Quintianus, was not yet known. Ambrilianus and Castricius are perhaps the *stationarii* (the term is abbreviated to the single letter S), in other words soldiers on duty at the *statio*, which was probably a customs post.

## 2. Inscription 35004\_i09b (fig. 29)

The inscription is painted in black inside an incomplete recessed panel (37 × 25 cm), recess 5 mm deep. Nine lines. Letters 2 cm high.

I·O·M·HAMMONI·N·ET PRO SA  
ALUTE DOMINOR·N IMP·ET DEAE SANC  
MINVTHI ET GENI LEG III CYR FEL·ITEM  
LOLIO GERMANICIANO LEGATO C·V·ET  
BENNIO C?AVTIANO 7 ET AMATORI MILI  
TVM ITEM FLAVIO SAIANO DEC HOMINI  
BONO FLAVIVS NICOMACHVS MIL LEG·7 AVRELI MAR  
CI ET ANTONIVS MAXIMVS EROS 7 ANCHARI SECVNDI  
STATIONARI GRATIAS AGVNT GEN PORTAE



**Fig. 29.** Painted Latin inscription 35004\_i09b. Looking north-east, photograph taken upside down.

goddess saint Minouthis, and to the *Genius* of the Legio III Cyrenaica, good fortune! And also for Lollius Germanicianus the senatorial legate and for Bennius Cautianus the centurion who loves his soldiers and also for Flavius Saianus the decurion, a good man, Flavius Nicomachus, soldier of the legion of the century of Aurelius Marcus, and Antonius Maximus Eros, of the century of Ancharius Secundus, *stationarii*, give thanks to the *Genius* of the gate.'

*I(ovi) O(ptimo) M(aximo) Hammoni n(ostro) et pro sa/lute dominor(um) n(ostorum) imp(eratorum) et deae sanc(tae)/ Minuthi et geni(o) leg(ionis) III Cyr(enaicae) fel(iciter) item / Lollio Germaniciano legato c(larissimo) v(iro) et / Bennio Cautiano (centurioni) et amatori mili/tum item Flavio Saiano dec(urioni) homini / bono, Flavius Nicomachus mil(es) leg(ionis) (centuriae) Aureli(i) Mar / ci et Antonius Maximus Eros (centuriae) Anchari(i) Secundi / stationari(i) gratias agunt gen(io) portae.*

'To the most good and great Hammon and for the safety of our lords and emperors and to the



This is a dedication to the same god Jupiter Hammon, associated with the goddess Minouthis or of Minouthis, or Isis, from a place close to Nicopolis (near Alexandria), where the camp of Legio III Cyrenaica was located before its arrival in Arabia, and also associated with the legion's *Genius*. It also gives thanks to the *Genius* of the gate. Given its close proximity to inscription 35004\_i09a, if Marcus Aurelius is the emperor in inscription a, as is quite probable, then he is also one of the emperors mentioned in inscription b. In this case, the other emperor is either Lucius Verus (co-ruler with Marcus Aurelius, 161–169), or Commodus (co-ruler, 177–180). If, however, Caracalla is the emperor in inscription 35004\_i09a, those in inscription b could be Septimus Severus, Caracalla, and Geta in the years preceding the death of Severus in 211. Germanicianus is an as yet unknown legate. The two dedicants are clearly identified as *stationarii*, evidently soldiers on duty at a customs post.

These two inscriptions are extremely informative; together with the texts below, several others from this gate, and one from the Roman camp in Area 34, they are on the way to be published in detail and discussed by Z.T. Fiema, F. Villeneuve, and Th. Bauzou in *Zeitschrift für Papyrologie und Epigraphik*.

### *Two newly discovered painted inscriptions, one in Latin and one in Greek, on a stone already noticed by its two incised Latin inscriptions, and reused in the wall in the northern corner of Tower 12*

The 2011 season had uncovered a reused stone in the fourth course of the northern corner of Tower 12; the corner of this stone is decorated with a small non-prominent relief, depicting an eagle holding a draped bust. The side of the stone facing north-east, towards the passage, bears a Latin inscription incised within a panel (**fig. 3**, no. 6), which is a dedication to Hammon. Its north-western face (55 × 23 cm) bears two panels (**fig. 30**). The one on the left, when looking at the stone, is filled with a Latin inscription incised on two lines (**fig. 3**, no. 5). The panel on the right appears to be blank. They were published in our 2014 report.

The discovery of painted inscriptions 35004\_i09a and b presented above, in panels of very similar dimensions to those in this cornerstone, led us carefully to examine, under very different lights, the panels in the north-west wall and especially the 'blank' panel, in order to find traces of a possible painted inscription. As a result, not only was one found in this panel (**fig. 3**, no. 3), but there is also one in the left panel (no. 4), 'under' the incised inscription no. 5 (**fig. 30**). Originally, therefore, as with the stone bearing inscriptions nos. 1 and 2, this stone also bears two panels with painted inscriptions. This was followed by the incision of Latin inscription no. 5, in the left panel, but in relation to the erection of the Roman gate, when was it executed? And what about the small corner relief and inscription no. 6 on the other side? It is difficult to be precise; this stone was not necessarily a cornerstone before it was reused: as the small relief of an eagle and the draped bust of Hammon is not prominent, it may have been incised *in situ*, on the corner of the tower. Similarly, the panel bearing the dedication to Hammon on the north-east wall, inscription no. 6, which looks a little different from those of the inscriptions in the north-west wall, may have been carved (and the inscription incised) on the stone *in situ*. Finally, it is quite probable that the same applies to inscription no. 5, although this is not very likely, as inscriptions nos. 5 and 6 are dedications (in a relatively small format in relation to the gate), whose role is unclear in this particular location. Consequently, the gate's masonry includes a stone which has already been used for two successive epigraphic functions, before being reused: first for painted inscriptions nos. 3 and 4, second for incised inscriptions nos. 5 and 6 with the corner relief. Let us now briefly examine inscriptions nos. 3 and 4, and attempt a new reading of inscription no. 5.





**Fig. 30.** Epigraphic stone block decorated with a corner relief (eagle holding a draped bust), reused in the third course of the northern corner of Tower 12. Here, the north-west face. In the right-hand panel is a painted Greek inscription (35009\_i01b). In the left-hand panel is a painted Latin inscription (35009\_i01c) which has been obliterated by an incised Latin inscription (35009\_i01a). Looking south-east.

### 3. The painted (Greek) inscription 35009\_i01b (fig. 31)

Recessed panel measuring 18 x 12 cm, recess 8 mm deep. Nine lines, black paint.

No transliteration, detailed reading, or translation is possible here, but it is clear that the inscription is in Greek. Line 3 probably starts with the letters theta, epsilon, omega, followed by pi or tau. Line 4 begins securely with pi, omicron, rho, and tau, to read *port...*, which is unusual as no known Hellenistic or Roman Greek word begins with these letters. It is thus possible that it is a Greek transcription of the Latin *porta* (present on two Latin inscriptions on this gate), although this word is at present only known in Greek from the Byzantine era. On line 8 the words *tauta ta gra...* can be deciphered, probably *tauta ta grammata*, literally 'these letters', in other words 'the present inscription'.



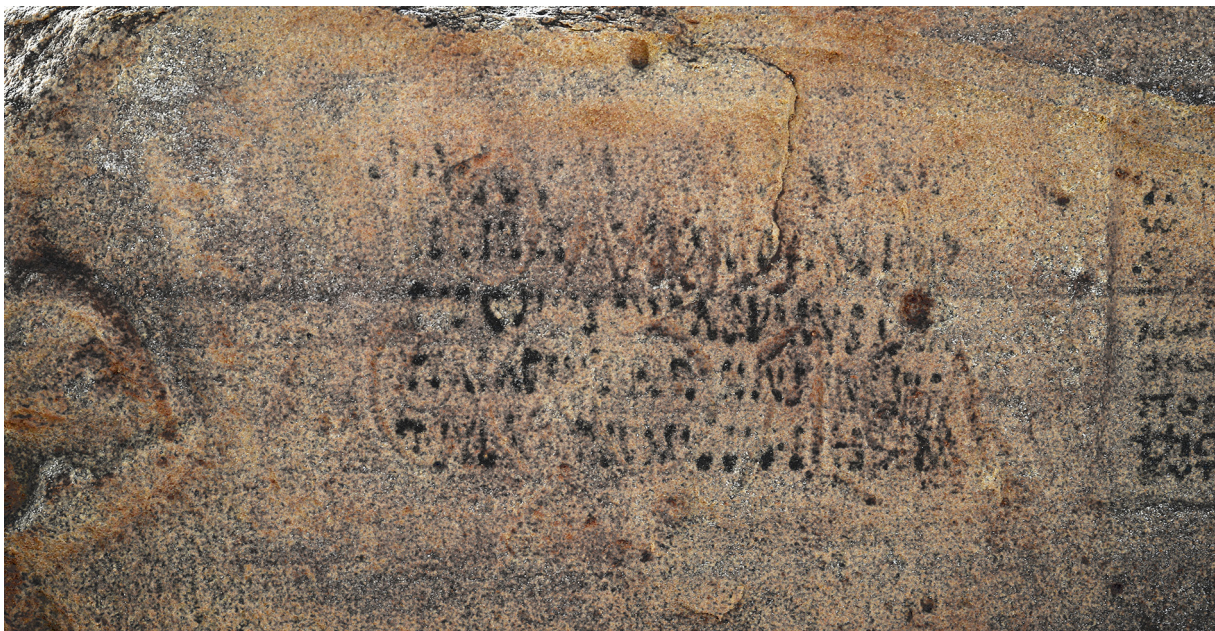
**Fig. 31.** Painted Greek inscription 35009\_i01b. Image obtained by increasing the contrast. Looking south-east.



#### 4. The painted (Latin) inscription 35009\_i01c (fig. 32)

Recessed panel measuring 22 × 12 cm, recess 2 mm deep. Five lines, black paint. Incised over by text no. 5, inscription 35009\_i01a.

I·O·M·[HA]M[M]ON[I]  
 ETIN[ - - - ]MI[O]7  
 PIOCIVVS[ . . . ]ASVMVSG[R]A  
 TIASAGIMV[S . . . ]NIVS[ - - - ]  
 T·IVL V[ . . ]NOMICVS (?)·L[ - - - ]M



**Fig. 32.** Painted Latin inscription 35009\_i01c, over-incised by inscription 35009\_i01a. Image obtained by colour image processing. Looking south-east (T. Bauzou).

*I(ovi) O(ptimo) M(aximo) Hammoni / et in[ ... ]mi[o] (centurioni) / pio, cuius [...]a sumus, gra/tias agimus, [...]nius [...] / T(itus) Iul(ius) V[...]nomicus (?) I[...]m.*

However uncertain or insufficient its reading, due to the paint wearing off, it is clearly another dedication, probably by two soldiers, to Jupiter Hammon, mentioning a centurion and including a thanksgiving formula.

#### 5. A new reading of the incised Latin inscription 35009\_i01a (fig. 30, left)

This inscription, incised over no. 4, only contains abbreviations. It is therefore particularly difficult to decipher, translate, and understand. Since its discovery in 2011 and its first publication in 2014 various discussions, fuelled by successive discoveries of Latin inscriptions in this gate and containing a fairly constant formula, have led to the new reading as follows.

Same panel as for item 4 above. Two lines. The letters are 3–4 cm high in line 1; in line 2, the capital letters are the same height, and the lower-case letters, 1.5 cm high, are incised inside the capitals.

I·O·M·H·N·F·  
 C·O·C·A·O·P·S·LEG·III·CYR

*I(ovi) O(ptimo) M(aximo) H(ammoni) n(ostro) f(eliciter) / C. O., C. A., O. P., s(tationarii) leg(ionis) III Cyr(enaicae).*

‘To the most good and great Jupiter, Hammon, good fortune! C.O.,C.A.,OP., *stationarii* of the Legio III Cyneraica.’

Apart from the identification of the last two letters in line 1 as N for *nostro* and F for *feliciter*, what is new is the reading of the small sign resembling an S in the middle of line 2 as the letter S (and not as the siglum 7 for centurion), which is an abbreviation of *stationarii*, a word and function commonly encountered. The mysterious series of letters CoCaOp is no longer understood as the abbreviation of a function or a series of functions but, since *names* of dedicants are necessary, as a list of three abbreviated names, *nomen* and *cognomen*, as O cannot be the initial of a *praenomen*.

### *A newly discovered very fragmentary Greek graffito, on the western corner of Tower 13*

This is no. 7 on **figure 3**, 35010\_i01, in the fourth course of the wall, on the north-west side of the corner. The stone is extremely worn (**fig. 33**). Only the end of a name can be read: ...iota, nu, omicron, lunate sigma. Thus, ...inos, the transcription of a Latin name ...inus.



**Fig. 33.** Very worn Greek graffito (35010\_i01), on the fourth course of the western corner of Tower 13, north-west face. Looking south-east.

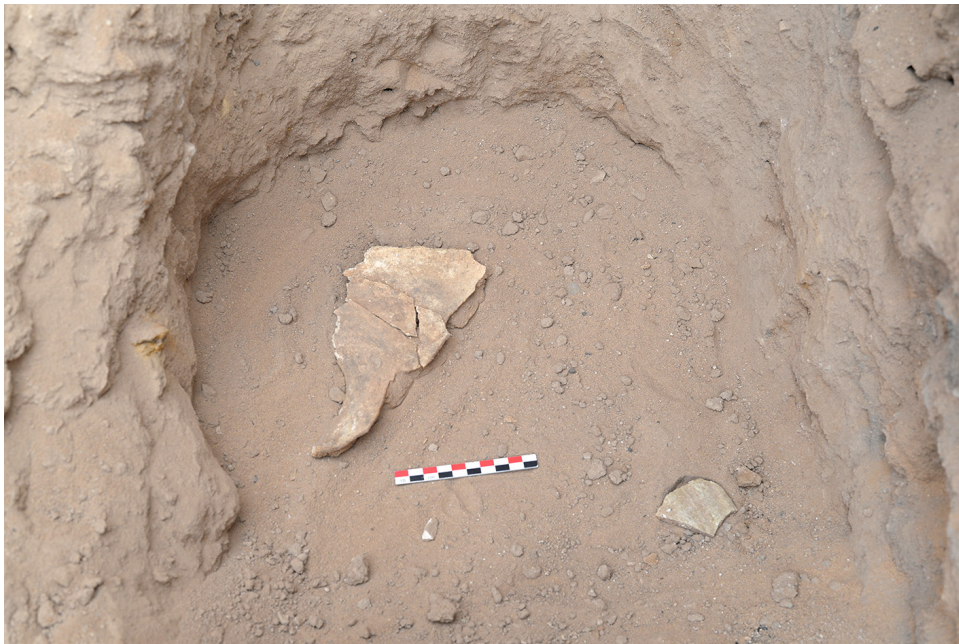
## **7. Some observations on the finds (fig. 34 and 35)**

The pottery and stone vessels collected during this season have not yet been examined by the mission's ceramicists. It should, however, be emphasized that several items are of interest, as they are numerous and located in significant stratigraphic contexts.

The fill of the robbing trench of the threshold of the Nabataean gate has provided good refuse material, particularly (**fig. 9**) in the following loci:

- 35381: numerous large fragments of pottery, a great many cooking and heating vessels, rimmed bowls, a fragment of a Mediterranean amphora, all appearing to date from the second century, according to the excavator and the present writer of this report;
- 35387: a large amount of pottery, bones, ashes;





**Fig. 34.** Dromedary pelvic bone (35359\_F01), whose surface has been treated and was probably used as a writing support, and potsherd – deposit found at the bottom of pit 35359 dug into mud-brick wall 35364 during the construction of the second-state gate. Looking north-west.



**Fig. 35.** Fragment of glass bowl (35408\_G01) found in the refuse deposit in the robbing trench for the threshold of the first-state gate.

– 35408: numerous large fragments of pottery, fragments of stone vessels, a fragment of an ostrich egg; carbonized date stones, one of which has been dated by radiocarbon: cal 2 BC–AD 125; Centre datation radiocarbone, Lyon, 2018).

The following artefacts were found on the occupation levels of the Roman gate, refuse dump 35538, on the ground in the small space between the rampart and the lateral wall of Tower 12, at the bottom of zone S (**fig. 1**): a coin (undecipherable), numerous large fragments of pottery, especially jugs, the flat bottom of a large basin with clamp holes made by a repair, fragments of stone vases, numerous relatively complete animal bones, a dromedary tooth. In Tower 12, occupation level 35367 produced, among the ashes, numerous sherds lying on the surface, and in depth a variety of common ware pottery (jars, two fragments of small globular pots) as well as many animal bones. These diverse stratigraphic units will enable us to characterize and date, more or less precisely, the end of the main occupations of the Roman gate, before the period of major restorations, such as the partial refill of Tower 12.

There is currently no satisfactory interpretation of pit 35359 (**fig. 2, 7**), dug into the bedrock in the corner formed by the walls of the ‘buttress’ 35316 and 35364. Chronologically, it is clearly later

than the construction of the 'buttress', and much earlier than the Roman gate and rampart, whose construction levels here lie higher than 781.50 m – c. 781.75 m – while the level of the pit lies at 781.48 m. Thus, its fill material is contemporaneous with either the construction of the Nabataean gate or with a period of its use. It is unfortunately not very useful for dating, consisting of about fifteen stones, measuring between 25 × 20 × 15 cm and 8 × 7 × 3 cm, mixed in with natural sandstones from fragmentation of the rock, a pebble, stone flakes, and three small fragments of white sandstone carved slabs. There were only three pottery sherds, without a detectable shape. The most interesting item (**fig. 34**), right at the bottom under the stones, was undoubtedly the flat pelvic bone of a dromedary, identified by J. Studer, who showed that its surface had been worked and flattened. It is not, therefore, the remains of food consumption, but rather of a tool, perhaps a writing support. It would take a big leap of faith to imagine in this intentional deposit, located right at the bottom of a pit and dating at least after the end of the construction of the Nabataean gate, a foundation text or evidence of a ritual, but the theory is not unreasonable.

Six bronze coins were discovered during this season, which have all been studied by Th. Bauzou. The coin from refuse dump 35538, near the decapitated skull, is undecipherable, as mentioned above. One coin in layer 35510, excavation of zone Q immediately below the pre-excavation surface, is also undecipherable. In zone R, the coin from the clayey destruction layer is Nabataean and datable to between AD 17 and 40. Finally, three coins come from *locus* 35371 (**fig. 9**), sounding AH, in front the threshold of the Roman gate, in the final levelling fill of the main floor (35044) of the Roman state: one is undecipherable, another belongs to the old (pre-Nabataean?) series of coins depicting an owl and the profile of Athena, and the third is Nabataean, dated to between AD 17 and 106.

Glass is still relatively rare at Hegra, and fragments enabling the identification of a shape even more so. It is thus fortunate that the fill of trench 408 (sounding E deep), mentioned above for its abundance of pottery, produced a glass sherd 35408\_G01 (shown on **fig. 35**); this is an almost complete bowl-shape, light green in colour, with a fine slightly flaring lip, vertical sides, a convex bottom, two closely incised parallel lines, one pair just under the lip, the other at the base of the belly, and a single line at the base of the inflexion of the lip. Associated with the pottery and the radiocarbon dating of the date stone, this bowl should enable a dating of the refuse items that fill the trench of the old robbed threshold, and could therefore contribute to the dating of the Roman gate.

## 8. Current dating of the Roman gate

**Fig. 36** is a photograph of the completed excavation of the Roman gate showing, in the middle ground, its floor and threshold levels at the draughtsman's (J. Humbert) chest height, and in the foreground, the older excavated levels which revealed the Nabataean gate and the foundation of the facade wall of Tower 13.

The detailed examination of the rich material from the relevant stratigraphic units mentioned above, in particular the refuse dump 35387–35408 and the contents of the fill loci 35381, 35389, and 35384 will provide a dating period. How close will this (or these) date(s) be to the actual construction of the Roman gate? This essentially depends on the identification of the refuse dump 35387–35408, a classic question of theoretical archaeology: did the builders throw their own rubbish into the hole they had dug to rob the threshold – thus providing a perfectly precise date – or just a random collection of probably much older rubbish that was lying around? In the latter case, we only have a *terminus post quem*.

Nevertheless, the archaeo-epigraphic (end of paragraph 5c above) and epigraphic (paragraph 6 above) discoveries of this season do provide new information. The two Latin inscriptions painted on a reused stone and laid upside down in the foundation of wall 35002 (§ 6, nos. 1 and 2,





**Fig. 36.** The two major states of the south-east gate of Hegra, excavation completed. J. Humbert surveying. Looking west.

inscriptions 35004–i09a–b) can be roughly dated by the name of the Roman emperor explicitly mentioned in one of them, inscription no. 1; this emperor must be one of the two or more who is paid homage to in inscription no. 2. The emperor named is Marcus Aurelius Antoninus. Unfortunately, this name could refer either to Marcus Aurelius (161–180), or Caracalla (211–217) or, less likely, Elagabalus (218–222). Inscription no. 2, which dates from the co-reign of two or three emperors, could therefore date either to 161–169 (Marcus Aurelius and Lucius Verus), or 177–180 (Marcus Aurelius and Commodus), or between the end of 200 and the year 211 (Septimus Severus with Geta and Caracalla). There are only 56 years between 161 and 217, not enormous time span. As a precaution, the earliest possible date must be used for a *terminus post quem* for the construction of the gate, namely AD 170, the first year of the reign of Marcus Aurelius as a single ruler. The numerous reused inscriptions in the gate, this time outside the foundations, which are not explicitly dated but contain many contextual elements (e.g. onomastic, mention of legates) with chronological implications, do not in any way contradict this date, which should be considered as of fairly early date: not only is it the earliest that can be practically suggested for the *pair* of reused inscriptions in the foundations, but it should be remembered that some time elapsed between the date of the dedication, in a monument that is not the gate, and the date of reuse. This could be a short (but also very long) time span, but in any case not less than a few months or rather, a few years.

Seven or eight Greek incised graffiti, by soldiers who left their names, have so far been discovered on some of the gate stones, at head height and in visible locations: corners, north-east wall of the gateway. We have shown (§ 5c, end) that this time they are not reused inscriptions; these graffiti were produced *in situ*. None is dated, of course, and the context is vague, even when comparing them with identified military graffiti around Hegra. One of them, however, bears the name Kommodos – Commodus. This name could not have been in use before the reign of the



emperor of the same name (180–192, or even in 177–180 with his father Marcus Aurelius). The graffito therefore dates to the very late second century or the third century. The other graffiti fit very well within this very wide date range. Superficial examination of the pottery at excavation or after cleaning by the excavator and writer of the present report has led to the conclusion that the – coarse – pottery from the final occupations of the gate (before the various architectural transformations and the raising of most of the floor levels) found in Towers 12 and 13 in particular, and in the small space housing the skull, date very roughly to the third century but no later.

The Roman reconstruction of the gate, after the collapse (and abandonment) of the Nabataean gate, could very logically, according to the available data, have taken place around 175–177. The large Latin inscription, discovered further north on the urban site by D. al-Talhi in 2003, places an extensive restoration – directed by two centurions from the Legio III Cyrenaica – of the rampart (apparently: *vallum*, by restitution of the first three letters), which had ‘fallen into disrepair’, during these two or three years. A few years later, under Commodus, the soldier Komodos would inscribe his name on wall 35002 on the southern corner of Tower 13.



## Towers 16 and 22 in the Rampart (Areas 37 and 38)

Pierre-Marie BLANC (CNRS, ArScAn)

Within the framework of the investigation of the rampart, it was decided to excavate two of the towers erected within its eastern section. The main objective was to determine when they were constructed – at the same time as the initial construction of the rampart or when it was potentially rebuilt? Excavation of the two towers would also enable a precise determination of the chronology of events which affected the rampart and its surroundings in antiquity.

The two towers are located along the eastern section of the rampart, which is fortified with quadrangular flanking towers, fairly evenly spaced at about 40 m intervals. The two towers are respectively numbered 22, formerly Tower G (Area 37) and 16 (Area 38). Tower 21 (formerly F) was excavated in 2009.

### Tower 22, Area 37

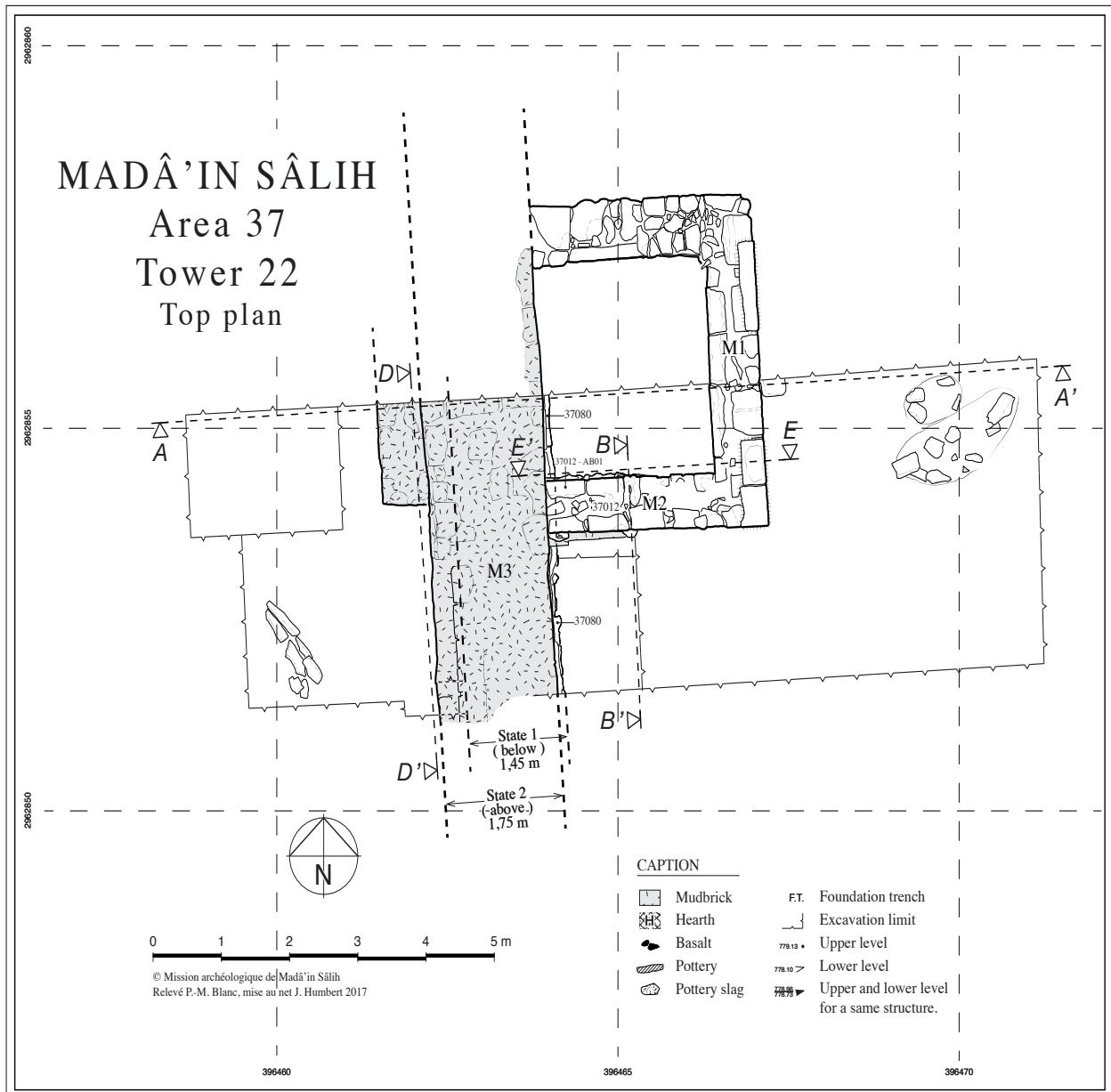
Tower 22 forms a slight bulge in the landscape. Its south-east corner as well as part of its eastern and southern sections were visible on the surface but heavily damaged. A systematic area collection of surface artefacts was undertaken. Sherds and other finds were brought to the lab but have not yet been examined in detail. A large quantity of exogenous stones (pozzolana and basalt) was collected and the most important were photographed *in situ*. They comprise broken fragments of milling and/or grinding tools, both mobile grindstones and stationary flat or Pompeian-type quern stones, mortars and pestles, as well as elements of stone vases. The frequent presence of these elements along the rampart had led François Villeneuve to suggest that they came from the ground-level reinforcement of the mud-brick curtain wall. They would have been discarded when the rampart was demolished to reclaim the mud bricks. These finds have yet to be examined in detail for any potential traces of wear that might be compatible with this practice.

In order to obtain answers to these questions, it was decided to excavate only half of the tower. A section about a 12 m long (AA') was therefore opened perpendicular to the rampart, in order to obtain the maximum amount of information, which explains why it does not cut the tower exactly in half (**fig. 1**).

At the north-east limit of the excavation area, initial examination of visible surface remains had uncovered two groups of assembled blocks that appeared to be buried in the sediment, forming an oblong-shaped structure. It is hypothetically suggested that these could be late (possibly modern) inhumations of an adult and perhaps a child. The south-west–north-east orientation of the larger structure does not appear to be significant (see **fig. 1**).

First observations have pinpointed the gulying suffered by the remains of Area 37. Detailed topography shows the presence of a V-shaped channel cutting through the wall's mud bricks (**fig. 2**). Several traces of trenches dug to salvage stones from the tower have been identified and attest to several stages of reuse. Some of the very recent ones are undoubtedly linked to the burials.





**Fig. 1.** Tower 22, Area 37: general plan.

The tower is formed of three double-faced walls made up of stretchers and headers resting on the external wall of the mud-brick rampart. The tower is 4.30 m wide and 3.30 m deep and the walls are 0.75 m thick (**fig. 3**). A fairly large proportion of the white sandstone used for the construction comes from reused blocks. One of them presents a decorative carving.

Preserved up to a maximum of four or five courses, the foundations of these walls were established in a narrow trench dug through two levels of reddish sand deposit (*loci* 37025 and 37036). They were laid against the external face of the mud-brick rampart (**fig. 4**, section AA'). The interior of the tower appears to have been filled with very pure red sand.

The rampart itself consists of an initial foundation course (*locus* 37080, visible on **fig. 3**), consisting of two walls of more or less dressed stone together forming a wall 1.40–1.45 m wide. The remainder of the wall is constructed of mud bricks of two sizes. The eastern part of the rampart is thus preserved up to a maximum of six mud-brick courses set slightly back, the three lower courses measuring 12–15 cm wide, the three upper courses only 9 cm, consistent with the widening of the wall. On the western side of the rampart, the stone cladding was only uncovered

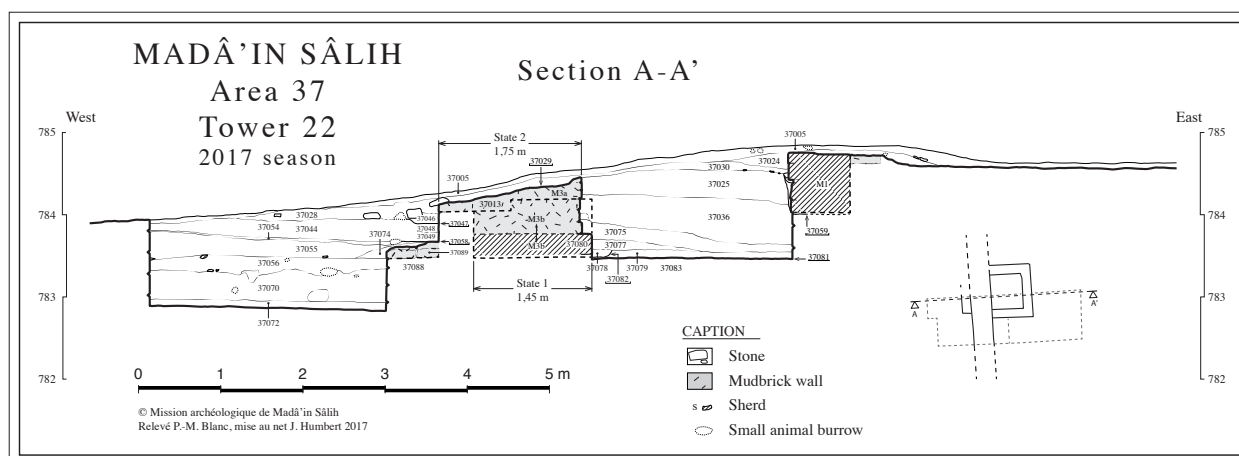


**Fig. 2.** Tower 22, Area 37: showing the mud-brick rampart, viewed from the north looking towards Tower 21 and the dune.



**Fig. 3.** Tower 22, Area 37, viewed from the east: three walls leaning against the mud-brick rampart in its second state. The stone foundation of the first state is visible on the left.





following the discovery of a small cache – or foundation deposit (*locus* 37060) – containing a globular vase carefully wedged with coloured stones covered with more mud-brick courses, thus widening the wall to c. 1.75 m. The bottom of this cache was formed by the western wall face of the suggested stone wall, also preserved on one course (for the record, there is a preserved course near Tower 21 (F) of similar dimensions – 4.24 x 3.30 m, with lateral walls measuring 0.75 m thick to the east and 0.90 m to the west).

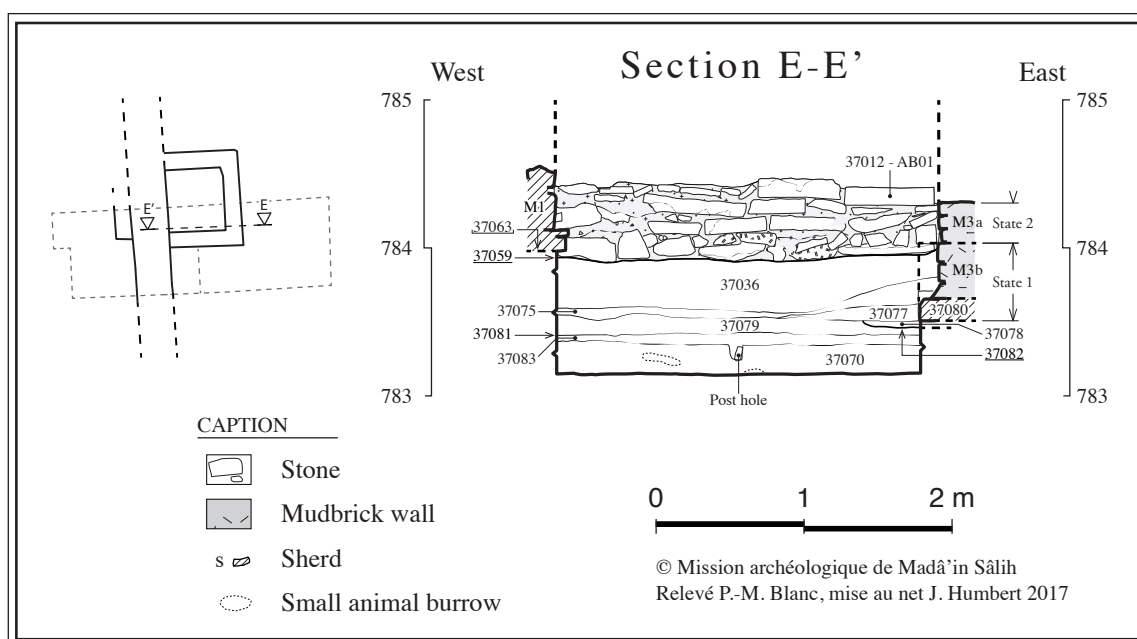
Tower 22 was simply placed alongside the eastern face of the first wall and there is no evidence of an attempt to bond together the two constructions with tothing-stones. This may have been the case higher up the construction but from the current visible remains we cannot confirm this. It is very clear, nevertheless, that the bottom of the rampart was already eroded and considerably silted up with sand (fig. 5, section EE').

Further excavation has uncovered the existence of two earlier phases of occupation: the first takes the form of a corner section of mud bricks destroyed before the construction of the rampart and overlooking a thick ashy layer (*locus* 37056), providing a hearth area with a scatter of charcoal (sampled for radiocarbon dating); the second is a curious collection of thin slabs laid out in a V shape and forming a section of canal. No sediment was found inside and it is therefore possible that this structure was associated with the circulation of air. The reused slabs were originally cut in a round shape outlining a crown with a hole in the centre (rounded edge? the lid of a storage jar pierced with a central drawing hole?). At the bottom of the stratigraphic sequence, section EE' shows the lower part of a post hole with a small triangular stone wedged inside it (fig. 5).

This ashy context is very rich in finds. Numerous green-stone vases, counters, as well as a great quantity of pottery attest to a domestic occupation or small-scale manufacture nearby. It should be noted that the same horizon is found throughout the sounding, over a minimum area of 8 x 5 m and undoubtedly much larger. It lies about 1 m below the current surface. The dating is still in question as it relies on elements of Nabataean pottery from the second half of the first century AD (identified by C. Durand and Y. Gerber). The interpretation of this horizon is problematic as it is difficult to determine whether it results from the scatter of industrial or domestic activity on the edge of the city before it was surrounded by a rampart. The sub-horizontal character of this deposit suggests a deliberate scatter, unless we are looking at the interior of a huge courtyard.

The first Nabataean city could, therefore, have been an open city, unless it was on the contrary very restricted, but with a huge industrial suburb which was later surrounded by a widened rampart. The second state of the rampart appears to have been wider here by about 0.40 m. It was thus extensively salvaged at a late stage and then heavily damaged.





**Fig. 5.** Tower 22, Area 37: Section EE', under the south wall of the tower.

It would appear, therefore, that the city of Hegra had an earthen rampart comprising two key states, one laid over two stone walls, later widened, and completed in the second (latter) state at an even later date (Roman/late Roman era?), with quadrangular towers abutting its external wall at regular intervals. The overall chronology will be determined after study of the material and radiocarbon analysis, which is currently ongoing.

## Tower 16, Area 38

During the initial examination of the eastern rampart, particular attention was paid to following its course towards the south-west, after crossing the large dune shown on the plans of the rampart. More or less in the centre of this long section of the rampart, a temporary water course had cut through it for about 20 metres, resulting in its complete disappearance (**fig. 6**). A sounding by archaeologists from the Saudi Department of Antiquities and a cleaning operation in 2008 were undertaken on the south side of this wadi (Area 30).<sup>1</sup> This erosion has considerably altered the landscape, leaving the tower on a kind of mound dominating the wadi by over 1 m.

Examination of the second tower (no. 16) proved to be interesting as it soon became clear that it was hollow, in contrast to Tower 22. This feature enabled the preservation of the lower part of its destruction, which contained numerous long blocks. The latter, possibly forming part of an internal stairway, had not been reused. One of them is 90 cm long and could have been driven into the wall by at least half its length.

Excavation allowed us to identify a second rectangular tower, 4.40 m long, its sides measuring 3.10 m (close to the 4.30 x 3.30 m of Tower 22 in Area 37). The walls are 10 cm thicker than those of Tower 22 (85 versus 75 cm), probably because part of the preserved section was made of mud brick (**fig. 7**). Careful examination of the earthen blocks from the demolition has uncovered the

1. See F. Villeneuve, 'Area 3, Study of the Rampart in the Residential Area', in L. Nehmé, D. al-Talhi, and F. Villeneuve (eds.), *Report on the First Excavation Season at Madâ'in Sâlih, Saudi Arabia, 2008*. (A series of Refereed Archaeological Studies, 6). Riyadh: SCTH: 160–161, fig. 2.



**Fig. 6.** Tower 16, Area 38: showing the rampart cut by the wadi on the right, viewed from the north-east.



**Fig. 7.** Tower 16, Area 38: the interior of the tower with the mud-brick reinforcement of the rampart, viewed from the north.

presence of a beaten-earth floor covered with cut reeds resting on probably one or two palm-tree trunks, the whole forming the terrace of the tower. Among the remains collected from the demolition were the bottoms of at least two basins used for holding water. These basins thus appear to have been common in towers to provide water for the lookouts during their watch.

Like Tower 22, Tower 16 abuts the rampart wall, which at this location appears to have been previously reinforced. A carefully jointed line of mud bricks, 0.55 m wide, was constructed against the remains of the previous rampart (**fig. 7**, bottom of image), whose wall is 1.45 m wide. This had already been observed during the 2008 excavations. The total width of the wall thus reaches 2 m. Mud-brick and stone structures located at the back of this wall could not be examined in 2017 and it is not even certain that they are contemporaneous with the fortification. They might belong to a structure that enabled access to the parapet at the top of the

rampart and to reach the top of the towers. This year it was not possible to examine the small amount of pottery in its entirety.

Excavations undertaken on these two towers have shown that the rampart had undergone two states, one measuring about 1.40–1.50 m, the other nearly 2 m, and that the towers, at least those that line its eastern section, were built against the second-state wall, which was most probably furnished with a curtain wall at a date yet to be determined.





# The Nabataean Sanctuary IGN 132, Areas 60 and 61

Damien GAZAGNE (Évéha) and Laïla NEHMÉ (CNRS, UMR 8167)

This excavation area is named after the sandstone massif IGN 132, an important landmark in the northern part of the residential area of ancient Hegra. Excavations have been conducted there since 2010 and have uncovered three principal features (**fig. 1**): a so-called 'high' temple, located at the top of the rocky mound, whose main structure is a paved tetrapylon surrounded by a small enclosure wall; a so-called 'low' temple, which stretches over the terrace to the east and south-east of the rocky mound; a series of structures dating after the Nabataean period, which appear to have been initially monumental and later craft-related or domestic. These three features are enclosed in a huge temenos surrounded by a wall which was uncovered on three quarters of its perimeter.

Three soundings were opened during the 2017 season: one in the south-east corner of the temenos, one in its north-west corner, and one along the long wall 60823 (see fig. 1). The aims of the 2017 season, defined according to the results obtained in 2016, were as follows:

- 1) to obtain as firm a date as possible, first for the temenos wall 60809/60810/608011 and second for the supporting wall 60805, whose chronology had not been fully established (**fig. 2**). Did wall 60805 exist during phase 1 or phase 2 of the sanctuary? To answer this question, a sounding was opened in the south-east corner of the sanctuary (sounding 61000).
- 2) to extend the area to be surface scraped to the north of Area 60 in order to reveal the whole of the temenos wall and thus identify the connection between the areas excavated south-east of IGN 132 (Sector 60) and those excavated in the north and north-east.
- 3) to excavate the northern entrance of the sanctuary in order to understand its stratigraphic relationship both with the temenos wall (60881 and 60882) and with the terrace walls inside the sanctuary (60883 and 60884). The aim of sounding 60800 was to document the different phases of construction and reoccupation of the sanctuary.
- 4) to date wall 60823, whose construction probably belongs to a phase after the Nabataean period, and to determine whether it had a function associated with the sanctuary (see sounding 3).

## 1) The soundings<sup>1</sup>

### 1.1 Sounding 61000

Sounding 61000 was opened on the south-east corner of the temenos wall (60809/60810), within a large room defined by walls 60805, 60809, and 60810). The aim of this sounding was to date the temenos wall (**fig. 1a-4**).

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1. NB: dating of the pottery from the most significant *loci* is preliminary. Dating and final phasing of the soundings will depend on the complete study of the pottery.

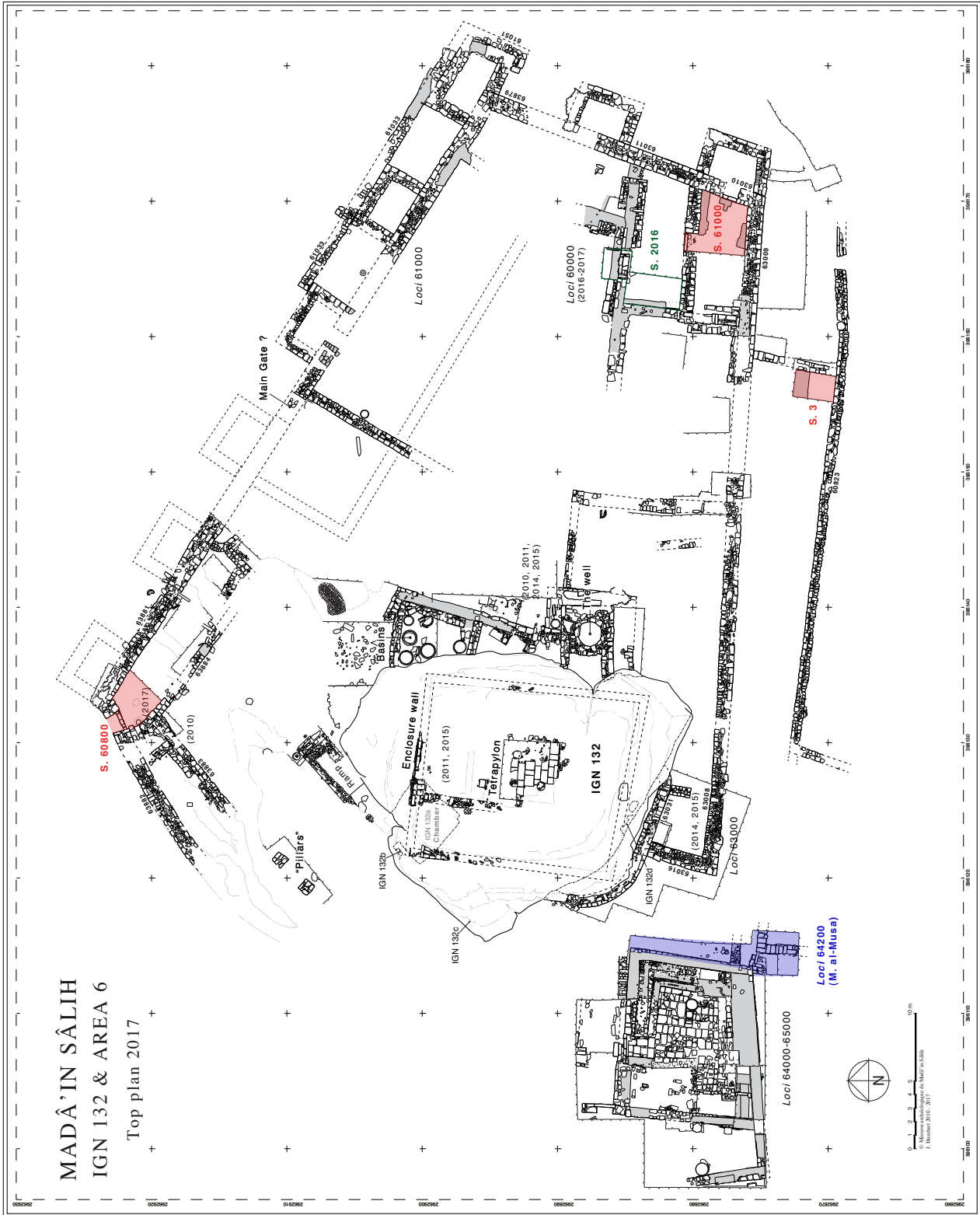


Fig. 1. General plan of Area 6 and location of soundings opened in 2016 and 2017.



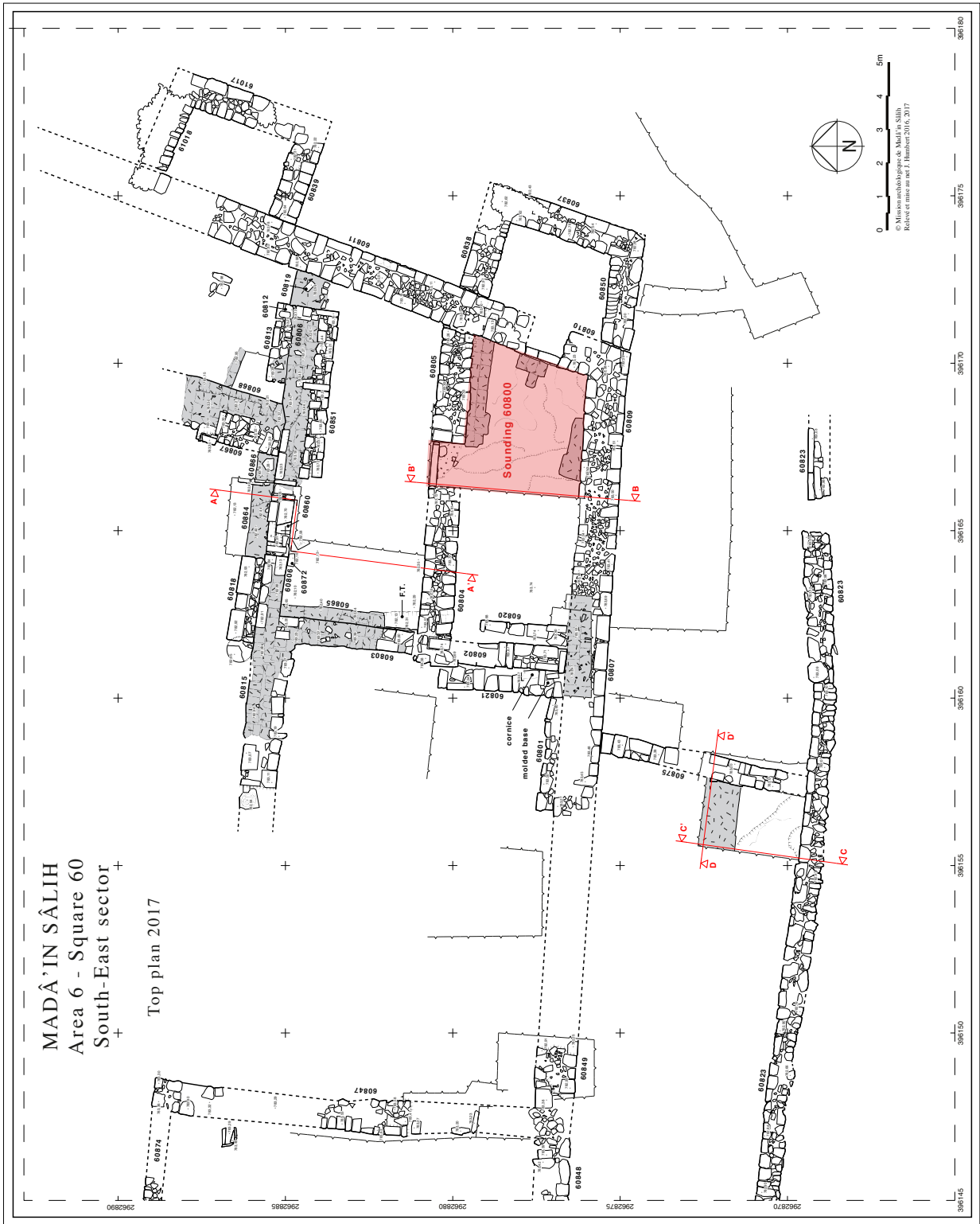


Fig. 1a. General plan of the south-eastern corner.

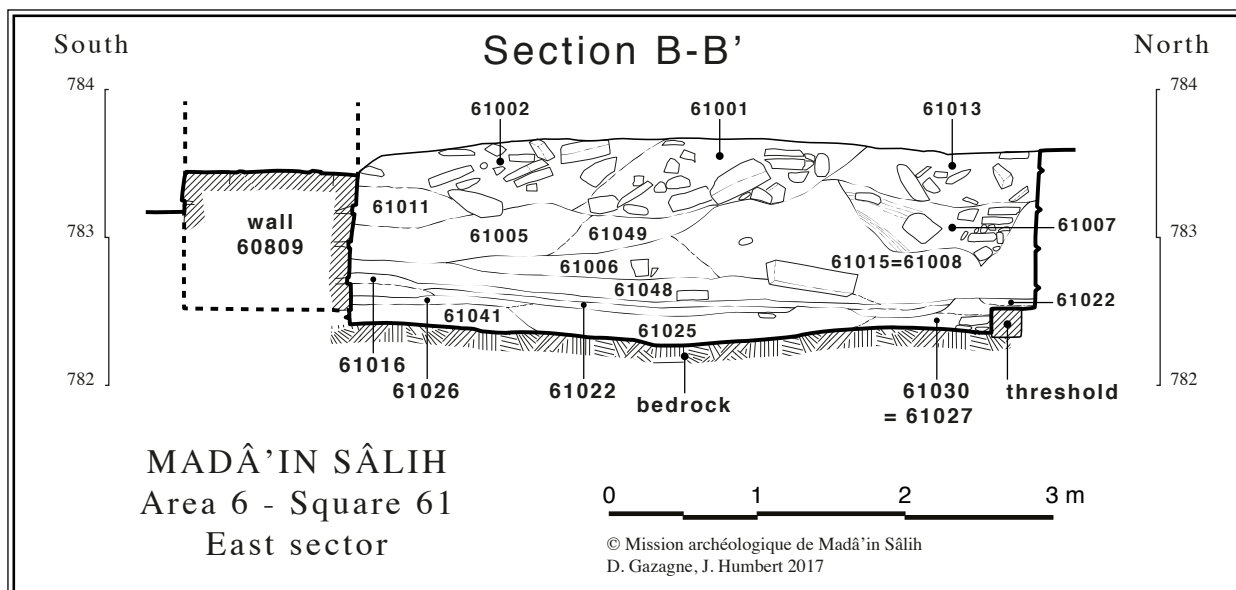


Fig. 2. North-south stratigraphic section of sounding 61000 (see fig. 1a).

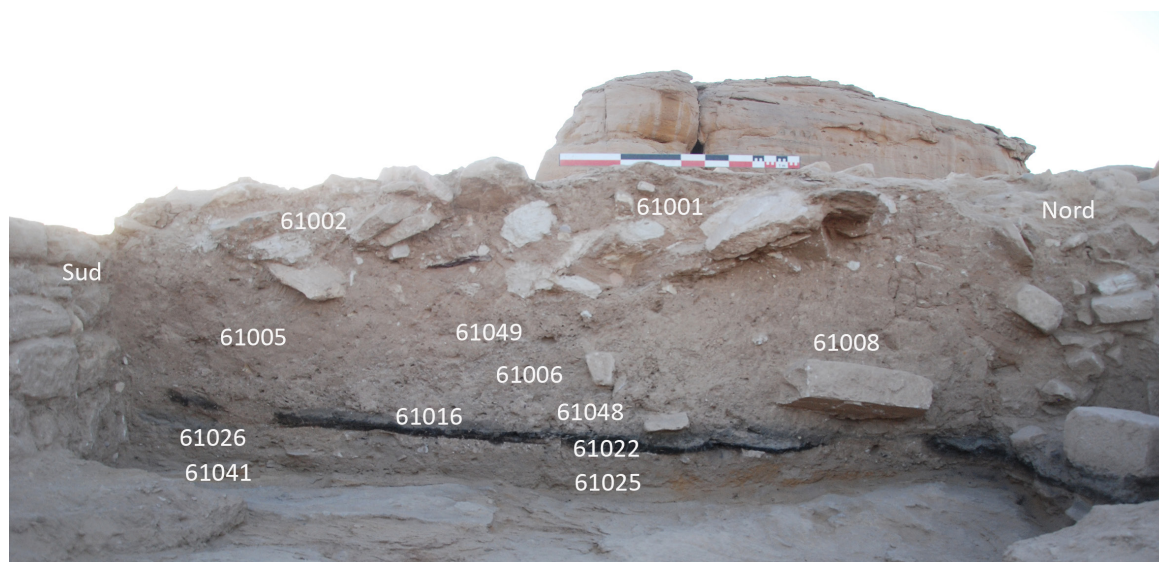


Fig. 3. Photograph of the north-south stratigraphic section.

### Phase 5 (abandonment/natural fill)

The first levels encountered during excavation (contexts 61001, 61002, and 61013) correspond to demolition layers. They contain numerous white sandstone blocks within a dark beige sandy-clayey matrix. These uncut blocks clearly come from walls that have partially collapsed inside one of the rooms. Their presence does not, however, attest to an abandonment of the building. The latter was clearly identified lower down, in phase 3 levels which consist almost exclusively of degraded mud brick. This stratigraphic characteristic probably reflects the dynamic of the building's collapse and, therefore, its architecture: it was probably built of mixed materials, that is to say, supporting walls of stone overlaid with mud-brick walls. During the building's destruction, the highest – mud-brick – sections collapsed first followed by the sandstone supporting walls. This mixed method of construction has been observed in modern traditional buildings (see, for example, the Thâj church).

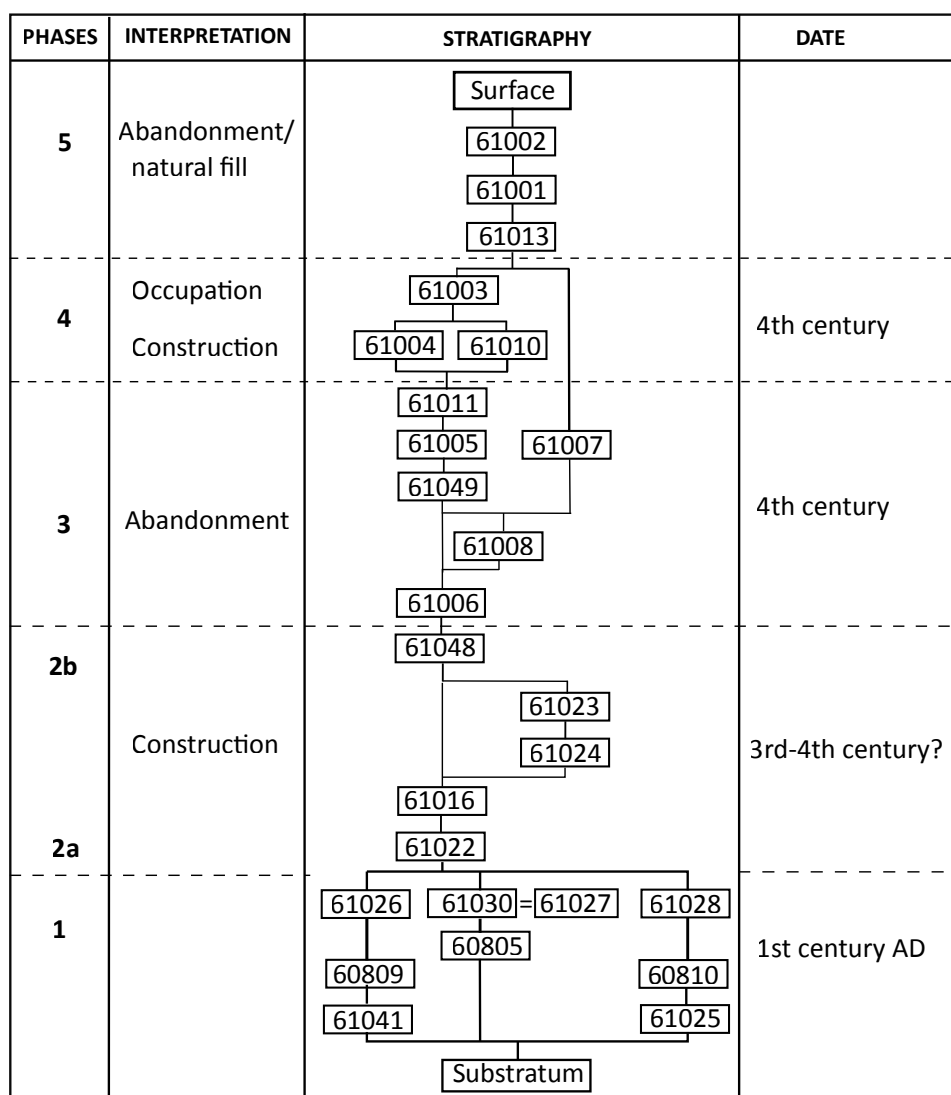


Fig. 4. Stratigraphic diagram of sounding 61000.

### Phase 4 (occupation)

A small occupation level was uncovered under the layer of building collapse. It consists of a small circular hearth (*locus* 61003), 50 cm in diameter, located at the outer corner of mud-brick walls 61004 and 61010 (fig. 5–6). The hearth abuts the north face of wall 61004. No floor level has been identified at the same level, but pottery material was recovered lying on the ground around the hearth and within it (see *loci* 61003 for the dating of this level). Two small mud-brick walls were discovered in the western part of the sounding (see fig. 6): wall 61004 is oriented east-west and measures 1.4 m long, 50 cm wide, and 20 cm high. To the east, a corner is formed by two stones at right angles to each other on the external face; wall 61010 is oriented north-south and measures 1 m long, 50 cm wide, and 20 cm high. It abuts the internal face of wall 60809. These two walls do not form part of the network of walls from the preceding phase (60809, 60810), which had probably already been levelled by the time the later walls were built. It is possible that wall 61010 continued southwards and passed over wall 60809, but was then levelled as a result of severe erosion in the south-east corner of the hill that lies to the south-east of IGN 132. This phase 4 corresponds closely – in elevation – to the phase 4 observed in the 2016 sounding.





Fig. 5. Hearth 61003 located on the corner of walls 61004 and 61010.



Fig. 6. Bird's-eye view of walls 61004 and 61010.

### Phase 3 (collapse/destruction of building)

This sequence is characterized by a homogeneous fill that covers the area of the sounding. The thickness of this level varies between 35 cm in the centre of the sounding to 60 cm at its northern end. The different layers present a homogeneous fill consisting of fine materials, in a sandy matrix and lacking any stones. Different *loci* numbers have been given according to the change in colour and density of the layers, but it is clearly a similar large stratigraphic sequence. The upper levels (contexts 61007, fill above 61008) were observed to be lighter in colour and less compact. They appear as thin, very loose sandy layers corresponding to a succession of aeolian sand deposits (see fig. 3 and **fig. 7**). The lower layers (*loci* 61005, 61006, fill below 61008) are much more compact and homogeneous: they consist exclusively of fine and dense material corresponding to degraded mud brick. Numerous mud-brick fragments were found during excavation, which could correspond to collapsed sections of wall (?). The dynamic of the fill is confirmed in cross section: the stratigraphy presents a slightly bowl-shaped profile, with a rounded bottom in the centre of the room, and an





**Fig. 7.** Sandy layers seen in section.

edge which goes up noticeably in the south and even more markedly in the north. It clearly represents the collapse and disintegration of mud bricks along walls 60809 and 60805.

In the lower fill of *locus* 61008 (= 61015), at the interface with phase 2 occupation levels (contexts 61016), fallen blocks from the door frame of wall 60805 were found, including:

- a toadstone (**fig. 8**);
- a doorjamb (**fig. 9**);
- a doorjamb with two holes associated with a locking device (**fig. 10**).

An indeterminate stone feature – possibly a basin – in fine sandstone was also found with a surrounding edge measuring 2 cm in height (**fig. 11**).

### Phase 2 (occupation/Roman period)

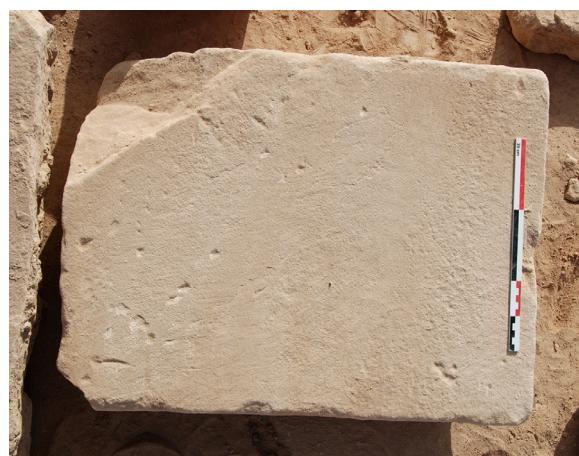
This stratigraphic sequence groups together two occupation levels corresponding to two sub-phases, 2a and 2b.

#### *Phase 2b:*

This stratigraphic sequence consists of a fill of stones forming a floor within layer 61048. It was difficult to identify because it only differs from the upper fill layers (*loci* 61006, 61008) by the presence of a few stones lying flat on the ground. The most imposing feature is one half of the



**Fig. 8.** Fallen toadstone found near the doorway.



**Fig. 9.** Doorjamb.





**Fig. 10.** Doorjamb showing holes forming part of a locking device.



**Fig. 11.** Fragment of sandstone basin (?).

bottom of a circular basin reused as paving (**fig. 12**). A few poor-quality paving stones, randomly placed, were identified, and are especially visible in section. This fill does not cover the whole area of the room but is restricted to an area in front of the doorway of wall 60805 and must originally have extended to the centre of the room. It is probably a sporadic kfill, at a point where the floor level has compacted as a result of the constant movement of people through the doorway. The stratigraphic section shows that the earlier occupation levels (*loci* 61016 and 61022) incline slightly towards the north, thus strengthening this theory.

*Phase 2a:*

This stratigraphic sequence consists of two ashy and carbonaceous layers evenly covering the western half of the sounding (**fig. 3** and **13**). *Locus* 61016, 4–5 cm thick, consists solely of light grey to whitish ash. This level has yielded a fairly substantial number of sherds lying flat on the ground, which could attest to the existence of an occupation surface. It covers a very carbonaceous level (*locus* 61022), black in colour and 4 cm thick, consisting solely of small fragments of charcoal.



**Fig. 12.** The Roman levels seen from the north: poor-quality paving consisting of a fragment of a reused basin and stones (*locus* 61048).



In the southern part of the sounding, unaffected by the fill of floor 61048, a corner coping stone with rustic-style decoration in the form of triangles was discovered lying on the ground against wall 60805 (**fig. 14**). This stone, 61016\_AB01 (see the report by D. Seigneuret), is identical to two other decorative architectural features discovered during the 2016 season:

- stone 60871\_AB01, discovered in level 60871 and dated to the third century (phase 2d), in the 2016 sounding;
- the coping stone discovered reused in the late – but undated – wall 60820.

These three similar blocks reveal the existence of monumental architecture from the Roman period at Hegra. They are the only blocks bearing this type of decoration recovered so far at the site, which is probably not a coincidence. Two of them come from late contemporaneous levels – *locus* 60871 from the 2016 sounding and *locus* 61016 from the 2017 sounding – whose wide chronological range stretches from the second to the fourth century AD.<sup>2</sup> It is therefore possible that these decorated blocks come from the rooms in which they were found, thus attesting to a monumental (re) construction during phase 2 in this area. The theory put forward in 2016 concerning the domestic character of phase 2 must therefore be altered to take into account a possible public function (?). Interpretation is complicated by the fact that the room excavated in 2016 is clearly a kitchen, in view of the finds made in phase 2,<sup>3</sup> but is it a kitchen in a Roman private house or in a public building? The ashy and carbonaceous levels (61016 and 61022) have only been preserved in the western half of the room. These levels were carefully sifted as only the finest ashy elements were scattered there, albeit very evenly. In the eastern part of the sounding, these layers have disappeared, probably washed away by erosion, which is very strong on the western side of the hill. One can thus assume that the level stretched homogeneously over the whole room.



**Fig. 13.** *The ashy preparation floor level 61016 (the arrow pointing north is incorrect).*

2. A sample of charcoal was taken from levels 61016 and 61022 for radiocarbon dating.

3. The numerous faunal remains discovered in 2016 in phase 2 levels have yet to be analysed.



Fig. 14. Coping stone with triangle motif found fallen on level 61016.

Interpretation of this type of layer is difficult, but three theories can be proposed:

- evidence of domestic activities, for example an uninterrupted succession of hearths. This is not very likely, however, since hearths always cover a limited maximum area of 1 m<sup>2</sup>;
- traces of a fire in the room. This hypothesis is more likely but difficult to prove. No piece of wood of any significant size (palm-tree trunk) was found as evidence of a fire in an upper floor or in timberwork that might have collapsed onto the floor. Furthermore, no trace of heat was found inside the room. During a fire, the heightened temperature causes the superficial charring of sandstone and hardening of beaten-earth floors.
- these two layers could be interpreted as the preparation of well-levelled floors for sanitary purposes. Vitruvius does mention the use of layers of crushed charcoal in the preparation of floors:

‘A space below the level of the dining room’s tiled floor is dug out, at a depth of approximately two feet, and after beating the floor well, a layer of rubble or potsherds is applied, slightly sloping towards the canal. Charcoal is then spread over and well compacted and beaten, then overlaid with a layer of mortar made from sand, lime, and ash, about half a foot thick, and levelled using the ruler and level. After a good polishing of the area with stone, the result is a paving of the most beautiful black colour. This is the advantage of this sort of paving: when water is spilled on it, when rinsing cups or washing one’s mouth, it dries immediately, and those that serve at table can walk barefoot without catching cold.’<sup>4</sup>

In order to refine the interpretation of the stratigraphy, 10-litre samples were taken for analysis of the vegetal remains and for radiocarbon dating.

### Phase 1 (construction/first century AD)

This stratigraphic sequence lies directly on the bedrock. It consists firstly of a levelling backfill (contexts 61041 and 61025<sup>5</sup>) which has filled in the natural irregularities of the bedrock and smoothed the slope to the east. The thickness of this level reaches 20 cm on the western side of the hill (fig. 15). It is made up of locally sourced sand and gravel. The sherds recovered in this layer – which might have been brought with the backfill – are very worn and fragmented. The temenos walls 60809 and 60810, which are linked together, rest on this backfill (fig. 16).

Excavation provided the opportunity to revise the chronology of wall 60805, which had been attributed to phase 2 of the building, but new features allow it to be clearly associated with phase 1. Wall 60805 abuts the temenos wall 60810/60811 (fig. 17). Furthermore, fill 61041 provides a

4. Vitruvius, *De Architectura Rerum*, VII, 4, 5.

5. Risk of find intrusion in *locus* 61025.





Fig. 15. Bird's-eye view of phase 1 of sounding 61000.

*terminus post quem* for the construction of 60805, while a *terminus ante quem* is provided by floor level 61027 = 61030 (fig. 18) as this floor has been preserved in the doorway of wall 60805 and abuts it. Since these levels (61041 and 61027) have all provided first-century AD material, wall 60805 belongs to phase 1.

A second floor level made up of beaten earth and paved (61026) was excavated along the internal face of wall 60809. These *in situ* levels have yielded Nabataean sherds (first century AD).

The final Nabataean relic *in situ* is a mud-brick bench (61028) preserved along wall 60805 (fig. 19). It is 3.2 m long, 0.65 m wide and preserved to a height of 0.3 m. Its relative chronology is well established: it abuts walls 60805 and 60811 and functioned with floor level 61030. The carbonaceous floor level 61022 (phase 2) abuts the bench, providing a satisfactory *terminus post quem*. On the assumption that the bench formed part of a triclinium, its counterpart was searched in the area opposite along the internal face of 60809, but nothing was found.

Another alignment of mud bricks *in situ* (61029) was exposed against the internal face of wall 60810 (fig. 20). This small feature might correspond to a step or to a remnant of floor associated with the doorway located in wall 60810 (?). This doorway gave access to the peripheral room built against the temenos wall. It is delimited by walls 60850, 60837, and 60838.





**Fig. 16.** Joined corner of the temenos wall (60809/60810) laid on top of the construction fill 61041.



**Fig. 17.** Supporting wall 60805 (left) abutting the temenos wall (60810/60811).



**Fig. 18.** Floor level 61030 associated with the doorway in wall 60805.

## 1.2. Sounding 60800

Sounding 60800 was opened at the north corner of the sanctuary (figs 21–21a). A gap in the temenos wall 60881 suggested the existence of a doorway. A sounding was therefore opened in order to date the temenos wall and confirm the presence of a doorway in the different phases of the site. The terrace walls located inside the sanctuary were also dated. The sounding (fig. 22–24) was begun by Laïla Nehmé and completed by Damien Gazagne.



Fig. 19. Base of mud-brick bench 61028 positioned against wall 60805, viewed from the south.



Fig. 20. Mud-brick construction located in front of the doorway of wall 60810/60811.

#### Phase 5 (abandonment/natural deposit)

This phase is characterized by two layers, one of sandy clay which is the layer of abandonment of this area, and a coarser layer, *locus* 60892, which contains a few fallen stone blocks and degraded clay, probably from wall 60884.

#### Phase 4

##### *Phase 4a:*

This stratigraphic sequence corresponds to the final major construction phase identified in the sanctuary. It is characterized firstly by the preparation layer of floor 60900, consisting of a thick layer of fine sterile sand, yellow-orange in colour, which levelled and filled in irregularities in the soil. Before a floor is laid, a layer of sand allows efficient drainage of the surface water. It is thus



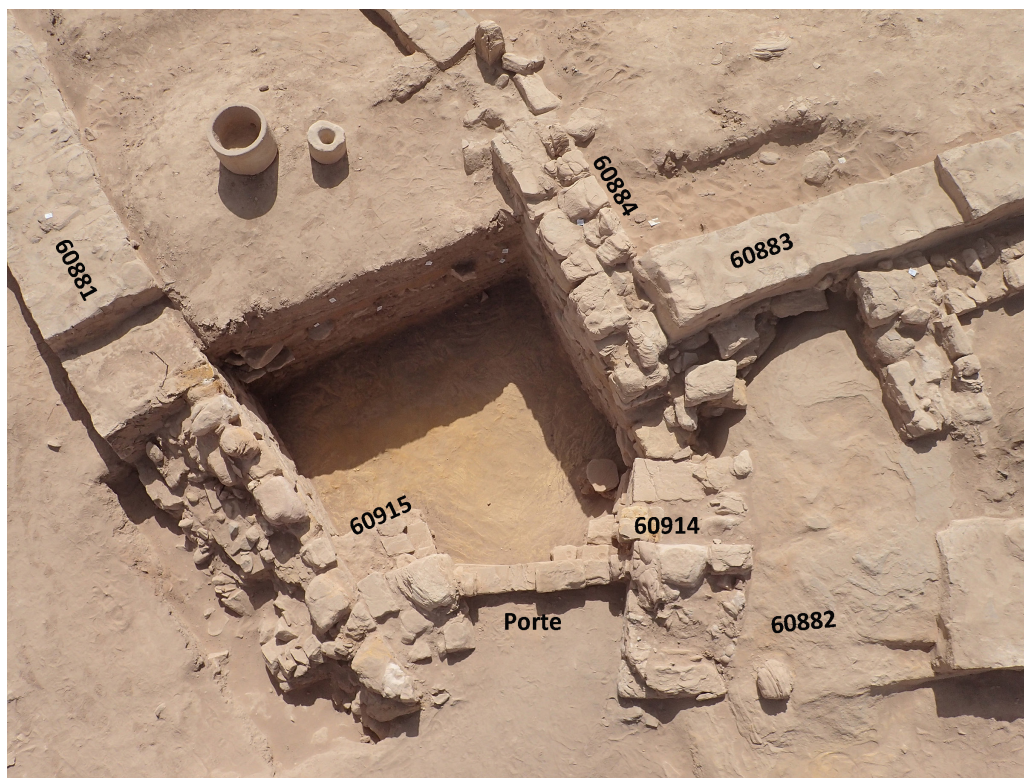


Fig. 21. Bird's-eye view of sounding 60800 at the end of excavation.

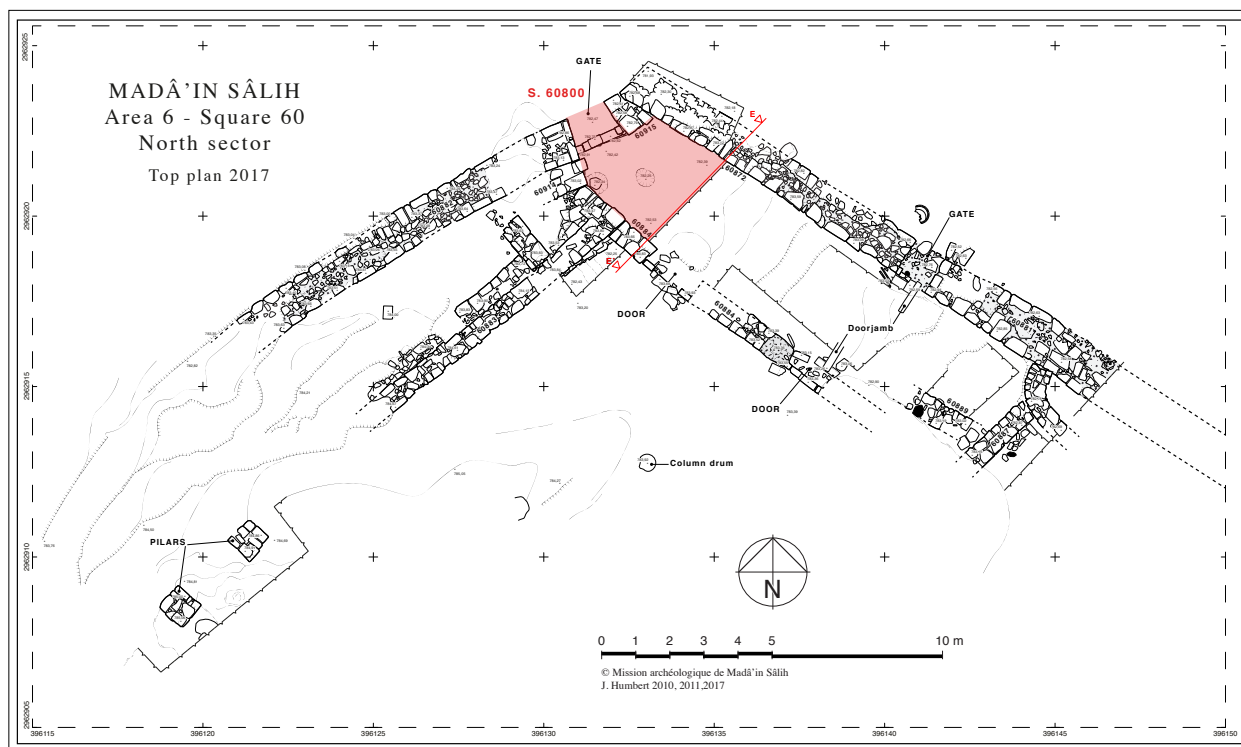


Fig. 21a. General plan of sounding 60800.



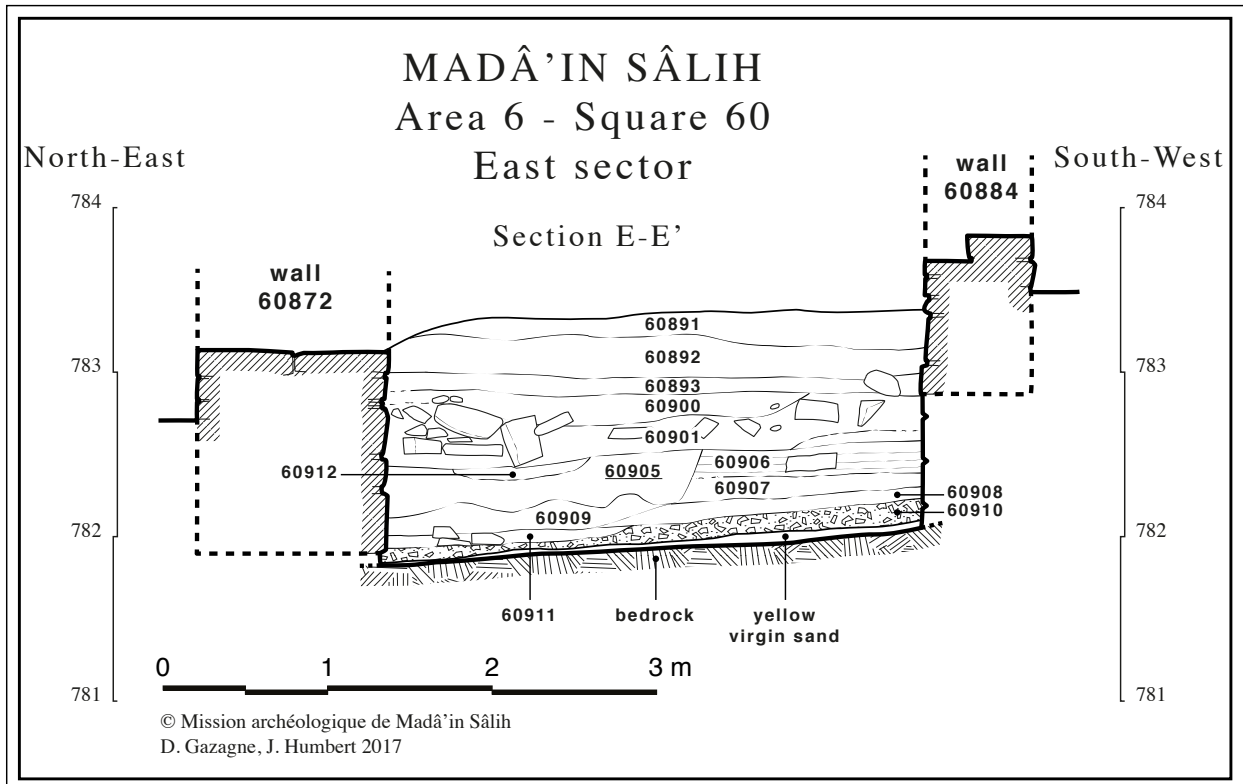


Fig. 22. North-east–south-west stratigraphic section of sounding 60800.



Fig. 23. Photograph of the north-east–south-west stratigraphic section of sounding 60800.

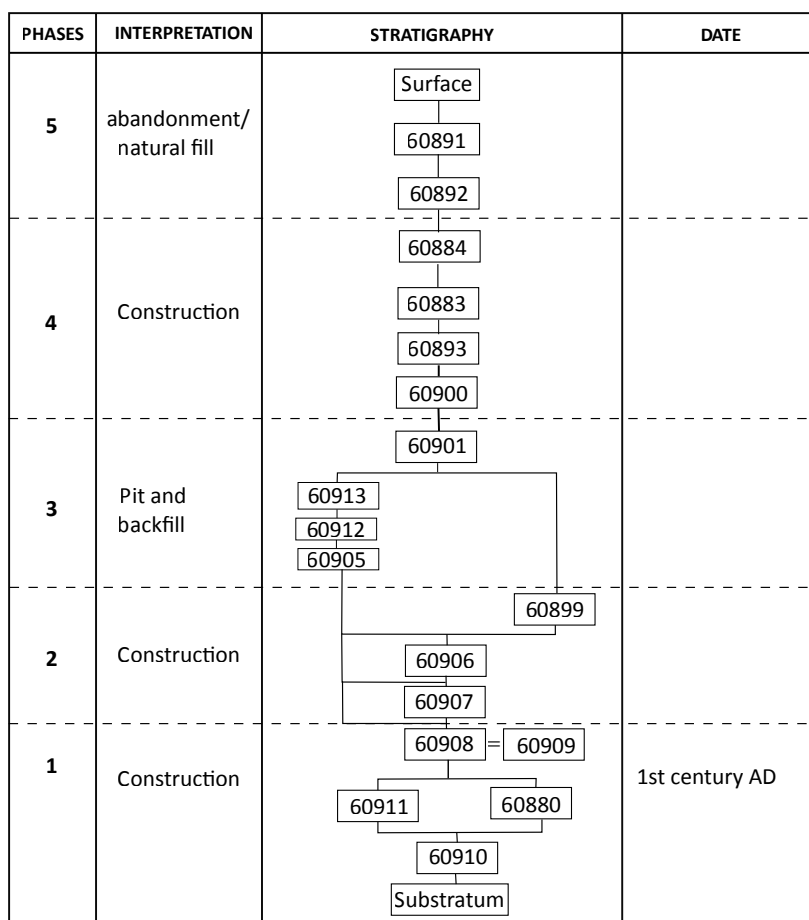


Fig. 24. Stratigraphic diagram of sounding 60800.

possible that this space was exposed and subject to weather conditions (?). It was sealed by floor level 60893, 8 to 10 cm thick, slightly hardened, light grey in colour, and of a sandy clay matrix (fig. 25). This occupation layer, very ashy in places, is associated with a large number of stone objects (see above). It also yielded a coin, 60893\_C01, identified by Th. Bauzou as a coin of Aurelian (270–275 AD), providing a *terminus post quem* of AD 275 for this occupation phase. A pit, *locus* 60897, dug in floor 60893, contained a large amount of bones. At the bottom of the pit was a fragment of a stone basin lying on the ground, 60894\_S01. In the centre a hearth, 60897, was probably the cause of the ashy layers associated with this craft-related or domestic occupation.

The principal stone objects from layers 60893 and 60894 comprise the following:

- 60893\_S03: a complete stool in grey sandstone, with a slight concavity (3 cm deep) in the seat (fig. 26). It is 45 cm long, 23 cm wide, and 23 cm high. The two legs are not symmetrical; the right leg is 8.5 cm wide, the left 6 cm wide. There are pick marks in the lower part of the legs and faint traces of chiselling on the top of the stool.
- 60893\_S04: a mortar in white sandstone, broken into three horizontal sections (fig. 27). It is not completely circular as its external perimeter forms what appear to be lugs in two places. It is 26 cm high, its maximum diameter is 31 cm and the depth of the central cavity, which gradually narrows, is 20 cm.
- 60893\_S05: a basin in white sandstone, placed on floor 60893 (fig. 28). The diameter is 57 cm, the total height 38 cm, and the width of the edge from 4 to 5.5 cm (the upper surface of the edges is very worn). The bottom is fairly thick (about 15 cm), the maximum depth of the basin, in the centre, being 25 cm and a little less (23 cm) on the sides. A rectangular fixing mortise on the outside in the centre of the bottom of the basin, is evidence that it was cut from a column drum.



**Fig. 25.** Sounding 60800, floor level 60893.



**Fig. 26.** Sandstone stool 60893\_S03.

At the base of the basin, there is a small circular hole which allowed liquid to flow out; originally, it probably had a stopper. The outside is finely chiselled (line marks 2 cm long), while the inside is more crudely worked (line marks 5 to 7 cm). There is no trace of any hydraulic mortar.

– 60893\_S06: a mortar in white sandstone measuring 35 cm in diameter. The hole, 17 cm in diameter at the top, narrows at the bottom to 4 cm (**fig. 29**). It is 18 cm deep. There are no obvious tool marks.

– 60894\_S01: a fragment of a large stone basin with a flat bottom and edge. The bottom measures 6 cm thick and the sides 2.5 cm.

*Phase 4b:*

The internal terrace walls 60884 and 60883 were constructed later than floor 60893, as wall 60884 was laid over 60893. This earthwork infers that the surface area of the space originally occupied by floor 60893 was reduced in favour of a new upper terrace (**fig. 30**). The foundations of wall 60883 were indeed laid at the base of the rocky escarpment in order to gain space. Digging



**Fig. 27.** Sandstone mortar 60893\_S04.



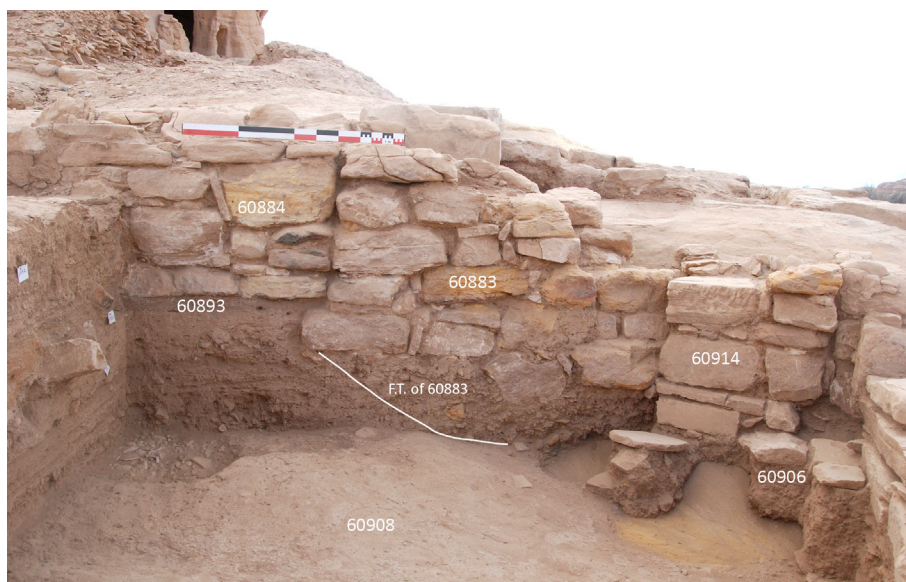
**Fig. 28.** Sandstone basin 60893\_S05.



**Fig. 29.** Sandstone mortar 60893\_S06.



the massive foundations of this wall from the later levels of phase 3 disturbed the earlier levels, notably in the central part of sounding 60800. The foundations of 60883 abut buttress 60914. The foundations were stepped following the natural incline. The corner formed by the two terrace walls (60884 and 60883) is not tied, but the cornerstone of the lower course of wall 60883 juts out slightly, so that it supports the first course of wall 60884. It is thus likely that the two walls are contemporaneous and that they are associated with floor level 60893.



**Fig. 30.** *Layout of terrace walls 60883 and 60884.*

### Phase 3

The north-east part of the sounding is occupied by a large oblong pit (60905), 25 cm deep, which has caused the disappearance of the stratigraphic links between floor level 60906 and the temenos wall 60881. It is filled with very hard fragments of mud brick.

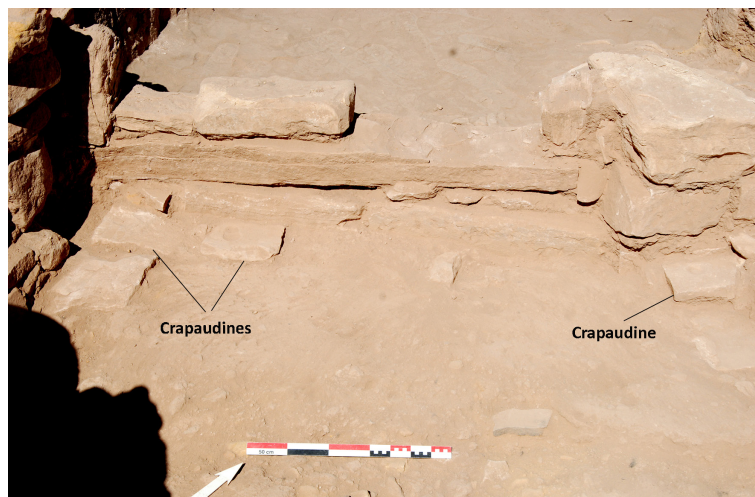
Pit 60905 and floor level 60906 are bedded by backfill 60901, which is 20 cm thick. It contains demolished sandstone blocks and shingles in a grey clayey and silty matrix. Ballast 60913 (only visible in section, it was not present beyond the sounding) lines the internal face of the temenos wall 60881. This could be either the start of a wall or, according to the width (1.2 m) and the position of the bowl-shaped block, a stone-filled pit.

### Phase 2

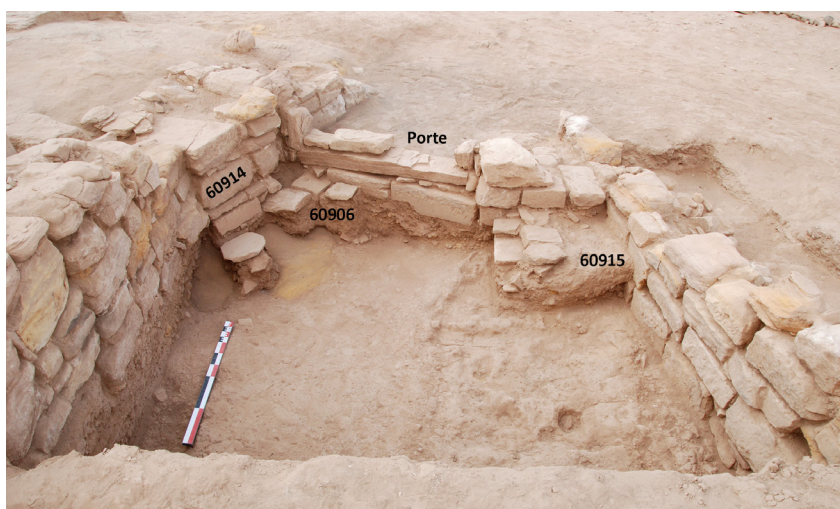
This stratigraphic sequence is characterized by significant alterations in the area of the entrance. A new floor level 60906, found in the southern half of the sounding, was created (**fig. 31**). Its thickness is quite substantial in places – about 15 cm – as it consists of two hardened fills. In the central part of the sounding, floor level 60906 could not be clearly identified because of the considerable work required in depth for the installation of the later wall 60883.

In the north of the sounding, floor level 60906 has still preserved some elements of original sandstone paving. A coin, 60906\_C01, unfortunately indecipherable, was found lying on the surface. This level is associated with the creation of a smaller doorway, whose width was reduced by the addition of buttresses 60914 and 60915 located on either side of the temenos wall (**fig. 32**). The chronology of the features of the new doorway is secure as the paving of floor 60906 is integral with the masonry of buttress 60914. Two toadstones attest to the existence of wooden (?) double doors (**fig. 33**).

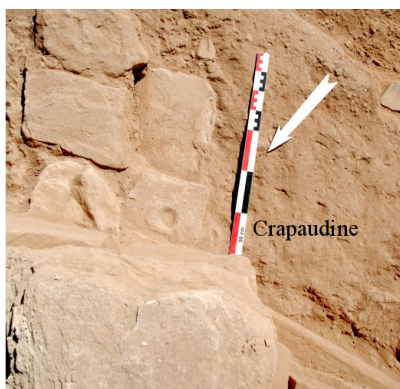
The doorway was later subject to a minor alteration: its width was reduced when a new toadstone was installed in the south-west, as well as a new, raised, threshold (see **fig. 32**).



**Fig. 31.** Threshold of the phase 2 doorway and level 60906.



**Fig. 32.** Buttress 60915 in the north-east corner of the phase 2 doorway.



**Fig. 33.** Detail of the toadstones installed at the back of the doorway.



### Phase 1

The first stratigraphic sequence lies directly over the rocky sandstone substratum, which was reached throughout the sounding. The first *locus* (60910) is a construction level 10 to 20 cm thick, which stretches homogeneously over the whole area of the sounding (**fig. 34**). It contains a large quantity of sandstone flakes, evidently remains left after stone cutting for the construction of the temenos wall 60881. The latter rests on layer 60910 which yielded first-century AD material (**fig. 35**).



Over layer 60910 is a very clayey floor covering (60908), light grey in colour and 5 to 8 cm thick. This floor layer is not homogeneous: the south-western half (60908) has a carefully smoothed light grey surface (**fig. 36**), evidently a floor level. The north-eastern half (60909), on the other hand, is much more disorganized in appearance, suggesting traces of robbing. The limit between the two surfaces is clearly determined by a line which divides the space in two. This limit could be interpreted as traces of a – stone or mud-brick? – wall that was reclaimed down to its base (60909). This activity is possibly associated with pit 60905 (phase 3), which cuts through the levels of phase 2 (60906 and 60907) and the bottom of which abuts level 60909.

One might wonder whether the first state of sounding 60800 corresponds to a room or to an access area between the exterior of the sanctuary and the lower terrace.

Floor level 60908 is very narrow and does not exceed 1.5 m. It appears to have been bordered in the north-east by the reclaimed wall 60909. To the south-west, it is delimited by the sharp rise of the rock which marks the foothills of IGN 132. This floor level is not flat, but slopes northwards for several tens of centimetres. It cannot, therefore, be the floor level of a room, but is more likely an access ramp leading to the lower terrace of the sanctuary. This level yielded first-century finds. The Nabataean origin of the temenos wall 60881 and the access ramp is now well established, but it is not yet certain whether there was a doorway at this location. The gap in the temenos wall 60881 allows one to posit the existence of a doorway, but in order to be certain, the phase 2 doorway would have to be dismantled.



**Fig. 34.** Construction level 60910.



**Fig. 35.** Internal face of the temenos wall 60881.





Fig. 36. Access ramp 60908 and locus 60909.

### 1.3. Sounding 3:

Long wall 60823 was discovered in 2015 by L. Tholbecq and cleared in 2016 over a length of 38 m (see fig. 1). At its eastern end, it turns slightly to the north-east, following the relief of the small hill. At this point, long paving stones, in sandstone, mark the existence of a threshold. The rest of the wall was washed away by surface water. A small trench, 3 x 2 m, was opened at the corner of walls 60823 and 60875, in order to determine whether these features are linked to the Nabataean construction phase of the sanctuary or to a later phase (see fig. 1 and fig. 37). The sounding produced thin archaeological levels – 0.6 m – due to extensive erosion, rain, and south-westerly winds that the southern side of the hill is subject to. The very pronounced levelling of wall 60823 has made the situation worse. The small size of the trench did not enable the identification of the walls and surrounding spaces.

#### Phase 2

This stratigraphic sequence stretches over the first 20 or 30 cm under the present surface (fig. 38). It consists of layers of natural sand deposited by the wind in thin layers (context 61031) and homogeneous fills (*loci* 61042, 61046, and 61047) containing the remains of degraded mud bricks mixed with sand. These levels were formed by the slow disintegration of walls 60823 and 60875. The pottery finds collected on these levels were roughly dated to the third-fourth century.

#### Phase 1 (Roman period)

A few *in situ* archaeological levels were excavated under the *loci* of abandonment and natural fill. They are small horizontal levels lying directly above the rocky substratum. These levels (61045, 61043, and 61042) are stratigraphically associated with the construction of walls 60823 and 60875 of which only two courses are preserved (fig. 39–40). In the northern part of the sounding is a mud-brick bench (61044) preserved on one course and over an area measuring 2 x 1 m (fig. 41). The bench continues beyond the trench, to the north and west. It is possibly a platform, or a floor covering the space between the Nabataean temenos wall 60807 and wall 60823. These levels have yielded pottery finds roughly dated to the second-third century.



Fig. 37. View from the south of sounding 3, on the corner of walls 60823 and 60875.

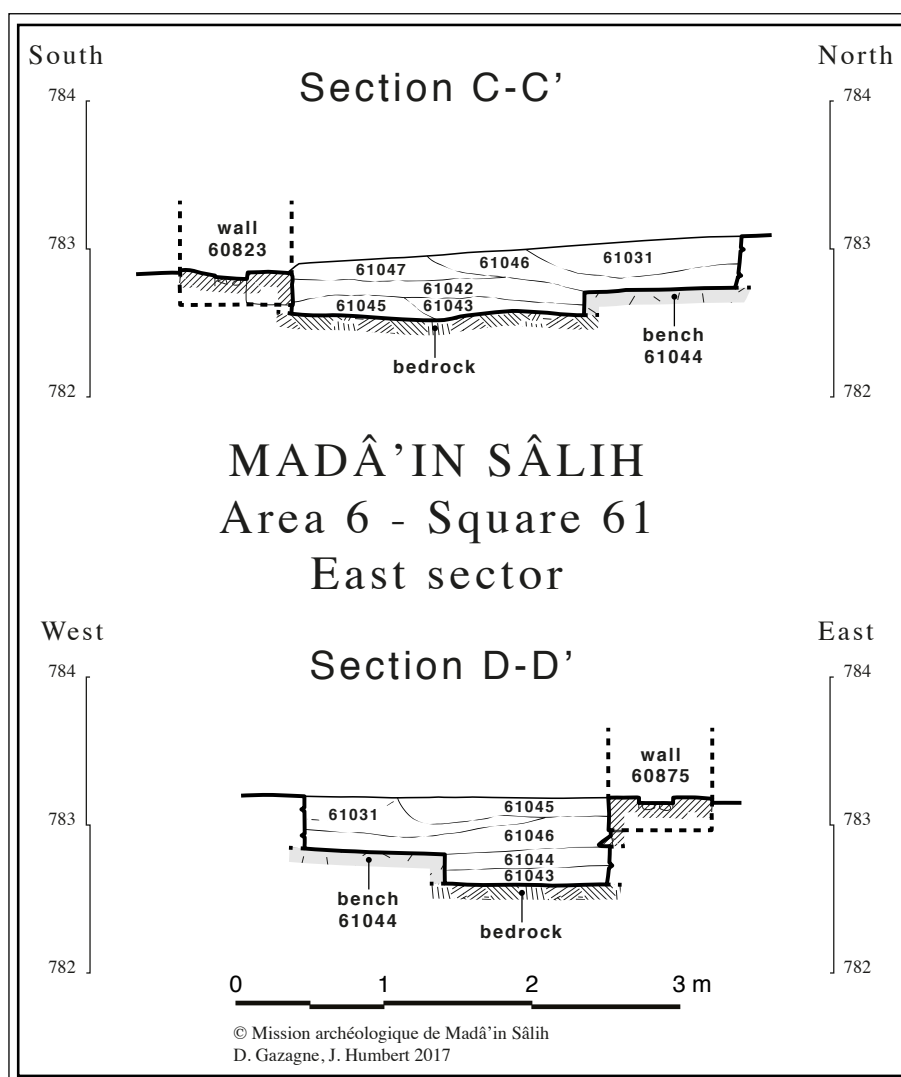


Fig. 38. West and north stratigraphic sections of sounding 3.

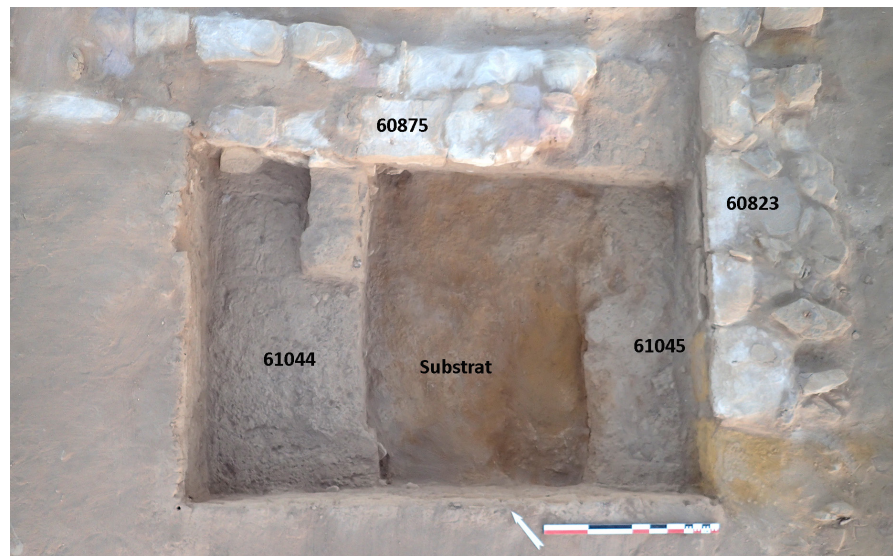




**Fig. 39.** North face of wall 60823.



**Fig. 40.** West face of wall 60875.



**Fig. 41.** Bird's-eye view of sounding 3 during excavation.

## 2. Surface scraping

One of the aims of this season was to scrape the surface of the temenos wall in order to determine the total extent of the sanctuary on the lower terrace (**fig. 42**). This process involved cleaning the central part of the hill and scraping a 300 m<sup>2</sup> area in order to find the connection between the north and south-east corners of the sanctuary. This process is now complete and provides us with a global view of the layout of the sanctuary, which comprises a shrine (IGN 132) and a lower terrace surrounded by a temenos wall. Thanks to the results of the soundings opened in various parts of the sanctuary, it is possible to sketch a general sequence of phases of the lower terrace (**fig. 43**).





Fig. 42. Orthophoto of Area 6.

### *2.1. A monumental Nabataean phase (first century AD) – extension of the sanctuary on the lower terrace*

#### The temenos wall

- To the west, the boundary of the sanctuary is formed by rock hill IGN 132 itself (see fig. 1).
- To the south, the temenos wall 63016 abuts wall 63001 which hides rock IGN 132. After a near right-angled turn, the temenos wall 63008 runs along the highest edge of the lower terrace for 50 m. The lack of a wall in the centre of the lower terrace is probably not due to an interruption in the wall, but rather to the existence of a mud-brick section which was difficult to identify during the scraping.
- On the south-east corner of the terrace, the wall (60810, 60811, and 60879) turns in a north-north-easterly direction and follows the eastern side of the hill for 23 m.
- In the north, it turns again in a westerly direction and re-joins the north corner of the sanctuary, 54 m away, where the gate is located.
- On the western side, the temenos wall 60882 is only preserved for a few metres. According to the notches dug into the rock, one can assume that it joined up with IGN 132 on its north-western side.

#### The peripheral rooms

Surface scraping has also uncovered a succession of small rooms located at regular intervals outside the temenos wall, on the northern and eastern sides of the sanctuary. They represent the second notable feature of the sanctuary landscape. Their practical surface area is small (8 m<sup>2</sup>) and they are located every 5 m against the exterior face of the wall. Scraping could not be continued up to the north corner of the sanctuary, but the existence of two walls appearing on the surface perpendicular to the exterior face of wall 60881 attests to two extra rooms. We were able to

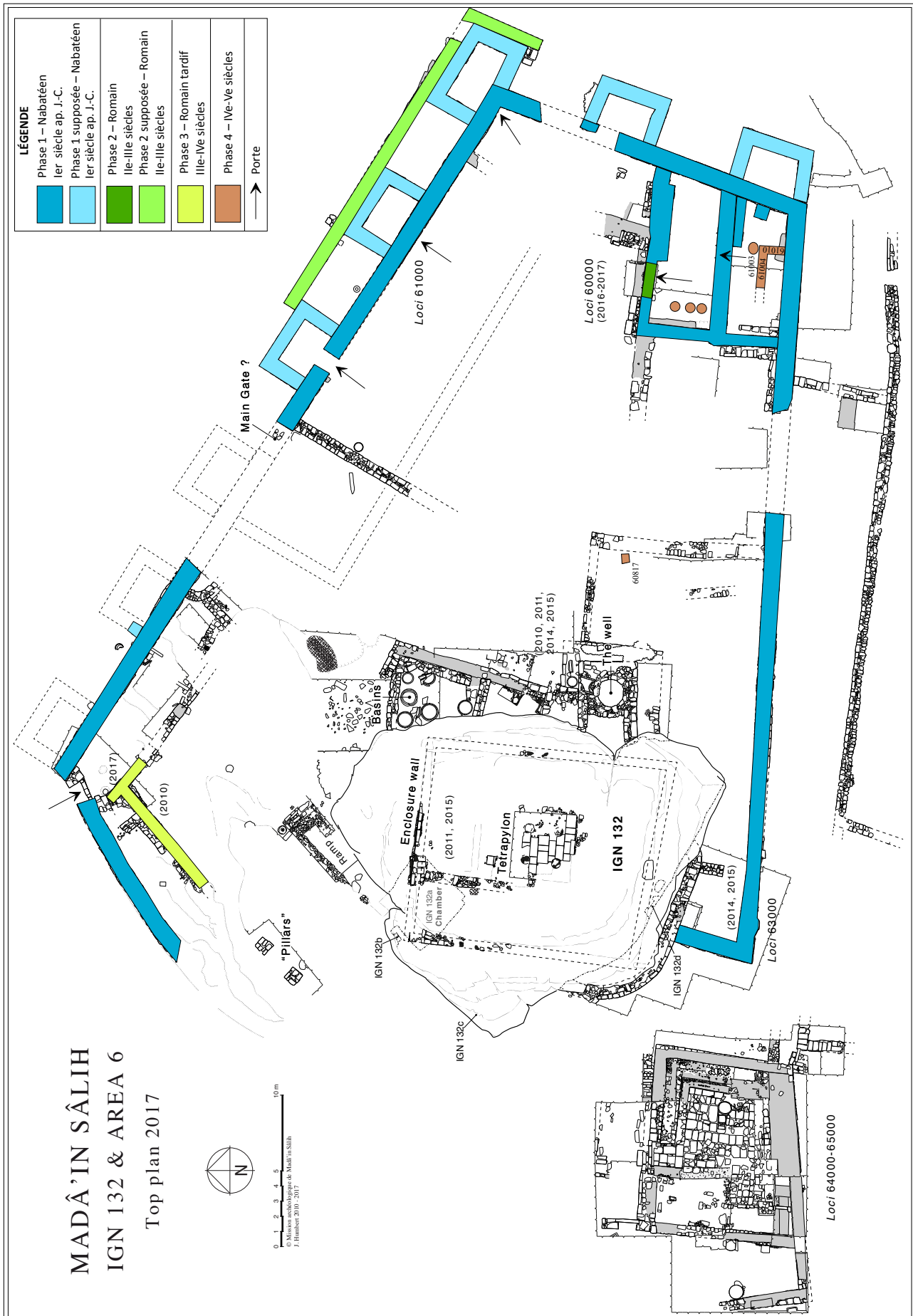


Fig. 43. Plan showing the different phases of the lower terrace of the sanctuary.

confirm that four rooms were accessible from inside the enclosure. A pestle cut from a column shaft was found *in situ* in the room in the north-east corner. All the rooms abut the enclosure wall, as is attested by the strike marks in the masonry, but it is likely that we are dealing with two construction phases of a single building site. Sounding 61000 has shown that the peripheral rooms communicated with the interior of the sanctuary during phases 1 and 2.

## 2.2. A monumental Roman phase (second-third century)?

Scraping undertaken in 2016 has uncovered a 50 m-long wall (60823), parallel to the Nabataean temenos wall. The latter stops suddenly in the east where it was destroyed by erosion, but a return of the wall towards the north can be assumed, at the base of the lower terrace. This wall could have formed a second, later, enclosure.

As far as the chronology is concerned, sounding no. 3, opened in 2017, has provided quite satisfactory answers, despite the lack of archaeological levels. The *loci* associated with the construction of wall 60823 have yielded material dated to the second-third century, thus excluding the first and fourth centuries for the construction.

Surface scraping undertaken in 2017 has uncovered a similar wall (61033/61037) on the northern side of the sanctuary. It is parallel to the temenos wall 60880 and abuts the walls of three of the peripheral rooms, thus creating two new rooms. Scraping could not be continued up to the north corner of the sanctuary, but one can speculate that this second wall might in fact have continued up to that point.

On the eastern side of the sanctuary, surface scraping did not yield such satisfactory results. In the north-east corner of the sanctuary, a wall (61051) abuts the peripheral room. Oriented north-north-east–south-south-west, it was followed for 5 m before disappearing under a large collapse of stone and degraded mud bricks. Further to the south, the wall only appears in the form of a robbing trench which is difficult to identify without excavation.

In light of this substantial evidence, one can posit the existence of a second enclosure wall parallel to the first one, along the south, east, and north sides of the monumental complex. The addition of this wall has doubled the number of peripheral rooms and increased the capacity of the complex. Although the monumental and public character of the latter is clear for the Nabataean period, there are still doubts as to the public character of the building in the Roman period. The results obtained in 2016 have led us to suppose that the lower terrace was converted into a domestic and craft-related area in the Roman period, but the 2017 results show that this theory requires some alteration and a continuity of the public character of this building could be envisaged (?). The discovery in Area 60 of three Roman coping stones, cut in a local rustic style, would favour this theory.

## Conclusion

### *Sounding 61000*

This sounding has enabled the dating of the construction of the temenos wall (60809/60810/60811), and of the building located in the corner, to the first century AD. The presence of a mud-brick bench abutting wall 60805 raises questions on the function of the room: was it a triclinium?<sup>6</sup> To answer them, it would be necessary to undertake a total excavation of the room. It should be noted, however, that the chances of obtaining answers are small as the floor levels and the

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6. This is still a valid theory: three pestles were found *in situ* in rooms in the sanctuary, which could be kitchens associated with triclinia. Another interesting detail is the discovery of gazelle bones in sounding 60800. This animal was hunted and might have been popular at banquets (?).



Nabataean paving were systematically salvaged. The phase sequence observed in this sounding is identical to that observed in the 2016 sounding.

### *Sounding 60800*

Sounding 60800 has enabled dating of the construction of the temenos wall (60881) to the first century AD. The temenos wall is therefore a coherent monumental construction which enclosed the whole of the lower terrace. It is associated with a gently sloping ramp which allowed access to the top of the lower terrace, then to IGN 132 via a second ramp. The first state of the doorway was not found because this would necessitate dismantling the phase 2 doorway. The 2 m-wide gap in the temenos wall 60881, however, allows us to posit, fairly safely, a first – Nabataean – state for the door.

Phase 2 of the sounding is characterized by the repair and reduction in size of the entrance to the sanctuary.<sup>7</sup> During phase 4, the entrance to the sanctuary was significantly altered. The addition of walls 60883 and 60884 created two passages (or corridors) along the temenos walls 60881 and 60882. These walls make the natural break in the slope in this area less acute.

The remaining space between the temenos wall 60881 and the terrace wall 60884 turns into a long narrow passage leading to the lower terrace. The terrace wall 60883, on the other hand, closes the north-west side of the terrace.

### *Sounding 3 and scraping*

Sounding 3 has enabled to date the construction of wall 60823 to the Roman period. It is part of a wider problem concerning the doubling of the sanctuary enclosure during this period (?). Fieldwork should be continued in this direction in order to confirm or deny this theory. Was it a coherent enclosure wall and therefore a new architectural project? Or were they walls and rooms which, over time, gradually accumulated against the temenos wall? These are valid questions in light of the discovery of rustic Roman architectural decoration, previously unseen in Hegra.

### *Aims for future seasons*

The aims for future seasons are as follows: to understand the internal organization of the sanctuary, especially on the lower terrace, and to determine the function and chronology of some of its features, notably the rooms built against the temenos wall (on the outside), which might be banqueting halls with their annexes, as well as access spaces (entrance, passages, and central courtyard). The final objective is to define, where possible, the route taken by the pilgrim in the sanctuary. To answer these questions, the excavation strategy will be as follows: a general surface scraping of the sanctuary, which has already proved to be productive but is still incomplete (scraping of the temenos wall needs to be completed as well as most of the interior spaces); excavation of the well, scheduled several years ago; excavation of three rooms laid out in a row against the temenos wall (kitchen, main room, and annexe forming an extension on the outside of the temenos wall, and to which a room was added in the Roman period); continuation of the excavation of the sanctuary's north entrance. Finally, photogrammetry of the hill and its associated constructions can be envisaged with a view to obtaining a definitive layout of the sanctuary (3D image, axonometric projection). In tandem with this fieldwork, it would be useful to continue searching for parallels for this sanctuary, which has no immediate equivalent in the Nabataean world.

7. Due to lack of time, it was not possible to examine the pottery finds from phases 2, 3, and 4.



# Preliminary Study of the Architectural Blocks from IGN 132 and Area 9

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This preliminary report is a study of forty-one architectural blocks discovered in the areas of the sanctuary named IGN 132 and those in Area 9 (**fig. 1**). It relies largely on work undertaken in the areas excavated by L. Nehmé, D. Gazagne, and L. Tholbecq in the former, and by Z.T. Fiema and J. Rohmer in the latter.<sup>1</sup> Mound IGN 132 and its surroundings has been the subject of archaeological excavations since 2010, directed by L. Nehmé. IGN 132 is a rocky sandstone outcrop 35 m long and 20 m wide, oriented north-south and dominating the surrounding plain. Its highest point, which has been totally excavated, has yielded remains that have been interpreted as a sanctuary erected at the end of the first century BC and utilized until the end of the first century AD.

During the 2017 season, twenty-four architectural blocks identified during previous missions were re-examined and seventeen new blocks were recorded. They were found in the following locations:

- lying on the ground to the north of the rocky mound IGN 132 or in the sounding opened to the south-east at some distance from the mound, bordered by walls 60805, 60809, and 60810<sup>2</sup> (**fig. 2**);
- reused in the large residential complex excavated by the team lead by D. al-Talhi, in the south-west of the mound;<sup>3</sup>

- reused in Area 9, a few hundred metres away from IGN 132, located in the south-west of the urban centre of ancient Hegra<sup>4</sup> (see **fig. 1**).

The main difficulty encountered during this study is the degradation of the blocks: breaks, reuse, erosion, and the fragility of the material are common and hamper their comprehension. The sandstone of Madâ'in Sâlih is much more homogeneous than that of Petra, but several types are still identifiable: a beige-pink sandstone, another whiter and finer, and finally a sandstone of a fairly dark brownish-red colour. In general, the local material is a semi-hard to hard stone, offering medium resistance when tool-worked.<sup>5</sup>

The order in which the architectural blocks recorded in 2017 are presented is as follows: capitals, column drums, and decorated features. The typology, treatment of the block faces, types of assemblage, and traces of carving will be examined.

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1. For the most recent work in the area of IGN 132, see this report and Nehmé 2015a: 34–44; Gazagne & Nehmé 2016; Tholbecq 2014: 97–102; Tholbecq 2015: 45–49. For Area 9, see Fiema 2011: 161–218 and Rohmer 2014: 123–138. For a general presentation of IGN 132, see Nehmé 2011a: 108 and Nehmé 2012: 154.

2. Soundings opened by L. Nehmé and D. Gazagne in 2016 and by D. Gazagne in 2017.

3. See Alhaiti 2015; al-Thali, al-Mathami & Alhaiti 2016; al-Musa 2016.

4. For the architectural blocks in this area, see Fiema 2011 and Rohmer 2014.

5. For the characteristics of Madâ'in Sâlih sandstone, see Bessac 2015: 164, 166.





Fig. 1. Satellite view of the central area of Madâ'in Sâlih showing the location of IGN 132 and Area 9.

## 1. The capitals

### *Ionic capital of doorjamb (60834\_AB01)*

This feature, numbered 60834\_AB01 (L: 76 cm; W: 51 cm; H: 25 cm), was discovered fallen on the threshold of the doorway of wall 60806 during the 2016 season. It is an Ionic Nabataean capital whose different elements are clearly visible. From bottom to top: moulded upper section of the doorjamb, corner volutes, astragal, echinus, projecting finial, and abacus (fig. 3–4). The block has

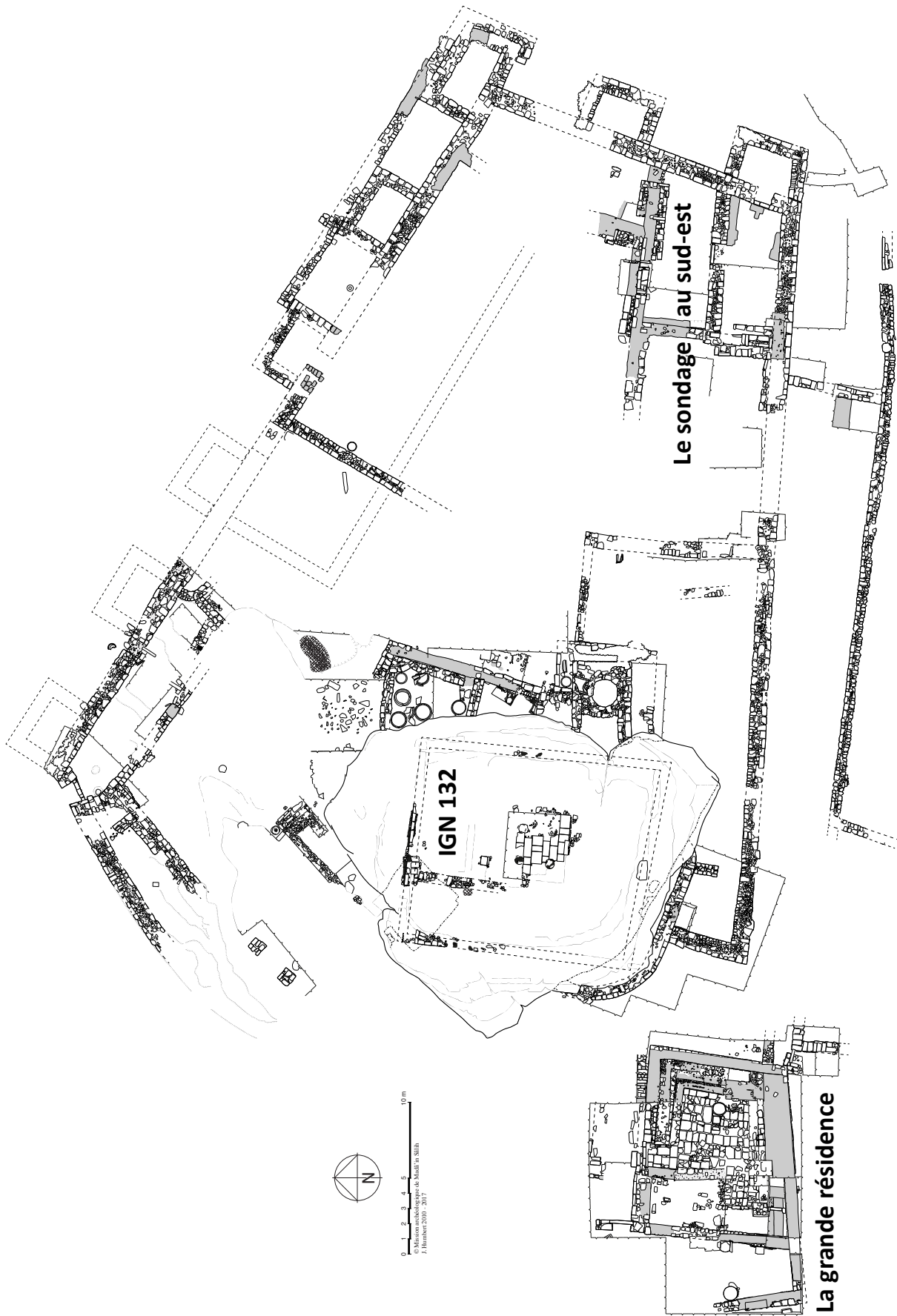


Fig. 2. General plan of areas excavated on and around IGN 132.



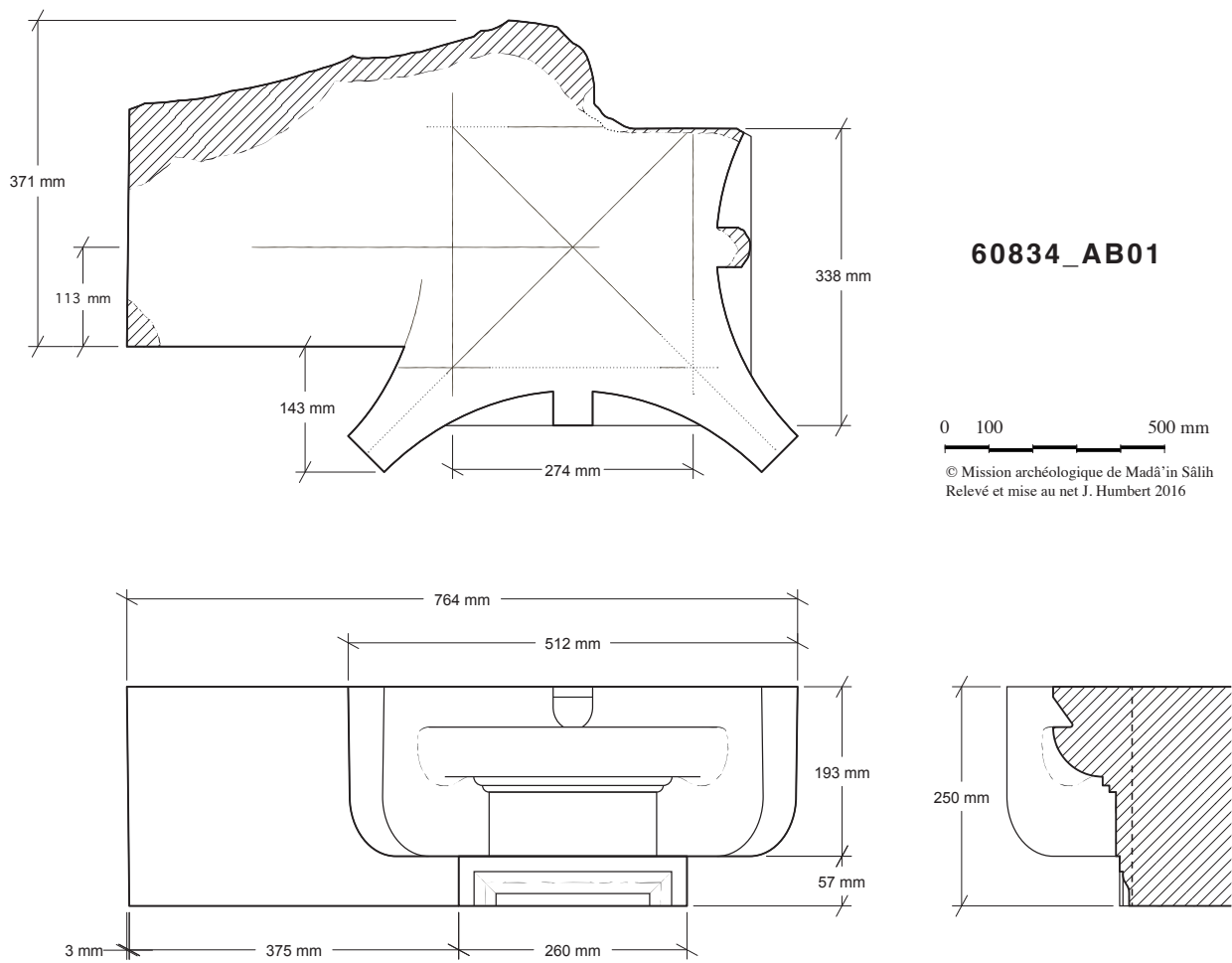


Fig. 3. Drawing of capital 60834\_AB01.

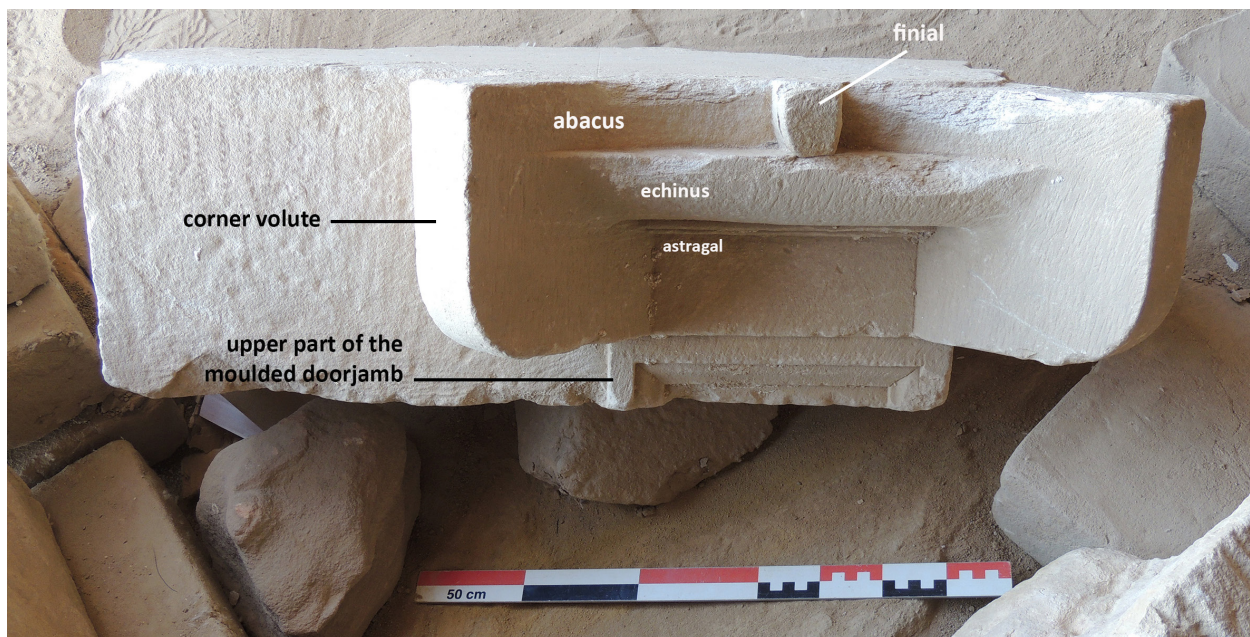
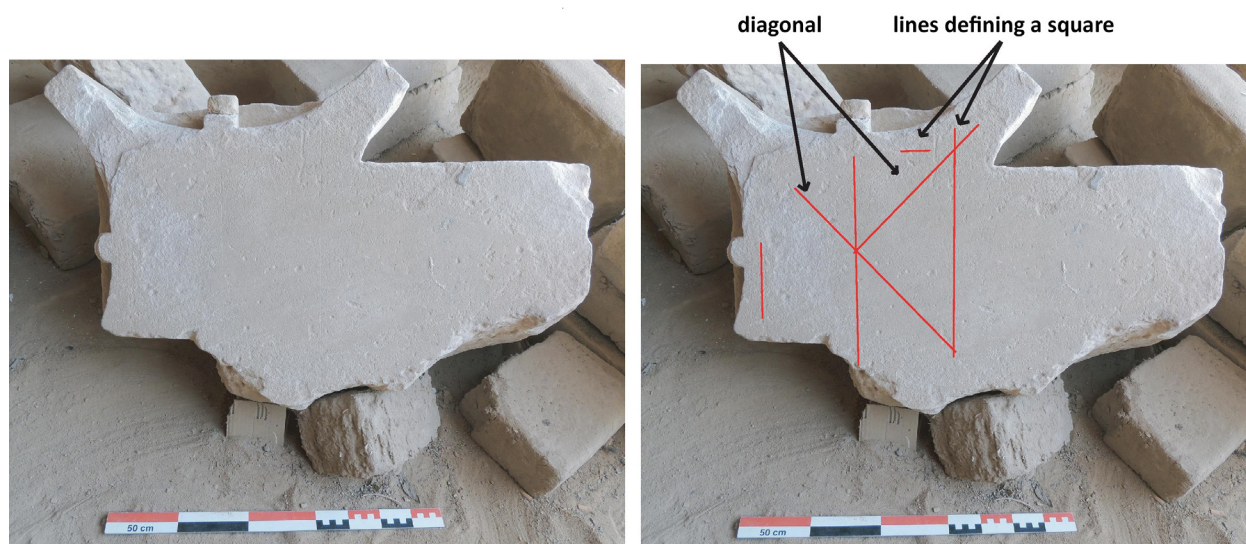


Fig. 4. Ionic capital 60834\_AB01, viewed from the front.



already been studied<sup>6</sup> but additional information is provided regarding the line marks visible on its upper face (**fig. 5**). These are probably the preparatory axes, incised in the stone, which acted as guiding lines for carving different elements of the capital on the previously cut block. Three of the lines (two of them are clearly visible, the third can only be made out with difficulty) suggest that a craftsman had traced a square measuring 27.40 cm on each side in the centre of its upper face during the design of the capital. The crossing diagonals of this square defined the centre of the capital. One of the corner volutes that is still visible also shows a guiding line, which is in fact the continuation of one diagonal of the central square. This diagonal line cuts the volute of the capital in two equal halves, thus determining its centre.



**Fig. 5.** Ionic capital 60834\_AB01, viewed from above with photograph illustrating the preparatory axes incised on its upper face.

Preparatory drawings made before carving the elements of a capital, regardless of the typology, are quite common in Nabataean architecture at Petra, as well as at the sanctuaries of Khirbet Dharîh and Khirbet Tannûr, both dated to the beginning of the second century AD.<sup>7</sup> Six architectural features from the temple of Khirbet Dharîh depict this type of rough sketch. This is the case, for example, for a monolithic Corinthian capital of one of the columns of the temple *môtab*<sup>8</sup> (block no. 3200, **fig. 6**). The technique initially depended on a method of marking involving a circle (no longer visible on the block), squares, and diagonals,<sup>9</sup> clearly visible on the upper face. The circle corresponded to the maximum projection of the two crowns of acanthus leaves. The marks probably helped the craftsmen to turn the blocks in order to clear away superfluous material.<sup>10</sup> The maximum length of the abacus was 1.35 m (18 hands), defined with the aid of a large square. This length corresponds to double the lower diameter of the capital. Finally, another smaller centred square, measuring 67.50 cm on each side (9 hands of 7.50 cm) defines the lower diameter of the capital, and therefore that of the columns of the *môtab*.

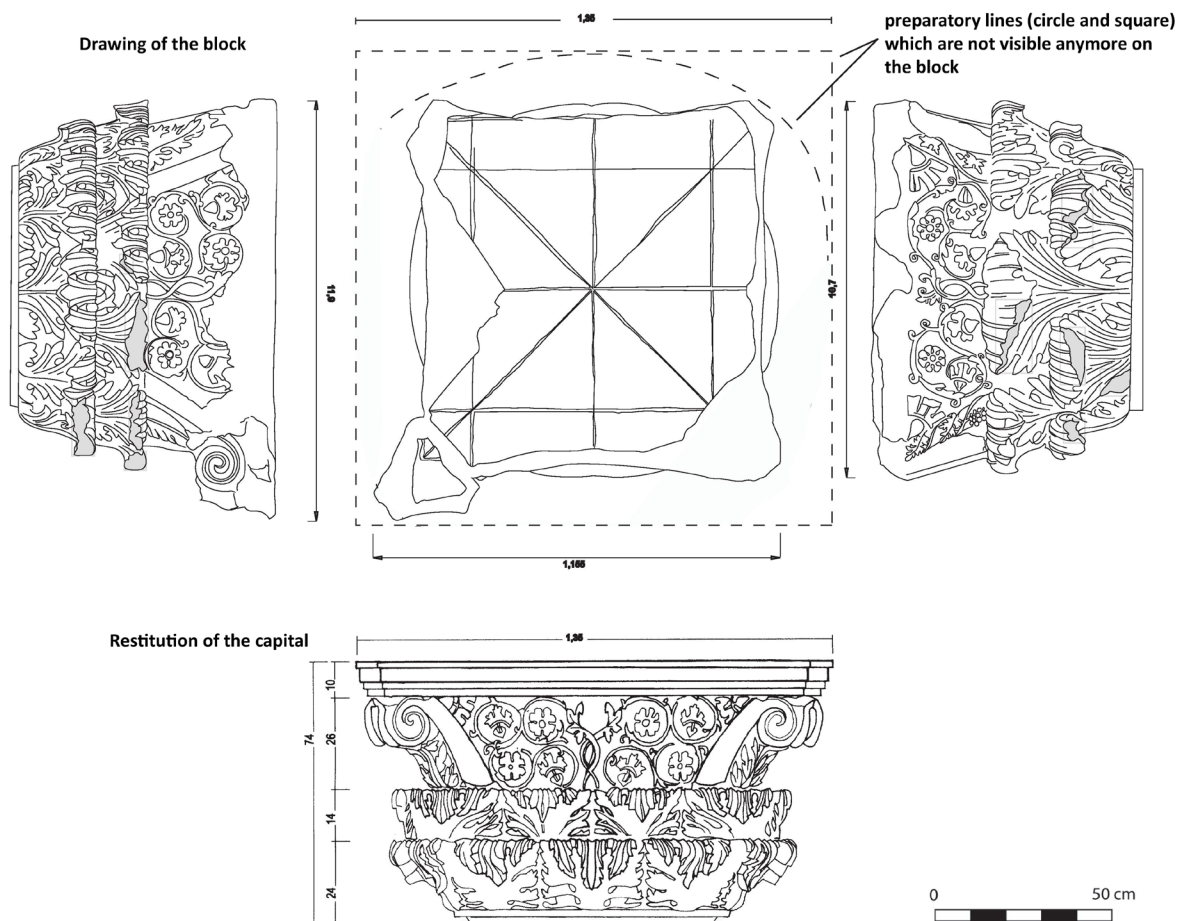
6. See Gazagne & Nehmé 2016: 53–55 and fig. 7–7a.

7. See al-Muheisen & Villeneuve 2008.

8. Seigneuret 2015: 130.

9. See the detailed study of this capital in Dentzer-Feydy 1995: 166.

10. Bessac & Congès 1987 : 87.



**Fig. 6.** Block 3200: plan and reconstruction of a Corinthian capital from a column of the *môtab* in the temple of Dharîh (R. de la Noue, 1987; S. Eliès, 2009; D. Seigneuret, 2017).

A similar technique is attested on the site of Khirbet Tannûr, as shown by the still visible incised marks on the lower face of the south capital of the cultic platform (phase II).<sup>11</sup>

Again in Dharîh, incised marks comparable to those of the Hegra capital are visible on features belonging to the upper register of Nabataean capitals. Three finials, nos. 13055, 13101, and 13002a (**fig. 7**) have a sketched isosceles triangle covering the whole height of the outer face.<sup>12</sup> These rough sketches were no doubt made during the final squaring of the initial block, during which all the marks useful for the final creation of the capital have been located and incised with a burin on the accessible faces, before the block was turned over in order to work it more easily.<sup>13</sup> It is thus a common process in Nabataean architecture, visible on blocks from buildings dated to the first and second centuries AD (Hegra, Petra, Dharîh, Tannûr).

### *Pilaster capital (IGN132\_AB01)*

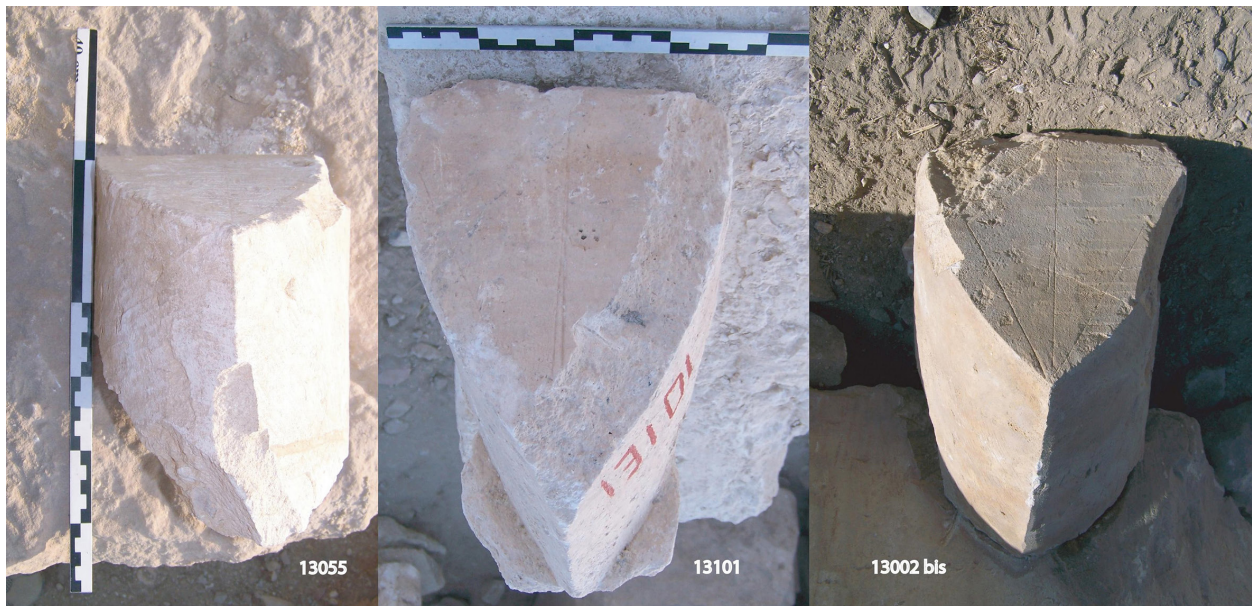
This block (**fig. 8**), IGN132\_AB01 (max. L: 42 cm; W: 29.5 cm; H: 20 cm), is currently used in the little artificial wall constructed to border the large residential complex excavated in the south-west of IGN 132. Its original location is not known. It is carved on two sides and is the moulded

11. McKenzie 2013: fig. 80b.

12. Seigneuret 2015: 179.

13. Bessac & Raboteau 2002: 423.





**Fig. 7.** Blocks 13055, 13101, and 13002a from the temple of Dharîh: three finials from Nabataean capitals showing the incised preparatory axes.



**Fig. 8.** Nabataean pilaster capital IGN132\_AB01, viewed from the front.

part of a Nabataean pilaster or pier capital. Its upper face shows traces of mortar, but its lower face is very eroded and only consists of a few layers of very friable sandstone. The back's surface is recessed over a length of 20 cm. The stone carvers probably carved it this way so that it could be more easily fixed onto another block in the masonry. This is a common procedure in Nabataean architecture, also attested at Petra, Dharîh, and Tannûr. The following mouldings are depicted, from top to bottom: bevel, H: 6.5 cm; channelled joint, H: 0.5 cm; bevel, H: 4 cm; a very eroded ogee or bevel, H: 5 cm; a very eroded and extremely friable section, H: 4 cm (the moulding is unidentifiable). It is therefore not possible to tell whether the astragal and the upper section of the pilaster or doorjamb shaft were originally carved in this block.

Two interpretations can be proposed:

– a pseudo-Doric or moulded capital comparable to those framing the door to tomb IGN 40 (undated);<sup>14</sup>

14. Dentzer-Feydy 2015: fig. 5.51.



– the lower register of a Corinthian Nabataean two-register capital, which is similar to the capitals of the main order (pilasters framing the facade) of tomb IGN 20, dated between AD 40 and 70.<sup>15</sup> It should be noted, however, that no upper register from a Nabataean capital of the same size has ever been found in the area of IGN 132.

## 2. Column drums and bases, and half-columns

The thirty-four blocks in this category examined during the 2017 season were discovered in different areas (see descriptive list in the Appendix). Their context is as follows:

- reused in the so-called ‘lower’ temple structures, south-east of the mound: 60827\_AB01, 60828\_AB01, 60829\_AB01, 60803\_AB01, and 60814\_AB01;
- south of IGN 132: IGN132\_AB03;
- lying on the ground north of IGN 132: IGN132\_AB08, IGN132\_AB09, IGN132\_AB10, IGN132\_AB11, IGN132\_AB12, IGN132\_AB13, IGN132\_AB14, IGN132\_AB15, IGN132\_AB16, and IGN132\_AB17;
- reused in the large residential complex south-west of IGN 132: IGN132\_AB05, IGN132\_AB06, IGN132\_AB07, and 64014\_AB01;
- reused in Area 9 (see fig. 14): 91000\_AB01, 91001\_AB02, 91001\_AB03, 91001\_AB04, 91001\_AB05, 91001\_AB06, 91001\_AB07, 91001\_AB08, 91001\_AB09, 91001\_AB10, 92025\_AB02, 92303\_AB01, 91000\_AB02, 91000\_AB03.

The diameters of the drums recorded in these areas fall between 50 and 70 cm and three types can be distinguished. Erosion should be taken into account, however, and the original measurements of the blocks might have been slightly higher than those given below.

- 1) drums whose diameter falls between 50 and 56 cm, corresponding to that of the columns of the tetrapylon of the ‘high temple’ built on the top of IGN 132. The latter had a diameter of 55/56 cm. It is remarkable, however, that no drum has been found either on the top of IGN 132 or in the destruction layers at the base of the mound to the east. These blocks were definitely reused when the cultic monument was dismantled;
- 2) drums whose diameter falls between 60 and 64 cm (60 cm = 8 cubits of 7.5 cm), similar to that of the columns of the Temple of the Winged Lions at Petra.<sup>16</sup>
- 3) drums whose typical diameter is between 68 and 70 cm, the same as the columns of the *môtab* in the temple of Dharîh.<sup>17</sup>

The largest types of column drums come from monuments that have not yet been identified at Hegra. In the area excavated in 2009 in the southern slope of Jabal Ithlib and to the east of the residential area (Ith 105), L. Nehmé recorded a large number of architectural blocks spread over an area measuring about 110 m east-west and 50 m north-south.<sup>18</sup> One sounding and three core samplings did not yield any trace of a monument and it is therefore possible these blocks rolled down from an unspecified location further up the slope.

Two types of drum were identified in Ith 105:

- the first measures between 51 and 53 cm;
- the second measures c. 66 cm.

Almost all the drums recorded around IGN 132 have a square, rectangular, or sometimes circular mortise cut into the centre of the upper face and lower face (4–5 cm each side or 5 cm in diameter). It was used for an axial dowel and the lack of a flow channel leads one to suppose that

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15. Dentzer-Feydy 2015: fig. 5.122.

16. After Hammond 2003: fig. 245.

17. Seigneuret 2015: 202.

18. Nehmé 2009: 222.

the transverse dowels were made of wood. The purpose of these fixtures was possibly to avoid or anticipate a separation of the joints due to potential settling after construction or to earth tremors, which pressure would travel vertically through the walls.<sup>19</sup> This technique is attested in the cultic monuments at Petra where the presence of square-shaped cavities, in which a wooden peg could be inserted, was observed on the upper and lower faces of the column drums.<sup>20</sup> This is the case, for example, in the Temple of the Winged Lions. The builders also had recourse to this process on the drums of the temple of Dharîh and on those in the sanctuary of Tannûr. Furthermore, all these blocks appear to have been cut on a lathe<sup>21</sup> as is attested by the fine striae still visible on some of them.

### 3. The decorated blocks

#### 3.1. Blocks decorated with triangles and oblique striae

Among the small series of decorated blocks, one (61016\_AB01, **fig. 9**) was found lying on the ground on an ashy layer (second-century AD level?) in the sounding<sup>22</sup> opened in the south-east of the mound and bordered by walls 60802, 60809, and 60810. This block is slightly bevelled over its whole height and carved on two of its faces with a decoration consisting of triangles in bas-relief. It is 39 cm long, 32 cm wide, and 16 cm high. Its appearance confirms that it was part of the capping of a corner pilaster. Its decoration is similar to block 60821\_AB01 (54 x 30 cm and 18 cm high) (**fig. 10**), discovered close by in 2016, and reused in wall 60821 (dated to the third century AD?). The two blocks, however, did not have the same function as 60821\_AB01 formed the capping<sup>23</sup> of an intermediary pilaster shaft or doorjamb whose upper section is visible on the block, whereas 61016\_AB01 appears to form the capping of the shaft of a corner pilaster. On both the faces of block 60821\_AB01 there is a bevelled band, 10 cm high, on which is carved the triangle decoration.

The mouldings of 61010\_AB01 are similar to those of 60871\_AB01 (34.70 x 30 cm, and 21 cm high) (**fig. 11**) uncovered in 2016 on a floor level dated to the end of the Roman period (third century AD?) in the sounding bordered by walls 60803, 60804, and 60806.<sup>24</sup> This is a corner coping block, decorated on two faces with a 5 cm-high band carved with oblique striae 7 mm wide. Its mouldings are as follows (from top to bottom): bevel, channelled joint, channelled joint, bevel, channelled joint, channelled joint, bevel, and band.

The three blocks with striae described above illustrate a rather simple but crude decoration, certainly executed by local craftsmen. No other parallels have been found for this type of block in the Nabataean world and further research is essential, particularly on the Negev monuments. The discovery of these decorated blocks in relatively late contexts suggests that a fairly significant structure stood to the south-east of IGN 132 at the beginning of the Roman period. This monument had no doubt already been dismantled in the third century AD, as indicated by the reuse of block 60821\_01 in wall 60821.

19. Adam 2005: 55.

20. Rababeh 2005: 126.

21. Bessac 2007: 50.

22. Sounding opened by D. Gazagne, 2017.

23. After J. Dentzer-Feydy in Gazagne & Nehmé 2016: 66.

24. After J. Dentzer-Feydy in Gazagne & Nehmé 2016: 60.



**Fig. 9.** *Decorated block 61016\_AB01, viewed from the side.*



**Fig. 10.** *Decorated block 60821\_AB01, viewed from the front.*



**Fig. 11.** *Decorated block 60871\_AB01, viewed from the front.*

### *Blocks decorated with triglyphs and elements decorated with crowstep motifs*

Two blocks decorated with triglyphs were discovered in 2015 and 2016:

- 60000\_AB01 (**fig. 12**) in 2016 in a surface level immediately to the south of IGN 132;
- 60000\_AB02 (**fig. 13**) in 2015 in the excavation debris of the large residential complex to the south-west of IGN 132.<sup>25</sup>

They belong to the same type and are carved in a pink-reddish sandstone. The first (60000\_AB01) is 37 cm long, 34.90 cm wide, and 49 cm high. Its good state of preservation shows that the lateral glyphs and demi-glyphs have a triangular section and are surmounted by a continuous horizontal band 6.90 cm high. A stone mark has been incised on the upper part of its outer face. It consists of the Nabataean character ‘(‘ayn), which is 3 cm high and 2.50 cm wide. The second (60000\_AB02) measures 39 cm long, 34.60 wide, and 26.70 cm high. In contrast to the former, the glyphs and demi-glyphs are very eroded.

The stone marks observed on some architectural blocks<sup>26</sup> discovered around IGN 132 appear to be for both identification and technical purposes. It is possible they were used to indicate an

25. Tholbecq 2015: 49, fig. 7.

26. The first mason’s mark was found in 2003 to the east of mound IGN 132 on a column drum: Nehmé 2011a: 101 and fig. 29–30.





**Fig. 12.** Block 60000\_AB01 decorated with triglyphs.



**Fig. 13.** Block 60000\_AB02 decorated with triglyphs.

order of construction of the building as well as to clarify how blocks should be assembled. It is quite rare, however, for stone marks to be carved on outer faces, as they are usually found on rising joints or on the lower or upper faces of a block.

The two blocks decorated with triglyphs also attest to a monumental architecture and very possibly belong to the tetrapylon located on top of IGN 132. Friezes depicting triglyphs or metopes are well represented in Nabataean monumental and rock architecture, for examples at Hegra on tombs IGN1 7, 20, 21, and 44 (dated to the first third of the first century AD), or on the exterior walls of the Qasr al-Bint at Petra.<sup>27</sup>

The two fragments numbered 60715\_S01 (**fig. 14**) – found reused to the east of IGN 132 – are carved with a crowstep motif:<sup>28</sup> The left one is well preserved but the right one is very eroded. The motifs are in 1 cm relief in relation to the flat surface of the block. The whole reconstituted block is 56 cm long, 38 cm high, and 12 cm thick.



**Fig. 14.** Block 60715\_S01 decorated with the crowstep motif.

27. Dentzer-Feydy 2015: fig. 5.303 and 5.305; Larché & Zayadine 2003: fig. 222.

28. Nehmé 2014a: 78.

## Conclusions and future prospects

Some of the blocks are quite well carved, such as the Ionic Nabataean capital 60834\_AB01, on which an incised preparatory sketch to facilitate its shaping is still visible. Others have a cruder decoration (61016\_AB01, 60821\_AB01, 60871\_AB01) and were probably worked by less able craftsmen. Rock and monumental architecture have common elements. The motifs on constructed buildings, such as the triglyphs and metopes, are also found on the facades of rock tombs at Petra and Hegra.

The main structure built on the top of IGN 132 was a tetrapylon (**fig. 15**), which stood on a square paved platform measuring c. 4.50 m on each side and a few remains of which are *in situ*<sup>29</sup> (seventeen paving stones and the four column bases). The tetrapylon was also built on a square plan and measured c. 2.80 m on each side. The distance between the columns was 1.50 m and the diameter of the columns was between 55 and 60 cm.

It is possible to estimate the original height of the column: if the normal proportional value (lower height/length of shaft) of the Greco-Roman<sup>30</sup> columns and pilasters was between 8 and 10, then the columns of the tetrapylon of IGN 132 must have measured between 4.60 and 5.80 m (for an average diameter of 0.58 m). As our research stands at present, this monument is not easy to reconstruct as its blocks were dismantled and most of them were reused. Ten drums that might have belonged to the columns of the tetrapylon (of a type measuring between 50 and 56 cm)<sup>31</sup> have been identified so far. The exact function of the building is unknown – cultic altar or *mōtab*? Its front elevation was probably comparable to the facade decoration of some tombs at Hegra.



**Fig. 15.** Platform with tetrapylon after restoration.

29. For a detailed description of the remains of this monument, see Nehmé 2011a: 97–140.

30. Vitruvius, *De Architectura*, book III, 3, 10.

31. These are as follows: 60827\_AB01, 60828\_AB01, 60829\_AB01, IGN132\_AB08, IGN132\_AB09, IGN132\_AB10, IGN132\_AB13, IGN132\_AB15, IGN132\_AB06 et IGN132\_AB07.



Three decorated architectural blocks<sup>32</sup> discovered on a lower level and around the mound suggest a reconstruction that nevertheless remains very uncertain. From the available features, one can deduce the following elevation: the columns were probably capped with Nabataean capitals decorated with horns, which were themselves topped by a Doric entablature decorated with a frieze of triglyphs and metopes c. 50 cm high. An attic, an Egyptian entablature, and a crown in the form of a crowstep motif (c. 40 cm high) topped the whole. The crown is similar to those of tombs IGN 85, 87 (AD 71/72), and 88 in Jabal al-Khraymât at Hegra.<sup>33</sup> The crowstep motif – generally associated with the Egyptian gorge in Syro-Lebanese architecture<sup>34</sup> – is represented in about sixty tombs at Hegra.

Nothing is known about the roofing of the tetrapylon of IGN 132 (housing to hold wooden beams in the blocks, or an arch system). On the other hand, assuming it was a roofed monument, the cover was not necessarily constructed with very valuable materials. It just needed to be made water-tight with a layer of reeds, or straw, mixed with mortar, or with a layer of clay spread over wooden beams.

## Appendix: drums identified around IGN 132 and in Area 9

### Reused drums in the so-called 'lower' temple buildings (five blocks)

- **60827\_AB01 (fig. 16)**

Column drum in yellowish white sandstone.

Preserved diameter: 55 cm.

Preserved height: 30 cm.

Description: very eroded block with a rectangular mortise, measuring 4 x 5 cm, visible both on its lower and upper face.



**Fig. 16.** Column drum with square mortise 60827\_AB01.

- **60828\_AB01**

Column drum in yellowish white sandstone.

Preserved diameter: 51 cm.

Preserved height: 31.50 cm.

Description: very eroded block showing a layer of mortar, 3 cm thick, still visible on its lower or upper face.

- **60829\_AB01**

Column drum in yellowish white sandstone.

Preserved diameter: 53 cm.

Preserved height: 20.50 cm.

Description: broken and eroded block.

- **60814\_AB01 (fig. 17)**

Column drum in yellowish white sandstone.

Preserved diameter: 62 cm.

Preserved height: 50 cm.



**Fig. 17.** Reused column drum 60814\_AB01.

32. The block decorated with a crowstep motif (60715\_S01) and the two sculpted triglyphs (60000\_AB01 and 60000\_AB02).

33. After Dentzer-Feydy 2015: fig. 5.218, 5.219, and 5.220. Tomb IGN 87 is dated AD 71/72.

34. Bounni 1999: 507 and 511.



• **60803\_AB01 (fig. 18)**

Column drum in yellowish white sandstone.

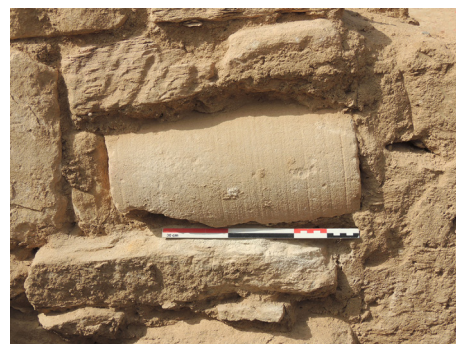
Preserved height: 37 cm.

Description: very fine horizontal incisions are detectable on the outer face.

These five drums were discovered in different contexts. Three of them (60827\_AB01, 60828\_AB01, 60829\_AB01) were located in the centre of the room bordered by walls 60803, 60804, and 60806, on a floor dated to the fourth century and above a very ashy level possibly corresponding to a hearth or a fire in the building. The three blocks when joined together probably formed a bench.<sup>35</sup> They are currently preserved in the scree to the north of wall 60818.

Block 60814\_AB01 was reused as mortar and was discovered in an occupation level dated to the third century AD (beaten-earth floor). It was hollowed out to a diameter of 27 cm. The pottery discovered inside is not earlier than the third century AD;

Finally, drum 60803\_AB01 was discovered reused in the seventh course from the bottom of wall 60803, which was restored in the third century AD.



**Fig. 18.** Reused column drum 60803\_AB01.

## Drum identified to the south of mound IGN 132 (one block)

• **IGN132\_AB03**

Column drum in yellowish white sandstone.

Preserved diameter: 69 cm.

Preserved height: 30 cm.

Description: found isolated and set back to the south of the remains of the so-called 'lower' temple. Both its lower and upper face have a square mortise measuring 5 cm on each side.

## Fallen drums to the north of mound IGN 132 (ten blocks)

• **IGN132\_AB08**

Column drum in white sandstone.

Preserved diameter: 55 cm.

Preserved height: 29 cm.

Description: found on the ground at the foot of the access ramp leading to the top of IGN 132. It does not have a mortise but a mason's mark is visible on its outer face, consisting of a character in the form of a 'J', measuring 12 cm high and 5 cm wide (fig. 19).



**Fig. 19.** Column drum IGN132\_AB08 showing a mason's mark.

• **IGN132\_AB09**

Column drum in white sandstone.

Preserved diameter: 53 cm.

Preserved height: 34 cm.

Description: although this block is eroded, long fine horizontal striae are very visible on its outer face. A square mortise, measuring 5 cm on each side, has been cut into its upper or lower face.

35. Gazagne & Nehmé 2016: 60 and 62.

- **IGN132\_AB10**

Column drum in white sandstone.

Preserved diameter: 53 cm.

Preserved height: 40 cm.

Description: a round mortise, 6 cm in diameter, has been cut into its upper or lower face. Long fine horizontal striae are detectable on its outer face.

- **IGN132\_AB11**

Column drum in white sandstone.

Preserved diameter: 70 cm.

Visible height (partially cleared): 18 cm.

Description: long fine horizontal striae on its outer face.

- **IGN132\_AB12**

Column drum in white sandstone.

Preserved diameter: 70 cm.

Visible height (partially cleared): 25 cm.

Description: broken and eroded.

- **IGN132\_AB13**

Column drum in white sandstone.

Preserved diameter: 50 cm.

Visible height (partially cleared): 13 cm.

Description: eroded and showing traces of concretion.

- **IGN132\_AB14**

Column drum in white sandstone.

Preserved diameter: 70 cm.

Visible height (partially cleared): 15 cm.

Description: very eroded.

- **IGN 132\_AB15**

Column drum in white sandstone.

Preserved diameter: 55 cm.

Visible height (partially cleared): 14.5 cm.

Description: fragmentary.

- **IGN132\_AB16 (fig. 20)**

Column drum in white sandstone.

Preserved diameter: 69 cm.

Visible height (partially cleared): 30 cm.

Description: a square mortise, measuring 5 cm on each side, is visible on its upper or lower face. Long fine horizontal striae are detectable on its outer face.

- **IGN132\_AB17**

Column drum in white sandstone.

Preserved diameter: 64 cm.

Visible height (partially cleared): 35 cm.

Description: a rectangular mortise, 4 cm long and 2 cm wide, has been cut into its upper or lower face. Fine horizontal striae are visible on its outer face.



**Fig. 20.** Column drum with square mortise  
IGN132\_AB16.

## Reused drums in the large residential complex south-west of IGN 132 (four blocks)

- **IGN132\_AB05**

Column drum in light-beige sandstone.

Preserved diameter: 68 cm.

Visible height: 50 cm.

Description: reused in the north-western area of the large residential complex. Its upper or lower face has been hollowed out. A few traces of carving are visible on its outer face: oblique striae and dotted carving (small circular cavities).

- **IGN132\_AB06**

Column drum in light-beige sandstone.

Preserved diameter: 55 cm.

Visible height: 18 cm.

Description: found in the western area of the large residential complex, its upper face is eroded. It has definitely been re-carved as no mortise is visible.

- **IGN132\_AB07**

Column drum in light-beige sandstone.

Preserved diameter: 50 cm.

Visible height: 30 cm.

Description: found reused 3 m south-east of the preceding block, very eroded.

- **64014\_AB01**

Very eroded column drum or column base in light-beige sandstone.

Preserved diameter: 57 cm.

Visible height: 14 cm.

Description: on its upper face are five long oblique incisions, 15 cm long and 5 mm wide. It is a reused block placed on a quadrangular socle, 47 cm on each side and 36 cm high.

## Drums, column bases, and engaged half-columns reused in Area 9 (fourteen blocks) (fig. 21)

### *Reused in the small wall 91001 (ten blocks)*

#### **North row, from west to east:**

- **91001\_AB01**

Column drum in light-beige sandstone.

Preserved diameter: 57 cm.

Preserved height: measurement could not be taken.

Description: very eroded and reused vertically.

- **91001\_AB02**

Column drum in light-beige sandstone.

Preserved diameter 64 cm.

Preserved height: 42 cm.

- **91001\_AB03**

Column drum in light-beige sandstone.

Preserved diameter: 50 cm.

Preserved height: 44 cm.





Fig. 21. Small wall 91001, viewed from the west.

- **91001\_AB04**

Column drum in light-beige sandstone.

Preserved diameter: 50 cm.

Preserved height: 46 cm.

- **91001\_AB05**

Column drum in light-beige sandstone.

Preserved diameter: 52 cm.

Preserved height: 34 cm.

- **91001\_AB06**

Column drum in light-beige sandstone.

Preserved diameter: 55 cm.

Preserved height: 52 cm.

**South row, from west to east:**

- **91001\_AB07**

Column drum in light-beige sandstone.

Preserved diameter: 55 cm.

Preserved height: 53 cm.

- **91001\_AB08**

Column drum in light-beige sandstone.

Preserved diameter: 69 cm.

Preserved height: 50 cm.

- **91001\_AB09**

Column drum in light-beige sandstone.

Preserved diameter: 66 cm.

Preserved height: 46 cm.

• **91001\_AB10**

Column drum in light-beige sandstone.

Preserved diameter: 46 cm.

Preserved height: 15 cm.

Ten column drums, reused in the small wall 91001 (3 x 1.65 m) and dated to the third-fourth century AD<sup>36</sup> were recorded. They are placed in two parallel rows oriented west–south-west and east–north-east: the north row comprises six drums and the south row, four. Eight are placed vertically in the wall and two are laid on their lower or upper face.

The height of these drums falls between 15 and 53 cm and their diameter varies from 46 to 69 cm. The block located at the western end of the south row might be a Nabataean pilaster capital<sup>37</sup> but it is very eroded and the sandstone it is carved in is very friable. The original archaeological context of these blocks is not known.

*In wall 92016, on threshold 92028 (two blocks)*

• **92025\_AB01**

Column base in white sandstone.

Preserved diameter: 68 cm.

Preserved height: 32 cm.

Description: found reused upside down in wall 92016, on threshold 92028. Part of the column shaft carved in the block measures 50 cm in diameter. The mouldings cannot be identified as the block is very eroded.

• **92025\_AB02**

Column base in white sandstone.

Preserved diameter: 68 cm.

Height: could not be determined.

Description: reused upside down in wall 92016, on threshold 92028. This base has not yet been cleared. It is symmetrical with 92025\_AB01.

*In the two doorjambs of the doorway in wall 9200238 (two blocks)*

• **92002\_AB01**

Block from a half-column drum engaged in a wall, in light-beige sandstone.

Preserved length: 70 cm.

Preserved width: 27 cm.

Preserved height: 31 cm.

Preserved diameter of the half-column: 20 cm.

Description: this block forms one course of one of the two doorjambs of the doorway in wall 92002. Very friable, eroded, and cracked.

• **92002\_AB02**

Column base in white sandstone.

Preserved length: 74 cm.

Preserved width: 36 cm.

Description: this block has not yet been cleared but is symmetrical with 92002\_AB01.

These last four architectural blocks belong to a structure that could be dated to a period between the end of the second and the fourth century AD. In all probability, this was a hypaethral forecourt possibly leading

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36. Fiema 2011: 189.

37. Fiema 2011: 186.

38. Rohmer 2014: 123–124.

to a building or room that had an important function.<sup>39</sup> The monumental elements reused in this area attest to the presence of an imposing public building dating to the Nabataean period.

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39. Rohmer 2014: 126.



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## A New Nabataean Inscription Mentioning “[the god of] Heaven”

Laïla Nehmé (CNRS, UMR Orient & Méditerranée)

During the 2016 excavation season in the so-called ‘architectural unit’, south-west of IGN 132, new Nabataean inscriptions were discovered by Maher al-Musa, who was in charge of the excavations in sector 64. These inscriptions, which are simple graffiti, are carved on two ashlar of white sandstone reused in a wall in the southern part of the so-called ‘Architectural unit’ (**fig. 1**). The latter is a large residence of a certain prestige, with a central paved courtyard surrounded by several rooms opening onto it.<sup>1</sup> It was probably associated with – but not directly connected to – the south-western part of the temenos area which surrounds IGN 132. A few meters only separate the eastern external wall of the residence (64109) from the western end of the structures associated with the sanctuary (63016, see fig. 1). It is possible that we are dealing here with some sort of priestly residence, though there is no particular evidence in the archaeological finds to support firmly this interpretation. The ashlar bearing the graffiti are reused in wall 64114, a mudbrick wall built over a one course stone substructure which rests directly on the bedrock. One block bears four graffiti, 64114\_I01 to 64114\_I04, while the second one, a couple of meters east of the first, bears one single word, *šlm* (60114\_I05, **fig. 2**). According to M. al-Musa, wall 64114 belongs to the first building phase identified in this area, and is probably dated to the first century AD.

### Graffiti 64114\_I01 to 64114\_I04

The ashlar bearing the texts (**fig. 3**) is 52 x 23 cm and one can see in places, mainly in the corners and on the lower edge, the traces left by the stone cutting tools. They form thin diagonal incised lines with a 3 to 5 mm interval between them and they are typical of one of the ornamental stone cutting techniques used by the Nabataeans, probably one done with a spindle. Note that the neighbouring stone in the wall also bears traces of stone cutting but they are rougher and were left by a simple pick. Ashlars of various origin were therefore used in the substructure of the wall. The graffiti were probably incised on the stone in a secondary phase of use. The rest of the surface of the stone is eroded and the graffiti are difficult to read. They are numbered according to the system used for all the inscriptions discovered in the Madā’in Šāliḥ excavations, i.e. *locus* number + “I” for inscription + a consecutive number (**fig. 4**). The graffiti seem to have been written in a haphazard way on the stone. The most interesting one, which justified the writing of the present article, is 64114\_I04 and is carved in the middle of the stone.

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1. al-Talhi, al-Mathami, and Alhaiti 2016. On sector 64, see al-Musa 2016.

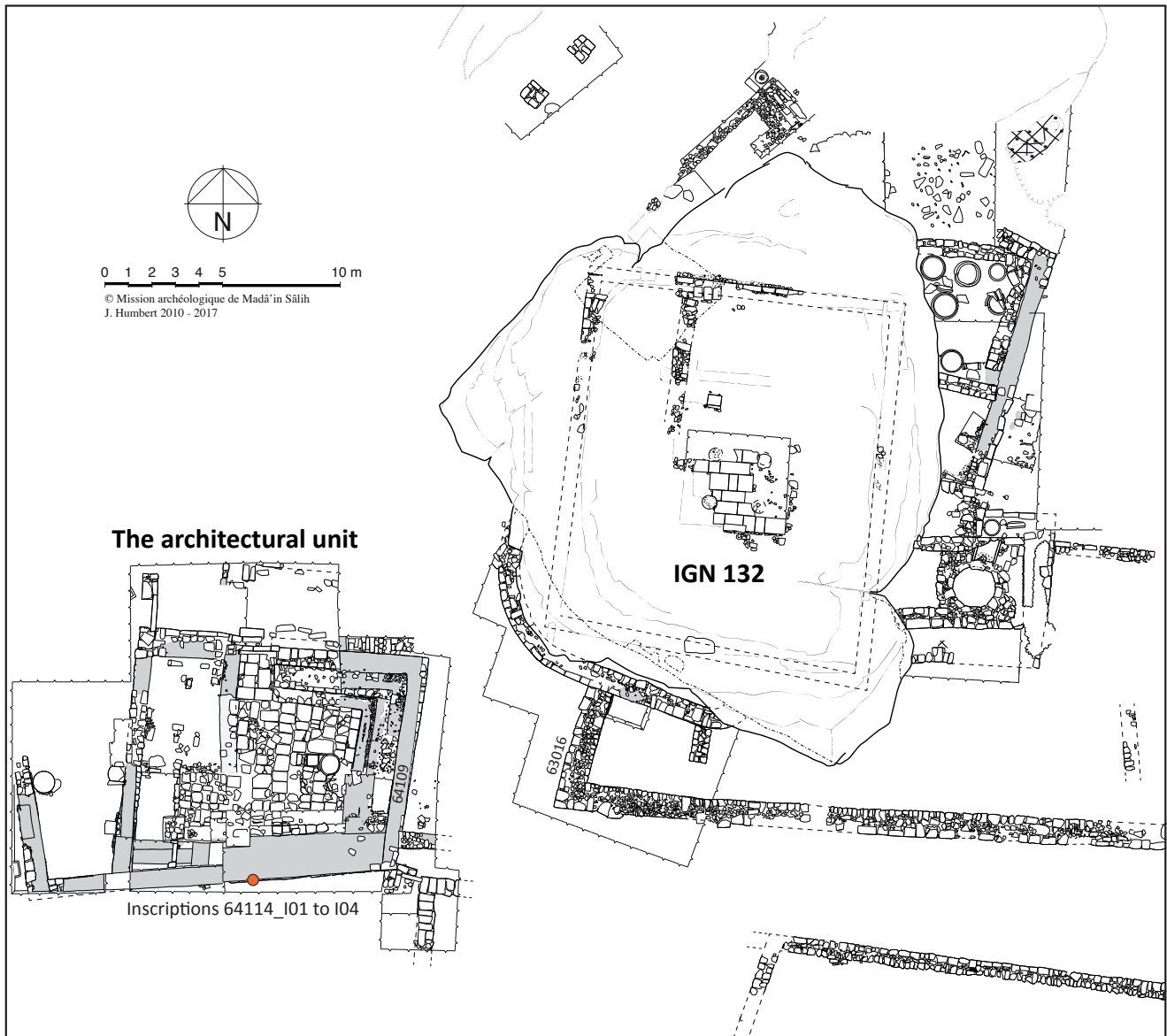


Fig. 1. The location of the inscriptions.



Fig. 2. Graffito 64114\_I05: šlm only.





Fig. 3. The ashlar bearing graffiti 64114\_I01 to 64114\_I04.

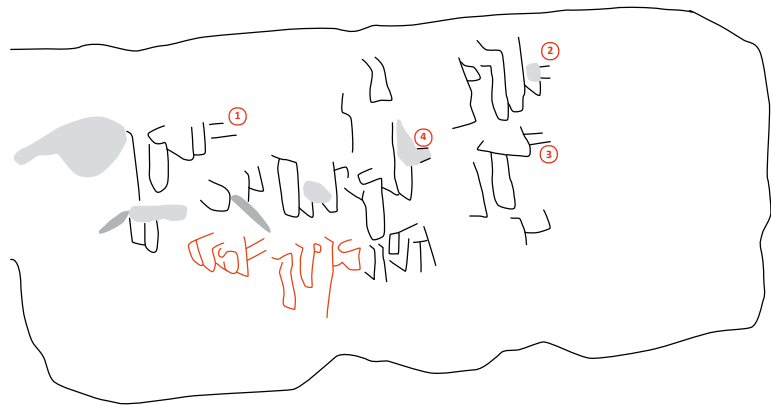


Fig. 4. Facsimile of graffiti 64114\_I01 to 64114\_I04 (L. Nehmé).

### 64114\_I01

šlm ----

What follows šlm is completely illegible.

### 64114\_I02

šlm q{m}---- br ----

The only names which start with *qm* in Nabataean are, to my knowledge, *qmw* (ThMNN 495), *qmyrh* (ThMNN 388) and *qmyrw* (ThMNN 565).

### 64114\_I03

šlm

*br*

It is not certain whether the very faint incisions which are visible after šlm are intentional or not. The word *br* below does not necessarily belong to the same text.

### 64114\_I04

This is the longest and most interesting graffito.

šlm š----m br k----

*hn't mn qdm šmy'*

"May Š[l]m son of K---- [son of]

Hn't be safe, in the presence of Heaven".

The author’s name is incomplete and the restoration of *šlm* is tentative. Note that this name was read in a Nabataean inscription from al-‘Ulā, ThNNU 2, but it was reread in ThMNN 463 and the name *šlm* does not occur in it.<sup>2</sup> *šlm* does therefore not seem to be attested in the Nabataean onomasticon as a personal name. It should be noted, however, that the theophoric name *‘bdšlm*, where *šlm* most probably represents the main deity worshipped by the Taymanites, occurs in three Nabataean inscriptions: ThMNN 701 (= UJadh 145), HNNUT 7 and UJadh 383, the latter two unpublished. Finally, an inscription<sup>3</sup> dated to the 17th year of Malichus II (AD 56/57), found at Taymā’ and in the Taymā’ Aramaic script,<sup>4</sup> records an offering to the god *šlm*.

Hn’t is a well known Nabataean name which does not deserve much comment.

The expression *mn qdm*, “in the presence of”, is a widespread expression in the Nabataean inscriptions and it is almost always followed by one or two divine names. A representative sample is given below, where “ipo” stands for “in the presence of” (the list is not exhaustive).

– *mn qdm dwšr’*, “ipo Dūšarā”: MP 42+43, MP 173, MP 188, JSNab 52, JSNab 169, ThNUJ 213 (= UJadh 41), ThNUJ 217 (= UJadh 47), UJadh 226 (unpublished, *mn dwšr’* instead of *mn qdm dwšr’*), ThMNN 463 (as reread by the author). To these should be added MP 35 and MP 52, where *dwšr’* is said *‘lh mdrs’*, i.e. the god of the area known as al-Madras in Petra.

– *mn qdm dwšr’ w tbwš*, “ipo Dūšarā and Tabūš (?)”: JSNab 142. To my knowledge, a god named *tbwš* does not occur elsewhere in Nabataean, in other Aramaic or in Ancient North Arabian inscriptions.

– *[m]n qdm [dw]šr’ w ‘bdt*, “ipo [Dū]šarā and ‘Obodat”: MP 33.

– *mn qdm dwšr’ w ‘lhy’ klhm*, “ipo Dūšarā and all the gods”: DNPF 28 (= MP 619).

– *mn qdm dwšr’ w mnwtw/mntw*, “ipo Dūšarā and Manōtū/Manātū”: JSNab 184 (*mntw*), ThNUJ 230 (= UJadh 40, *mnwtw*), UJadh 391 (unpublished, *mn qdm dwšr’ w mwt* sic).

– *mn qdm ‘lh gy’*, “ipo the god of Gaia” (probably *dwšr’*): ThNUJ 7 (= UJadh 88).

– *mn qdm ‘lhy’ klhm*, “ipo all the gods”: ThNUJ 83 (= UJadh 228, *qmd* sic *‘lhy’ klhm*), ThNUJ 207 (= UJadh 189).

– *mn qdm šmy’*, “ipo Heaven”: CIS II 236, on which see below.

In most examples, *mn qdm* is followed by *dwšr’*, but one also finds it followed by *‘bdt*, *mnwtw/mntw*, *tbwš* (?), as well as by the expression “all the gods”. Inscription 64114\_I04 thus offers the second example of *mn qdm* followed by the word *šmy’*. The fact that *mn qdm* is almost always followed by a divine name strongly suggests that in graffito 64114\_I04 and in CIS II 236, *šmy’* is also a divine name, even if it is not preceded by *‘lh’*. One can see, in the examples given above, that *‘lh’* / *‘lhy’* is used after *qdm* only when the word which follows is not *obviously* a divine name (*‘lh gy’*, because *gy’* is a toponym, Gaia, the ancient name of Wadi Mūsā near Petra), or precisely when there is no divine name (*‘lhy’ klhm*, “all the gods”). This leads us to consider that *šmy’* was treated – and presumably thought of – by the author of the texts as a divine name.

Grammatically, *šmy’* is the emphatic plural of *šmy*, and it is previously attested only once in Nabataean, in CIS II 236, an inscription copied by Ch. Doughty<sup>5</sup> which is presented in detail in the next paragraph. In Aramaic, *šmy’* is translated “heaven, God” (Jastrow, s.v.), i.e. some supreme divine figure, and it is probable that it has the same meaning here. I will not offer a full commentary on *šmy’* in the Aramaic texts but make only two or three remarks. First, J.T. Milik notes that *hšmyn* and *šmy’* are the most frequent substitutes for YHWH from the Hellenistic

2. Note, besides, that ThMNN 463 correctly interprets ThNNU 2 as line 3 of ThNNU 1, but this line should in fact be read *mn qdm dwšr’*, not *mn nrh{r}w*.

3. TA 14285+14286+13651 in Macdonald forthcoming a. See also Macdonald forthcoming b.

4. Macdonald forthcoming a.

5. Doughty 1884: pl. XI fol. 18 [2].

period to the Talmudic literature, and this leads him to suggest a possible Jewish influence in Hegra.<sup>6</sup> It is a well known fact that one of the monumental tombs of Hegra, carved in the Jabal al-Maḥjar, IGN 12, was owned by a man who is said to be *yhwdy'* in the inscription carved on its façade, JSNab 4, dated AD 42/43. This *nisba* can be translated “Jewish” or “Judaeen” (someone who comes from Judaea) and the second interpretation was preferred by C. Robin.<sup>7</sup> I do not, however, agree with his suggestion that the owner of the tomb was a rich foreigner who died in Hegra while on a trip and therefore that he was not a member of the local elite. Certainly, his tomb is relatively small (4,30 x 6,80 m) but the door is framed by an elaborated aedicula. It certainly took several months to have it cut, and this is difficult to imagine if he was just travelling through Hegra. Besides, his desire to have a tomb similar to those of the Nabataean notables shows on the contrary that he was well integrated in the Nabataean society. The name of the tomb owner, *šbytw*, occurs in one other Nabataean inscription from the area of Tabūk, ThMNN 884, and is not necessarily derived from Hebrew Šabbāt. It may be an Arabian name derived from *šbt*, “spider” (Lane: 1494).<sup>8</sup>

J. Norris also drew my attention to the fact that the periphrasis *'lh šmy'* occurs in the Aramaic Papyri from Elephantine, dated to the 5th century BC. These documents – letters, legal documents, lists of names, accounts and literary pieces – were issued by the Jewish community who resided in the island and whose members described themselves as *yhwdy'*.<sup>9</sup> In the papyri, the god worshipped by the Jews, to whom the temple belonged, is usually called, between Jews, *yhw 'lh'*, “YHW the God”, and when dealing with the Persians (petitions) or in letters, *yhw 'lh šmy'*, “YHW the God of heaven”.<sup>10</sup> It occurs in five papyri: two petitions (nos 27 and 30) and a duplicate of one of them (no. 31), one answer to the repeated petition (no. 32), a letter of recommendation (no. 38) and a fragment of a letter (no. 40). They all date to around 410 BC or before and mention *'lh šmy'* in various contexts.<sup>11</sup>

Finally, much later, in the late 4th and 5th century AD, the periphrasis “Master of the Sky and of the Earth”, or “Lord/Master of the Sky” is often used in the monotheistic Ḥimyarite inscriptions and the authors of these texts are identified as Jewish or Judaeo-monotheists by C. Robin.<sup>12</sup>

It is possible that *šm'* in the compound name *'bd-'l-šm'*, attested in one unpublished text from Umm Jadhāyidh (UJadh 72), should be interpreted as a theophoric name where *šm'* stands for *šmy'*, although one would possibly expect *'bd'lšmy'*.

## CIS II 236

This beautiful inscription (**fig. 5–6**) is carved on a quarry face numbered Ith92, on the western side of the Jabal Ithlib in Madā'in Šālih (epigraphic point no. 41). It was copied by Ch. Doughty at the end of the 19th century, was read correctly by J.T. Milik in 1972<sup>13</sup> and photographed by the author in 2002. To the right of the Nabataean text, a three line Thamudic D inscription reads *rwḥ nšwt / bn ḥbb / dn kl*.<sup>14</sup> There is apparently no link between the two texts except that

6. Milik 1972c: 410.

7. Robin 2015: 58.

8. Robin, *ibidem*: 180, compares it with Hebrew Shobāy, but this is not likely.

9. Cowley 1923.

10. Cowley 1923: xviii. I have not translated *yhw* here on purpose because I do not want to enter into the debate of how it should be vocalised.

11. Papyrus no. 30 lines 27–28 has *qdm yhw 'lhy šmy'*; no. 32 line 3 has *mdbh' dy 'lh šmy'*, “the altar of the God of Heaven”; and no. 38 line 3 has *{qdm} 'lh šmy'* while line 5 has *b-ṭll 'lh šmy'*, “with the help of the God of heaven”.

12. Robin 2015: § F.1, p. 138–141.

13. *ibidem*: 409–410.

14. Van den Branden 1950: 415.





Fig. 5. Photo of CIS II 236 and the Thamudic D text.



Fig. 6. Facsimile of CIS II 236 and the Thamudic D text (L. Nehmé).

they share the same *terminus post quem* which is the date of the quarry itself, most probably Nabataean (first century AD?). Stone cutting marks are clearly visible below the text and have damaged some of the letters. They are later than the text, as shown by the mark which crosses the right stroke of the *m* of *qdm* (see the green lines in fig. 6). The quality of the incision, which is unrivalled in Hegra, suggests that the text was written by a quarryman, who used one his tools (a spindle?).

The text reads:

*dkrwn ṭb l-zydw br gdtb*  
*br zydw mn qdm šmy'*  
*{zydw}*

“Good remembrance to Zaydū son of Gadṭab son of Zaydū in the presence of Heaven. {Zaydū}”.

The first word is *dkrwn*, “memorial, record” (Jastrow, s.v.). The name Zaydū is repeated in the third line (first attempt to write the text?). Zaydū is a widespread Nabataean name and the theophoric name *gdṭb* (“Gad is good”)<sup>15</sup> occurs in three other Nabataean inscriptions, all from Madā'in Šāliḥ, JSNab 163, JSNab 164 (fig. 7) and a previously unpublished inscription (fig. 8). They are all carved in the eastern part of the Jabal Ithlib (the so-called “Ithlib East”) (fig. 9), the first two together on the same rock face along with several rock drawings and the third separately, along with the drawing of two camels. JSNab 163 reads *šlm / šry't br / gdṭb*, JSNab 164

15. Gad is the personification of the “Good fortune”. It was known among the Nabataeans, as evidenced by several inscriptions in Palmyrene and in Nabataean. See Kaizer 1997 and 1998 in general as well as Kaizer 1997: 156 on CIS II 3991 (Palmyrene) and Kaizer 1998: 43 on RÉŠ 53, a Nabataean inscription from the Ḥawrān which mentions *rḥmy gd'*, “the friends of Gad”.



Fig. 7. Photo of JSNab 163 and JSNab 164.



Fig. 8. Photo of the new *zydw br gdṭb* text.

reads *šlm / zydw br gdṭb / qd* and the new text reads *šlm zydw br gdṭb l'im*. The handwriting in *CIS II 236*, JSNab 164 and in the new text is very similar. The small differences are probably due to the fact that they were not incised with the same tool nor on the same kind of surface. We are therefore most probably dealing with the same individual. The handwriting of JSNab 163 is different. Since the father's name, *gdṭb*, is identical in the four texts, we can assume that *šry't* and *zydw* are brothers and that *gdṭb* is their father. Finally, it is worth noticing that *šry't* wrote a diacritical dot above the *d* of *gdṭb* whereas *šry't* did not. This shows that this orthographic practice was very much left to the author's choice. Finally, it is probably not a coincidence that one finds the same combination of lines forming a sign in both *CIS II 236* and JSNab 164 (see the green lines on fig. 5 and the lines pointed at on fig. 7). The patina of these lines in JSNab 164 is different from that of the text and the sign, whatever its meaning, is clearly later than the letters.

The names are followed by the same expression as in *CIS II 236*, for which see the preceding paragraph.



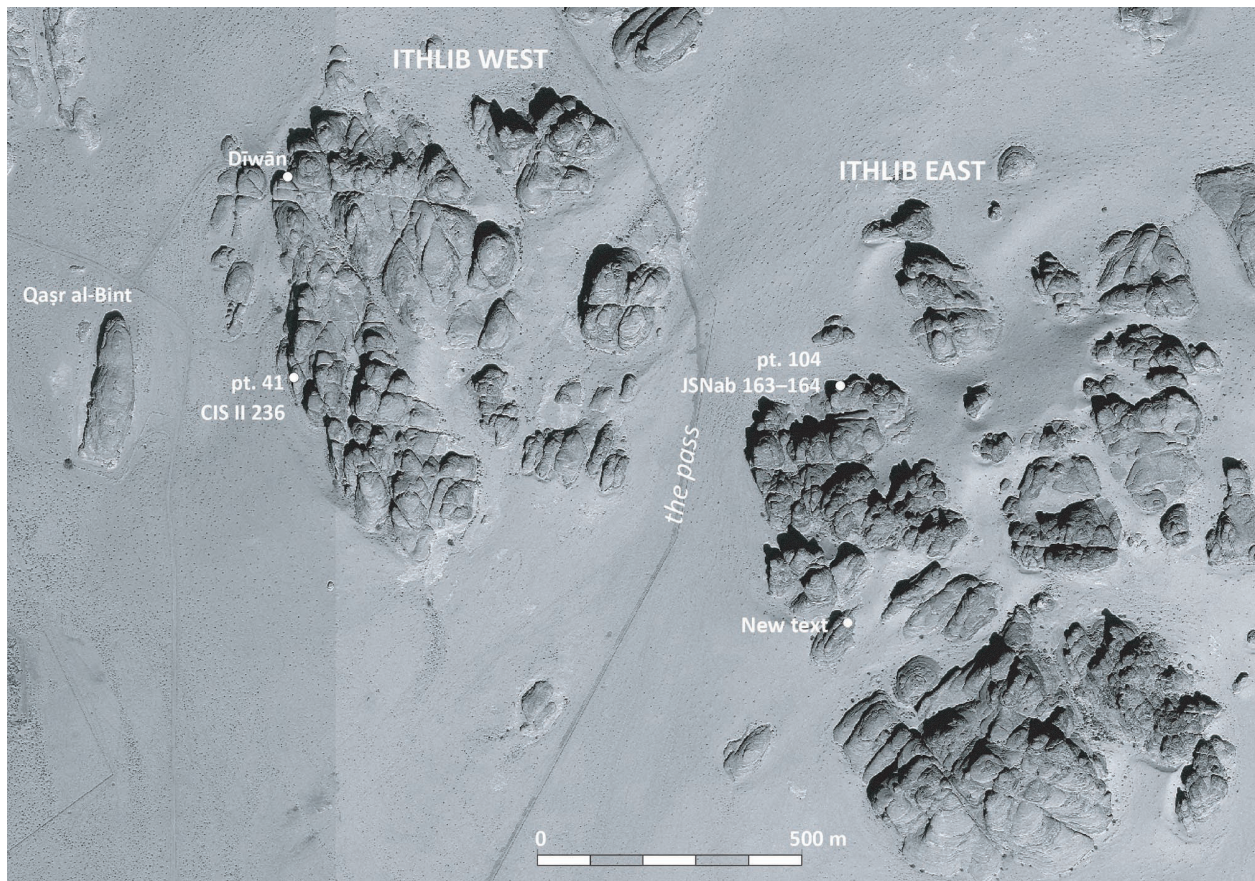


Fig. 9. Satellite image showing the location of the gdtb inscriptions in the Jabal Ithlib.

### General commentary on 64114\_I04 and CIS II 236

The expression *mn qdm šmy'* is thus attested in two Nabataean inscriptions, both of which come from Hegra, one carved on a quarry face by a man who was familiar with stone cutting tools (CIS II 236) and the other carved on an ashlar reused in the masonry of a building which was very close to the sanctuary IGN 132 (64114\_I04). The monument from which this ashlar originally came from was probably not very far from the place where it was reused and one might be tempted to consider that *šmy'* was “at home” in this area of the old city of Hegra, and therefore that *šmy'* was, one way or another, connected with the sanctuary IGN 132. The latter consists of an upper ‘temple’ and a lower ‘temple’ and it has been suggested that the upper structure, the *tetrapylon* and its platform, were devoted to the cult of the sun-god because of its high character and its orientation to the south.<sup>16</sup> The new inscription shows that one individual, in the same area, asked to be safe “in the presence of Heaven”. Of course, one should not over interpret this graffito, which may have no connection at all with the sanctuary, but it nevertheless was written very close to it, and it is the only evidence we have so far on the possible god/gods who were worshipped in IGN 132.

16. Nehmé 2012: 159.



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# Preliminary Report on Area 64200, South-West of IGN 132

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## Introduction

Area 64200 is located in the south-east corner of the 2003 excavations, all located south-west of IGN 132 (**fig. 1–2**). It is also west of area 63000, excavated by Laurent Tholbecq, and adjacent to area 64100, excavated in 2016. The 2017 excavation season is thus the continuity of the work undertaken during the previous seasons.

This area was selected with the following objectives: 1/ bring to light the continuation of the architectural features excavated previously; 2/ link the so-called Architectural (or Residential) unit (2003 excavations with Areas 64–65) with the architectural features which belong to the sanctuary built on top and at the foot of IGN 132; 3/ obtain information on the chronology of the area.

Area 64200 does not have regular dimensions (**fig. 3**): it is 5.17 m long in the north, 4.27 m in the west and 3.05 m in the south. In the east, it is 3.05 m in its north-eastern part and 2.53 m in its south-western part, with a small protrusion of 1.50 m towards Area 63000 in order to connect the latter with 64200. In a secondary phase of the excavations, the area was enlarged in the south so that the final dimensions become 6 × 4 m. The aim was to bring to light the continuation of *loci* 64106, 64122, as well as that of *loci* 64120 and 64129 which were interpreted last year as forming possibly a platform (*mastaba*).

The excavations yielded eight *loci* which belong to two architectural phases.

## Architectural phases in area 64200

### 1. The first phase:

The ‘architectural’ *loci* which belong to this phase are laid on the bedrock (*locus* 64206) which slopes from south to north. The highest level of the bedrock is thus found south-east of *locus* 64120, at 782.81 m asl, while its lowest level is in the northern part of area 64200, at 782.67 m asl. This phase is represented by the following *loci*:

#### 64204

A north-south sandstone wall, brought to light after the removal of surface layer 64200. In its north-eastern part, it is made of five courses of stones which were used as a foundation for wall 64203 in a subsequent architectural phase. The lowest course, immediately above the bedrock, is the only one which continues all along the length and at the bottom of the wall (**fig. 4**), with



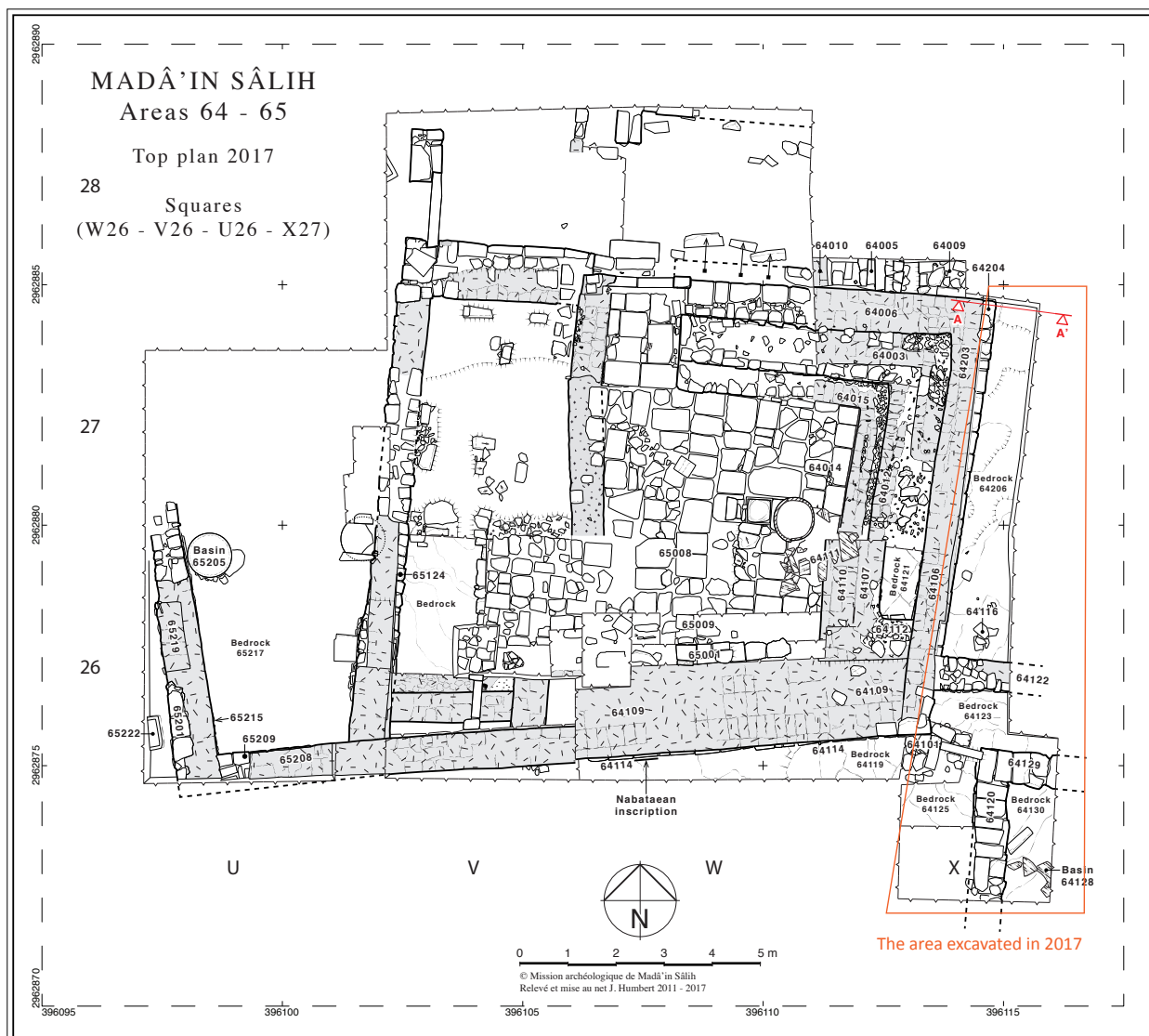
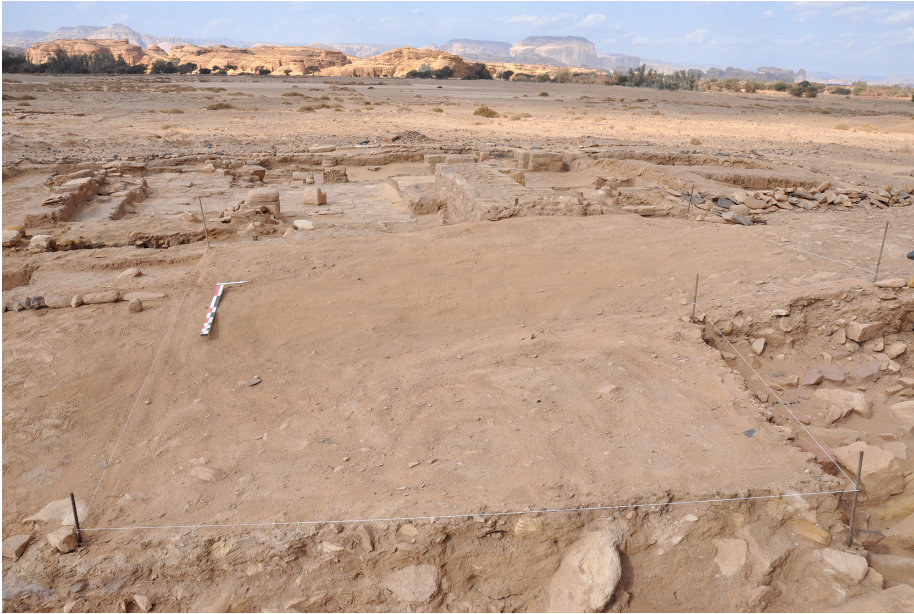


Fig. 1. General plan of the so-called Architectural unit, south-west of IGN 132.



**Fig. 2.** Aerial (drone) view of the Architectural unit, south-west of IGN 132.





**Fig. 3.** Area 64200 before excavation.



**Fig. 4.** The eastern face of walls 64203 and 64204.

17 stone blocks. It is an extension of *loci* 64126 and 64127, on which wall 64203 rests. Its highest level is 783.72 m asl and its lowest level is 782.67 m. It is therefore 1.05 m high.

### 64129

An east-west sandstone wall, with carefully hewn stones. It is located south-east of area 64100 and is connected to wall 64120, brought to light in 2016. Both are founded directly above the bedrock and were interpreted as forming perhaps a terrace (a *mastaba*). The wall is 1.55 m long and 60 cm thick. As for wall 64120, it is now 2.66 m and 55 cm thick (**fig. 5**).

## 2. The second phase:

It is represented by one *locus*, 64203 (= 64106), a long, 8.96 m, north-south mudbrick wall. Its eastern face was brought to light in 2017 and it consists of seven courses of mud bricks which rest on the lower course of wall 64204 (see **fig. 4**). It is 65 cm thick and 92 cm high. This wall meets wall 64006, brought to light in 2015. It actually forms the eastern limit of the architectural unit which stands south-west of IGN 132 (**fig. 6**).





Fig. 5. Walls 64120 (north-south) and 64129 (east-west).



Fig. 6. The western face of wall 64203.

## Conclusion

At the end of the 2017 season, we can consider that the south-eastern corner of the so-called Architectural unit, south-west of IGN 132, is complete (see fig. 2). Wall 64203 represents its eastern limit in the second phase while 64204 represents its eastern limit in the first phase. During the first phase, the architectural elements were built in stones whereas in the second phase they were built in mud bricks, sometimes in combination with rubble. They are founded on the bedrock, which is uneven and slopes from south to north and from east to west. Architectural *loci* 64120 and 64129, which were thought to form possibly a terrace, are in fact the north-western corner of an architectural unit that has not been fully unearthed yet. They may have something to do with structures which lie south of IGN 132.

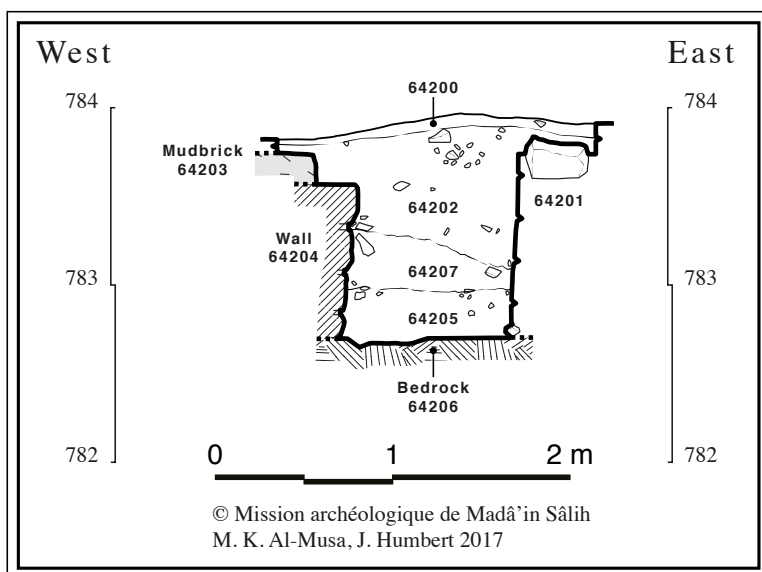


Fig. 7. Section A-A' at the northern end of the 2017 trench, drawing.



Fig. 8. Section A-A' at the northern end of the 2017 trench, photograph.

*Locus* 64201, which consists of medium hard clay mixed with large, medium, and small rubble, concentrated in the center and the east of the excavated area and reaches area 63000, is the continuation of *loci* 63041, 63051 and 63056. They probably all result from the collapse of walls 63001 and 63016. As can be seen from the section (**fig. 7–8**), *locus* 64201 is later than *locus* 64207 and 64205, both of which are also later than wall 64204 (no foundation trench for wall 64204 is visible in the section).

## Area 9, Trenches C and D

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The excavations in Area 9 began in 2010/2011 under the supervision of Z.T. Fiema (trenches A and B) and were taken over in 2014 by J. Rohmer (trench C).<sup>1</sup> After a two-year break, fieldwork resumed during the 2017 season, with a twofold goal:

- confirm the chrono-stratigraphic sequence recovered in trench A (5th/4th century BC – 4th century AD) and achieve wider exposure of the earliest occupational levels;
- achieve wider exposure of the latest architectural phase in order to understand its function and organization.

In order to meet these goals, two deep soundings were opened in trench C, extensive surface stripping was carried out on visible wall lines around Area 9, and eventually a 6.5 × 5 m east-west trench (trench D) was opened north of trench C, leaving a 1 m thick baulk (fig. 1–2).



**Fig. 1.** Aerial picture of Area 9 at the end of the 2017 season.

1. Fiema 2011, Rohmer 2014, Rohmer and Fiema 2016.



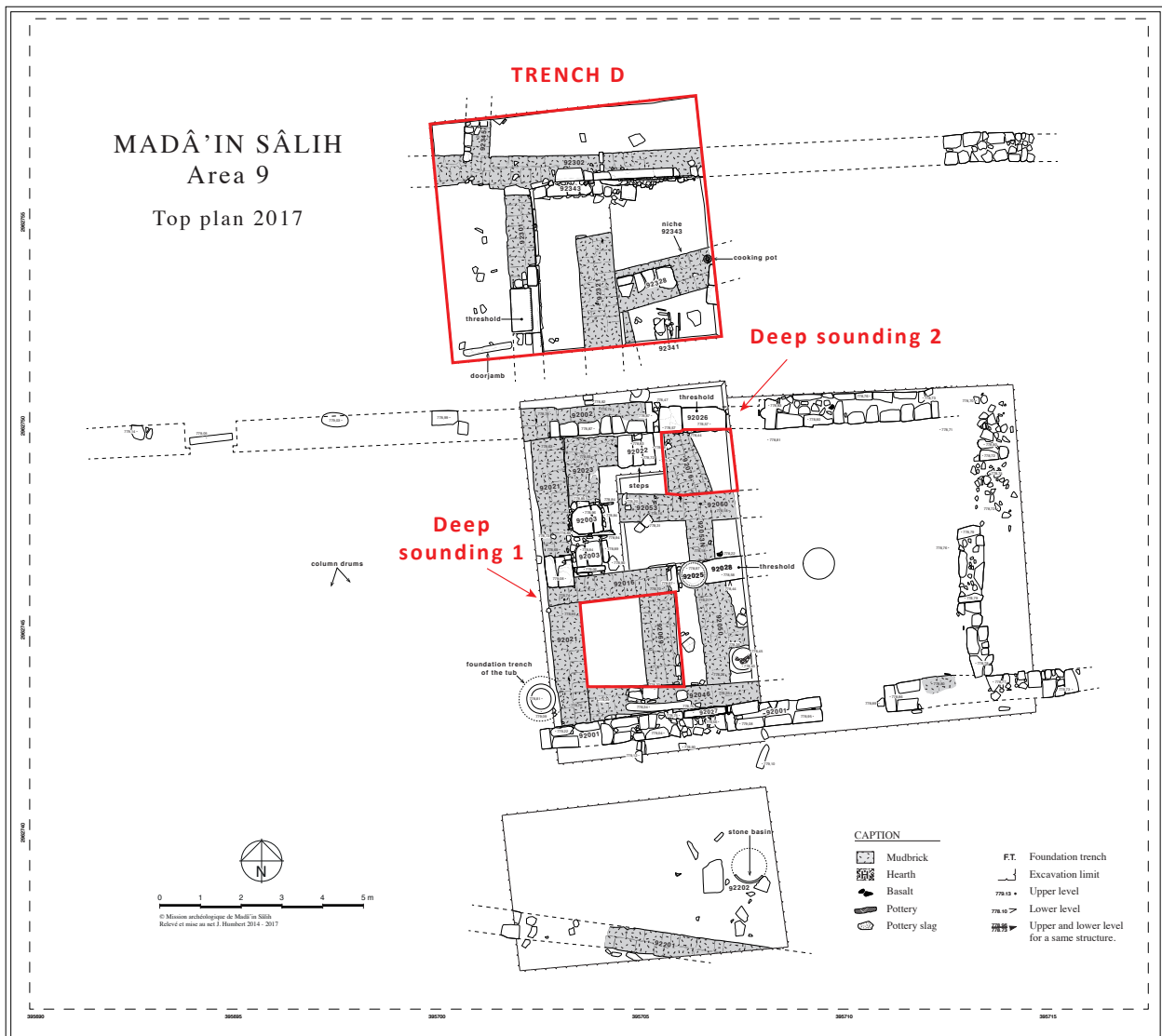


Fig. 2. General plan of Area 9 at the end of the 2017 season, showing the location of the excavated trenches and deep soundings.

## I. Deep soundings in trench C

In 2014, we identified two successive strata (the so-called “lower” and “upper” stratum) in trench C, but since the excavations did not reach the lowest archaeological levels, we were unable to propose a complete phasing for this trench. That is why we opened two deep soundings in trench C in 2017.

### A. The southern deep sounding

The first deep sounding was opened in the southern half of trench C (fig. 2–3), in a roughly 2.5 × 2 m rectangular area delimited by walls 92021 (to the west), 92046 (to the south) and 92016. To the east, we left a 0.50 m thick baulk in front of wall 92050, in order to preserve a stratigraphic section. In 2014, the excavations had stopped in this area at c. 778.25 m, in layer 92051. In total, taking into account the 2014 excavations, a 1.70 m deep stratigraphic sequence was recovered (fig. 4–5). This sequence breaks down into three main phases (fig. 6).

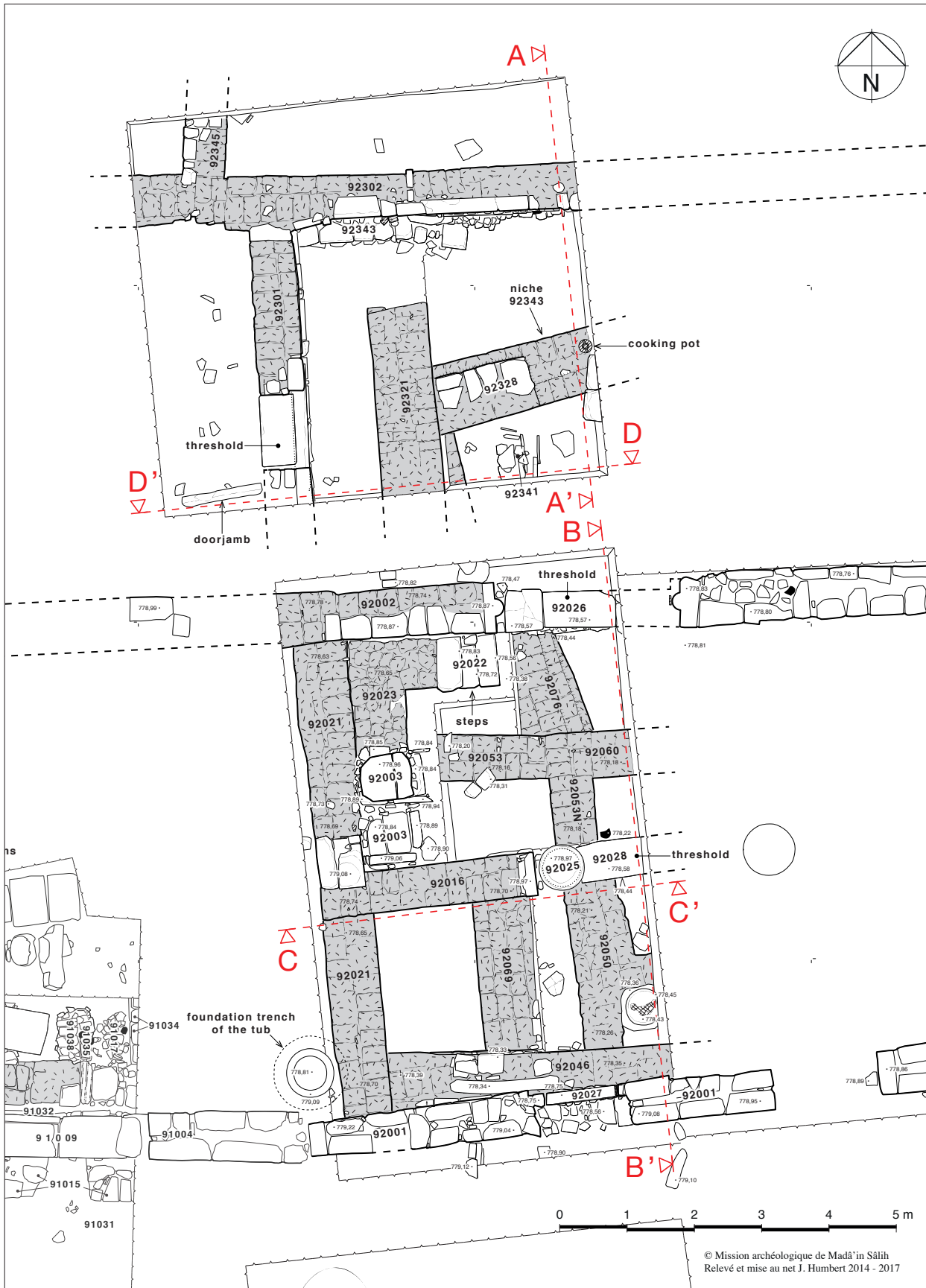


Fig. 3. Detail of fig. 2: plan of trenches C and D, showing the location of the section drawings.





### Phase C3 (“upper stratum” in 2014 report): 4th century AD

The latest phase, phase 3, corresponds to the “upper stratum” described in the 2014 report. There is nothing to add to the description made in 2014, except that a more detailed study of the pottery and coins from this phase, carried out in 2016 and 2017, now suggests a 4th century AD date for this phase.<sup>2</sup>

### Phase C2 (“lower stratum” in 2014 report): late 1st century BC – 2nd century AD

From an architectural point of view, phase 2 corresponds to the lower stratum identified in 2014. It features mudbrick walls without stone foundations (92046, 92050, 92053, 92060), which melted or were levelled before the construction of the phase 3 buildings. It had been dated to the later 1st/ early 2nd centuries AD based on the material from *loci* 92049 and 92051.

In 2017, two more layers abutting wall 92046 (*loci* 92062 and 92064) were excavated under 92051. 92062 is a heterogeneous layer perhaps representing a temporary disuse of the area, but 92064 is probably a layer of occupation: it was made of soft sandy silt, it yielded many sherds and bones and it laid over a hard flat surface (92065). Since the pottery from 92062 and 92064 was dated to the late 1st century BC/early 1st century AD, the beginning of phase 2 should now be dated to around the turn of the common era.

In view of this, two distinct sub-phases separated by a short episode of disuse may be distinguished within phase 2:

- phase 2a, represented by *locus* 92064 and dated to the late 1st century BC/early 1st century AD;
- phase 2b, represented by *loci* 92051 and 92049 and dated to the later 1st and (early?) 2nd century AD.

### Phase C1 (2nd/1st century BC)

The foundation trench of wall 92046 (*locus* 92066) was dug into a hard flat layer (92065) of melted mudbrick resulting from the melting of walls but also probably from a deliberate levelling of the area (**fig. 7**). Under this layer, a still earlier north-south mudbrick wall (92069) was identified along the eastern baulk of the sounding. From above, this wall is made of at least three rows of mudbricks laid as stretchers (width: 0.70 m), although its lower courses seem to feature headers as well. It is preserved on four courses.

To the west, a series of anthropic layers abutting this wall were found (**fig. 4**). These include a thick layer of ash (92070), probably a dump from a kiln or an oven, and a pit (92091) filled with layers of ash (92072, 92079) and sand (92078). The lowermost occupation was a surface of packed clayish sand (floor 92080), on which rested a haphazard heap of mudbricks as well as several ash pockets (**fig. 8**). It featured a small pit (92090). Under this surface was a layer of virgin sand (92085).<sup>3</sup>

From a chronological point of view, *loci* 92071, 92072, 92073 and 92080 yielded a homogeneous material which can be dated to the 2nd and 1st centuries BC.<sup>4</sup>

2. The lowermost layers belonging to phase 3 (92036, 92038) have 4th century AD pottery. Besides, one of the main chronological anchors for this phase, coin 92043\_C01, which had been provisionally dated to the early 3rd century AD, can now be safely identified as a *foliis* of Galerius (AD 306–309).

3. The uppermost centimeters of layer 92085 yielded three sherds, which belong to the same chronological horizon as 92080. Either they belong in fact to floor 92080, or they predate it by a very short period of time.

4. A date seed and an animal bone from *locus* 92080 have been sent for radiocarbon dating, but the results are still pending.

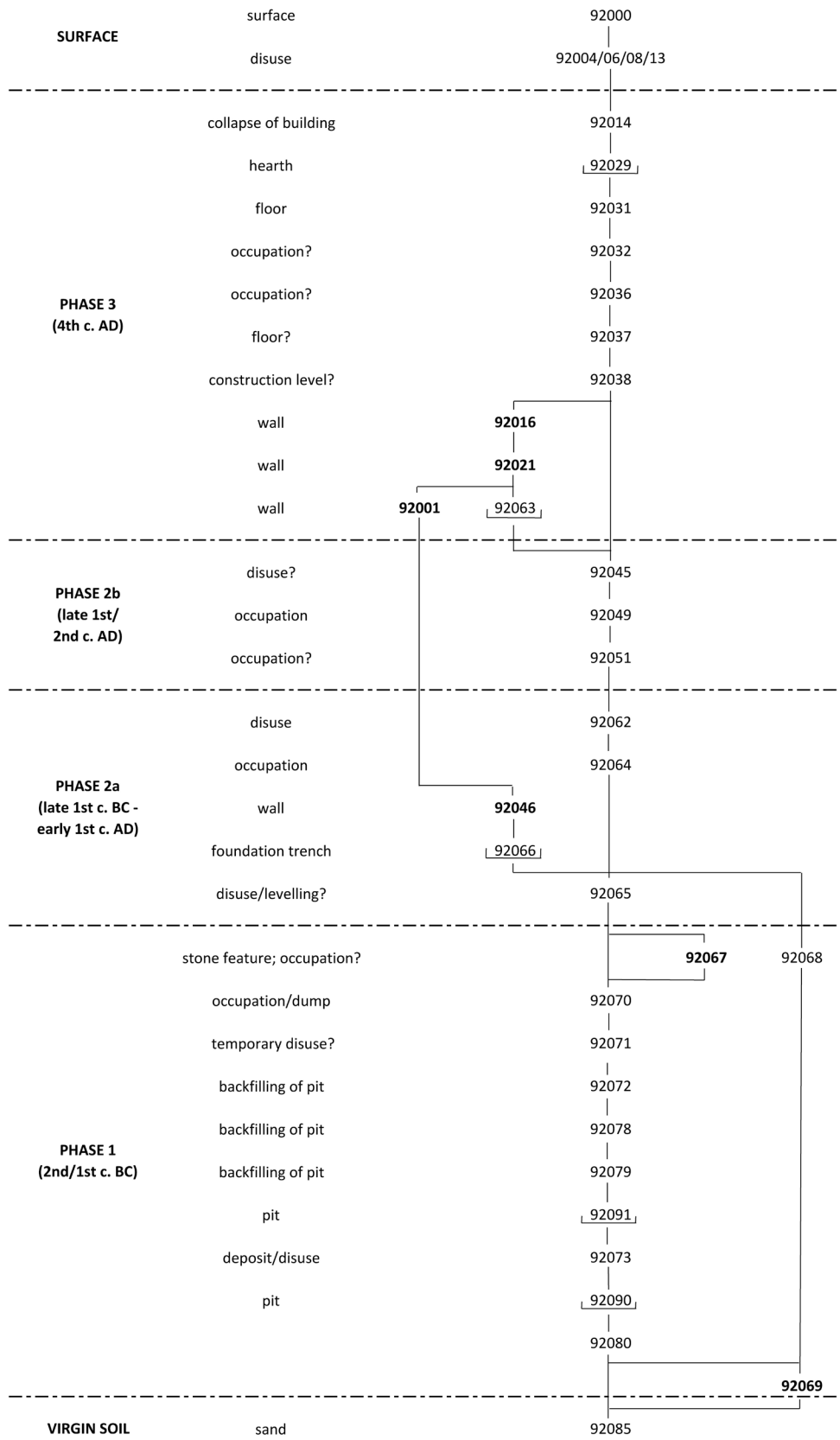


Fig. 6. Stratigraphic diagram of the southern deep sounding.



**Fig. 7.** On the left, wall 92046 and its foundation trench (locus 92066). On the right, wall 92021 and its foundation course in stone.

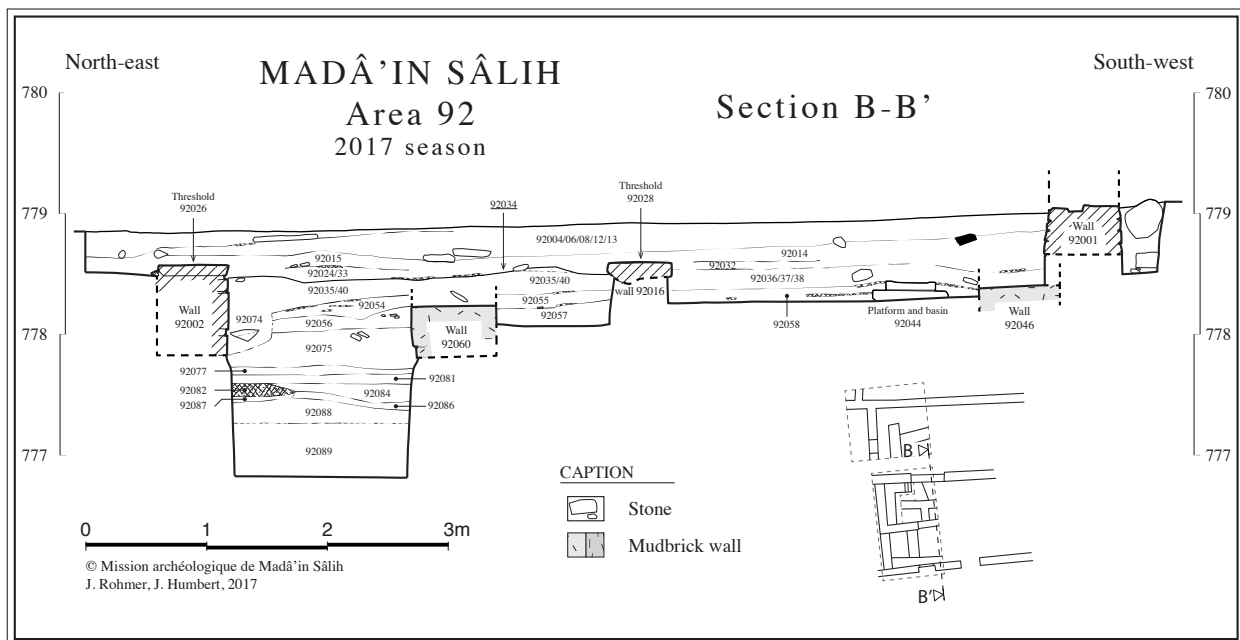


**Fig. 8.** Floor 92080 viewed from the east.

### B. The northern deep sounding

The second deep sounding was opened in the north-eastern corner of trench C, in a c. 1.50 × 1.50 m square area delimited by wall 92026 in the north, wall 92060 in the south and the baulk in the east (fig. 2–3). In 2014, the excavations had stopped in this area at 778.06 m, in the middle of a layer of disuse with little material (92056).

As in the southern deep sounding, the excavations brought to light a 1.60 m deep stratigraphy with three main phases (fig. 9–11). These phases match those of the southern sounding.



**Fig. 9.** Northern deep sounding: drawing of the eastern section (B-B').





**Fig. 10.** Northern deep sounding: photograph of the eastern section (B-B').

### Phase C3 (“upper stratum”): (3rd –) 4th century AD

In the northern deep sounding, the upper stratum/phase 3 is represented by wall 92026, the foundation trench of which (92074) was clearly identified. This trench was dug into layers of phase 2 (92054, 92056, 92075), but it is unclear whether it also cuts layer 92040. At any rate, in the section, the earliest visible occupation layers abutting wall 92026 are 92030 (at c. 778.50 m) and 92024, which can be dated to the 4th century AD.<sup>5</sup>

### Phase C2 (“lower stratum”): 1st – early 2nd century AD

The main feature of phase 2 is wall 92060, which forms the southern limit of the sounding. It is a 0.70m thick east-west mudbrick wall made of headers and stretchers, preserved on three courses and devoid of stone foundations. The layers abutting it (92054 and 92056) were excavated in 2014 and their material was dated to the 1st or early 2nd century AD.

### Phase C1: (2nd –) 1st century BC

Under 92056 lies a thick layer of soft orange sand with very little pottery (92075), probably representing an episode of disuse. Wall 92060 seems to have been built on this layer. Under 92075, we found a succession of anthropic layers (92077, 81, 84, 82, 86, 87), including notably a thick ash layer representing either a hearth or a dump from an oven or a kiln (92082).<sup>6</sup> In the west, these layers abut a south-southeast–north-northwest SSE-NNW mudbrick wall, at least 0.85 m thick, with a protruding foundation course (92076). It should be noted that the orientation of this wall differs from that of wall 92069 in the southern sounding, although both seem to belong to the same phase. The foundation course of wall 92076 was dug into a layer of silty sand (92088) which yielded only one sherd. It is uncertain whether this sherd is intrusive or if it bears witness to some kind of sporadic, low-intensity occupation in the area before the construction of wall 92076. Whatever is the case, the sherd from 92088 belongs to the same chronological horizon as the other layers of phase 1. Under 92088, we reached a layer of soft orange sterile sand (92089). From a chronological point of view, the pottery of phase 1 was chronologically homogeneous and points towards a “Hellenistic” date (2nd/1st centuries BC).

5. 92024 has yielded a mixed material with 1st century AD to 4th century AD elements.

6. This layer may actually be related to the oven found along the southern baulk of trench D (92341, see below, section III).

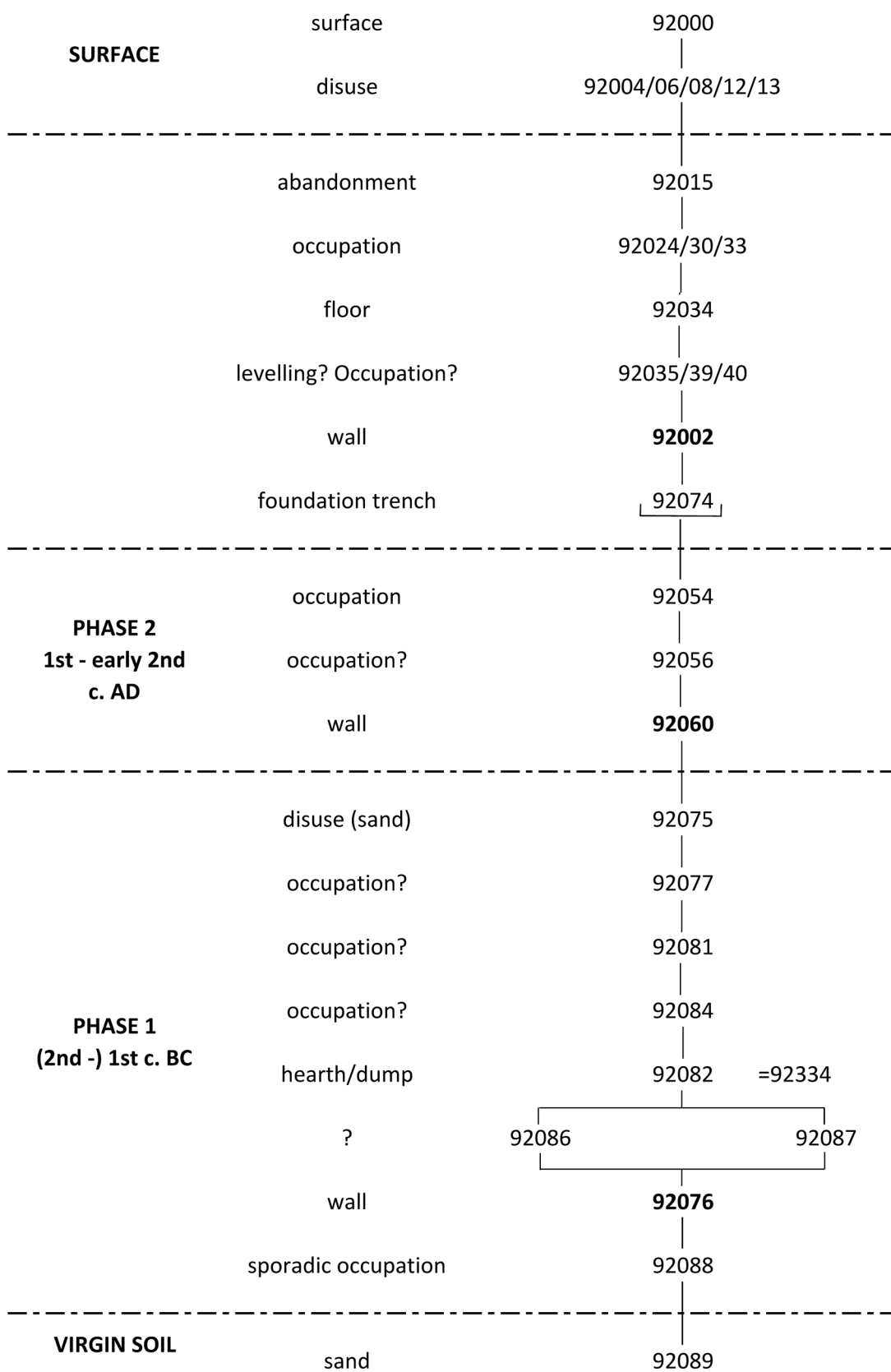


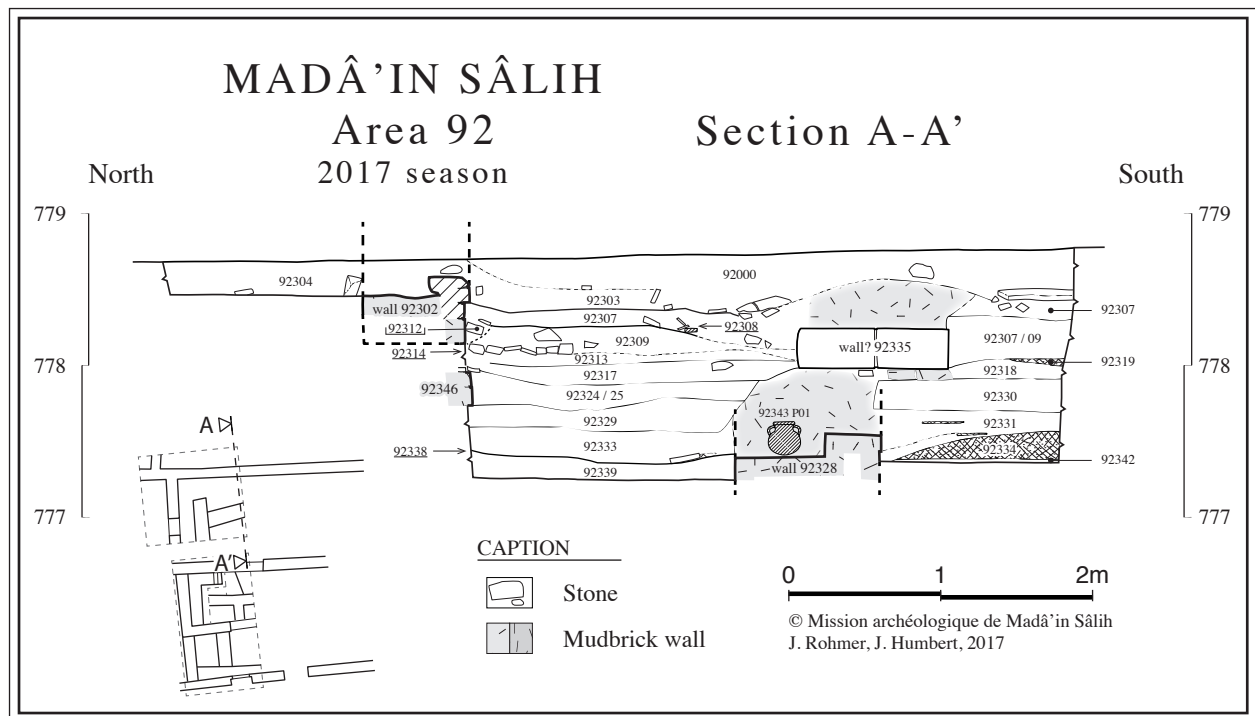
Fig. 11. Stratigraphic diagram of the northern deep sounding.

## II. Surface stripping

In addition to the deep soundings, it was decided to extend the excavated area in order to obtain a better understanding of the layout of the latest architectural phase. Surface stripping was carried out on all wall lines appearing on the surface within a c. 20 m radius around trench C. To the south of trench C, an area of 6.5 × 4 m was more carefully stripped, revealing a WNW-ESE mudbrick wall (92201) which seems to be the continuation of wall 90014 (brought to light in 2010 in trench A), as well as several scattered stones and a fragment of stone basin (92202). However, no significant structure or feature appeared between walls 92001 and 92201. This matches Z.T. Fiema's remarks about the southern part of trench B, south of wall 92001, where only "a sequence of relatively featureless soil strata" was recovered.<sup>7</sup> In view of this, it seems possible that the area south of wall 92001 was in fact devoid of constructions during the latest phases of the site, and that it formed an L-shaped passage or street.<sup>8</sup> Consequently, it was eventually decided to expand the excavations towards the north (trench D) rather than towards the south.

## III. Trench D

Trench D was opened on January 22nd. It is a rectangular trench measuring 6.50 m east-west × 6 m north-south, separated from trench C by a 1 m wide baulk. The excavations of this trench could not be completed during this season. The phasing proposed below, with four main phases, is therefore provisional (**fig. 13**).



**Fig. 12.** Trench D: drawing of the eastern section (A-A').

7. Fiema 2011: 168.

8. In 2014, we noted that the opening direction of the door in wall 92001, as suggested by the location of threshold 92027, speaks in favour of a closed room to the south (Rohmer 2014: 129, 131). However, it is not an intangible rule that doors should open towards the inside.



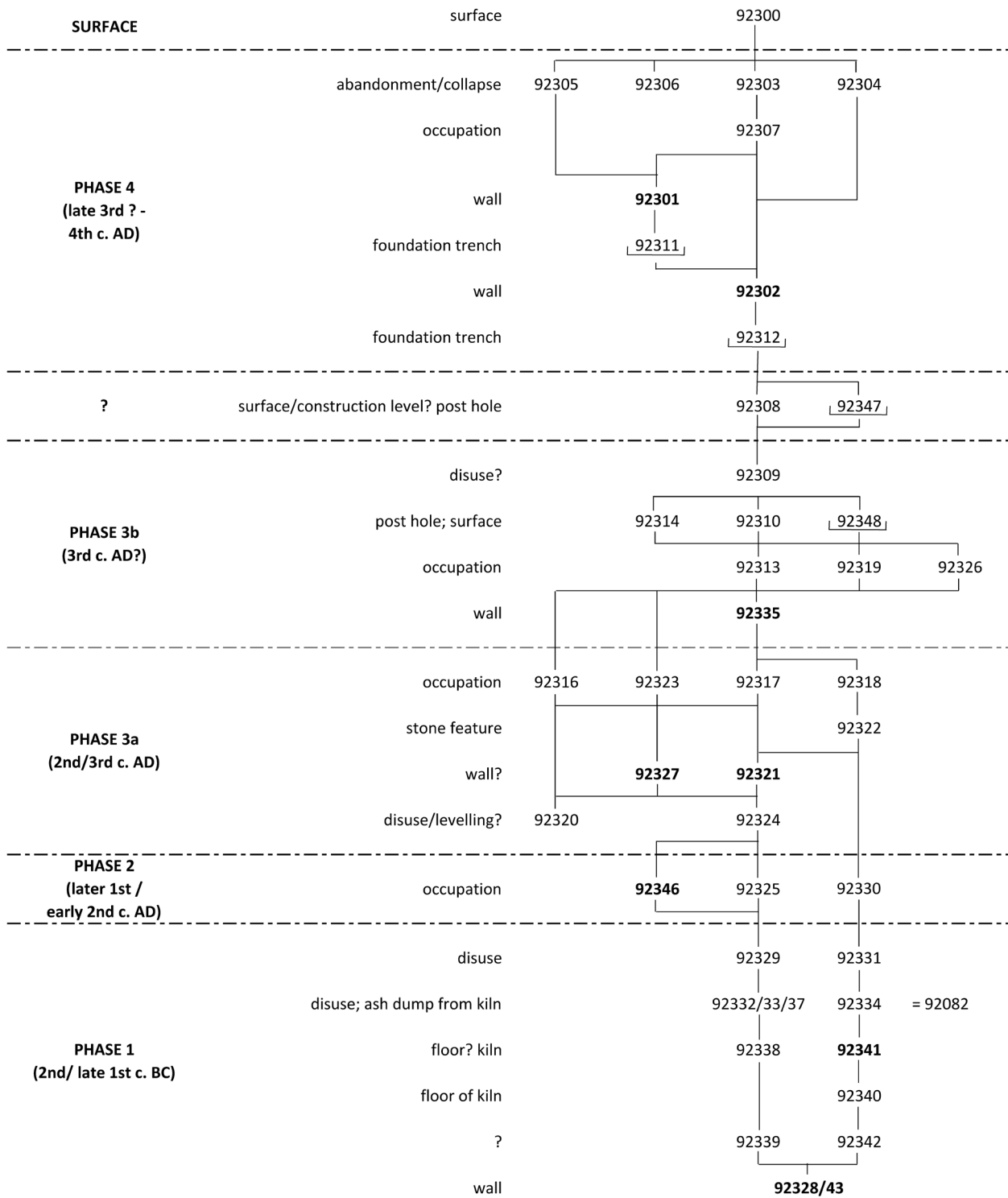


Fig. 13. Stratigraphic diagram of trench D.

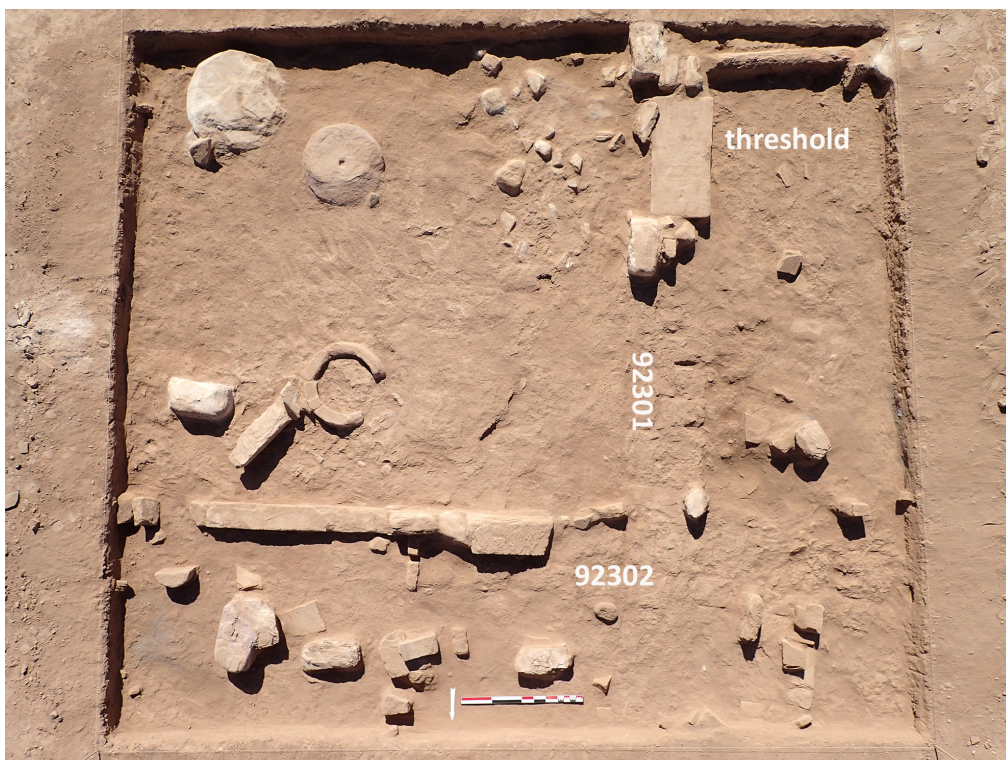
### Phase D4: (later 3rd? –) 4th century AD

Phase 4 is the latest architectural phase, which corresponds to phase C3 (“upper stratum”) in trench C. It features three mudbrick walls, two of which (92301 and 92302) delimit a quadrangular room most probably stuck to the building of trench C. Although the connection between wall 92301 and 92002 could not be checked, it is most likely that 92301 abutted 92002.

Wall 92302 is earlier than 92301. It is made of one row of headers and one row of stretchers, and includes reused ashlar. It lies over a foundation course of reused ashlars and occasional mudbricks. Wall 92301 is built in the same way and it has a 1.15 m wide door, with a threshold and a fallen door jamb, next to the southern baulk.

Within the room, a clear layer of abandonment and collapse of the building (92303) was identified at the base of the threshold (**fig. 14**). It included scattered pottery sherds as well as several stones and stone objects (including a millstone, a large stone disk of unknown function, and a circle resembling a stone basin but without a bottom). Similar layers were found north of wall 92302 (92304) and west of wall 92301 (92305 and hearth 92306). The pottery from layers 92303, 92305 and 92306 can be safely dated to the 4th century AD.

Under 92303 was a layer of silty soil of medium compaction (92307) which may represent either occupational deposit or levelling works. Its deposition seems to postdate the construction of wall 92302 since it covers its foundation trench (92312). This layer yielded mostly 2nd/3rd century AD pottery, with a few 4th century AD elements. 92307 covered an irregular surface made of compact clayish soil (92308), featuring scattered horizontal sherds, the base of an *in situ* jar, and one posthole (**fig. 15**). Its pottery was dated to the later 3rd/early 4th century AD. Since the foundation trench of wall 92302 was dug from this surface, it is uncertain whether it represents the latest surface of phase 3 or the earliest surface or construction level of phase 4. If the latter is true, the beginning of phase 4 should be moved to the later 3rd century AD.



**Fig. 14.** Vertical view of trench D showing the final abandonment collapse level (92303, 92304 and 92305).



**Fig. 15.** View of surface 93208 from the south-east. Posthole 92347 on the left.

### *Phase D3: 2nd/3rd century AD*

At any rate, 92308 represents the top of a thick layer of melted mudbrick (92309) which probably results from a period of disuse and which certainly predates the buildings of phase 4 since it was clearly cut by the foundation trench of wall 92302 (**fig. 12**). It covered a surface with scattered horizontal sherds and a posthole (92310/14; **fig. 16**), which was but the upper part of a thick occupation layer with abundant pottery and bones (92313/19/26). In the eastern baulk, these layers abutted a feature made of two horizontal boulders with a melted mudbrick superstructure and a small makeshift foundation of stones and mudbricks (92335; **fig. 2, 12, 16, 19**). This feature is most probably an ancient wall forming the south-western corner of a room lying to the east of trench D.

Under the above-mentioned occupation layers, we found a levelled rectangular mudbrick platform (?), c. 0.90 m wide and at least 2 m long (92321; **fig. 17**). It follows a roughly north-south orientation, the same as that of the walls of phase D4. It is probably not a wall since it ends abruptly in the north, without any connection to another feature, and it is preserved on one course only. Its southern extremity is not clear and it is uncertain whether it reached the southern baulk. Occupation levels abutting this platform were identified both to the west (92316, **fig. 18**) and to the east (92317–19, 22). It seems that the mudbrick platform was laid over layers of hard silty/clayish soil probably representing periods of disuse or levelling works (92320, 92324).

To the north of this platform, a makeshift stone feature (92327) oriented east-west, made of two courses of piled up irregular stones and partially running under wall 92302, was probably built at the same time (**fig. 17**). It is very irregular, without a proper facing, and it may be a stone bedding as well as a makeshift wall. At first, it was thought to be the foundation course of wall 92302, but this hypothesis turned out to be impossible since it lies significantly under the foundation trench of this wall.<sup>9</sup>

In view of the above, phase D3 can be broken down into two architectural sub-phases (**fig. 13**):

- phase D3a, represented by platform 92321, stone feature 92327 and the associated occupation layers;
- phase D3b, represented by wall 92335 and the associated occupation layers (after the levelling of platform 92321).

9. The foundation of 92302 cannot be deeper than represented on **fig. 11** because it would have damaged surface 92314.



As far as the pottery is concerned, all the layers of phase D3 which could be studied during this season belong to a consistent 2nd/3rd century AD horizon. However, since 92309 yielded several characteristic 3rd/4th century sherds (including a fragment of Kapitän II amphora), sub-phase D3b should most probably be dated to the 3rd century AD. Several key *loci* which could not be studied during this season (92314, 92316) may help refine this dating in the future.



**Fig. 16.** Vertical view of surface 93210 from the north. Posthole 92348 in the center. On the left, the two boulders of wall (?) 92335 sticking out from the eastern baulk.



**Fig. 17.** Mudbrick platform 92321 (foreground) and makeshift wall 92327 (background, under wall 92302) viewed from the south.



**Fig. 18.** View of occupation layer 92016 from the north.



### Phase D2: later 1st/early 2nd century AD

Contrary to trench C, trench D yielded surprisingly little Nabataean pottery. Only one Nabataean context was identified, in the eastern part of the trench: *locus* 92325, which is a layer of silty soil of medium compaction containing many sherds and animal bones. It probably abutted a WSW-ENE mudbrick wall located in the south-eastern corner of the trench, and built in phase 1 (92328, see below). In the eastern section, it also seems to abut a possible mudbrick wall preserved on two courses under wall 92302 (92346; **fig. 12**). The pottery from 92025 was dated to the second half of the 1st century AD and/or the first half of the 2nd century AD.

### Phase D1: 2nd/1st century BC

The main feature of phase 1 is wall 92328, a 0.80 m thick mudbrick wall the lowest visible course of which sticks out towards the north. The northern face of its second and third courses is made of roughly hewn stones, and it features a kind of niche (92043), opened towards the north, near the eastern baulk (**fig. 19**). An *in situ* cooking pot (92043 P01) was found in this niche. The bottom of wall 92328 was not reached during this season.

On the northern side, the following layers abut wall 92328 (from top to bottom, see **fig. 12**):

- 92324, which probably corresponds to levelling works at the beginning of phase 3 (see above);
- 92325, which is an occupation layer of phase 2 (see above);
- 92329, an orangey layer of compact sandy silt with relatively little material, which probably represents an episode of disuse;
- 92333, a layer of compact grey silty soil containing some soft ashy pockets (92332, 92337), which may represent either disuse or occupational deposit;
- 92338, a surface featuring some horizontally laid sherds and stones, at the level of the base of the niche;
- 92339, a compact layer of sandy silt containing small pockets of ash and a significant quantity of sherds and animal bones, probably representing occupational deposit.



**Fig. 19.** Wall 92328 and niche 92343, with *in situ* cooking pot, viewed from the north. In the background, oven/kiln 92334 with upright stone slabs 92341.

Layers 92333, 92338 and 92339 yielded pottery dated to between the 2nd century BC and the first half of the 1st century BC, confirming that wall 92328 was in use during this time period. *Locus* 92329, however, yielded a somewhat later assemblage, dated to between the second half of the 1st century BC and the late 1st century BC. This suggests that the end of phase 1 took place at some point during the later 1st century BC. This is confirmed by the dating of the complete cooking pot found in the niche, 92343\_P01 (second half of the 1st century BC), which was probably left *in situ* before the area was temporarily abandoned.<sup>10</sup>

On the southern side of the wall, under a thick layer of disuse made of hard silt and clay (92331) and containing very few sherds, a heap of ash was uncovered along the southern baulk of the trench (92334). It is probably the same layer as the ash layer 92082, found at approximately the same altitude (between 777.40 and 777.60 m) in the northern sounding of trench C.<sup>11</sup> This heap of ash covered a small stone feature made of two small upright stone slabs and several piled up horizontal slabs (92341; **fig. 20–21**). The horizontal slabs are probably fallen and it is likely that they were originally also in an upright position, forming the western wall of the feature. Therefore, this feature can be safely interpreted as an oven or a kiln. Given the absence of specific artefacts (e.g. pottery wasters), it is probably a domestic oven. It rested on a layer of soft clayish soil (92040/92042).

The pottery from 92331, 92334, 92340 and 92342 belongs to a chronological horizon spanning the 2nd and the first half of the 1st century BC. This is consistent with the dating of the *loci* found on the northern side of the wall and with that of the *loci* associated with the ash layer 92082 in the northern deep sounding of trench C.

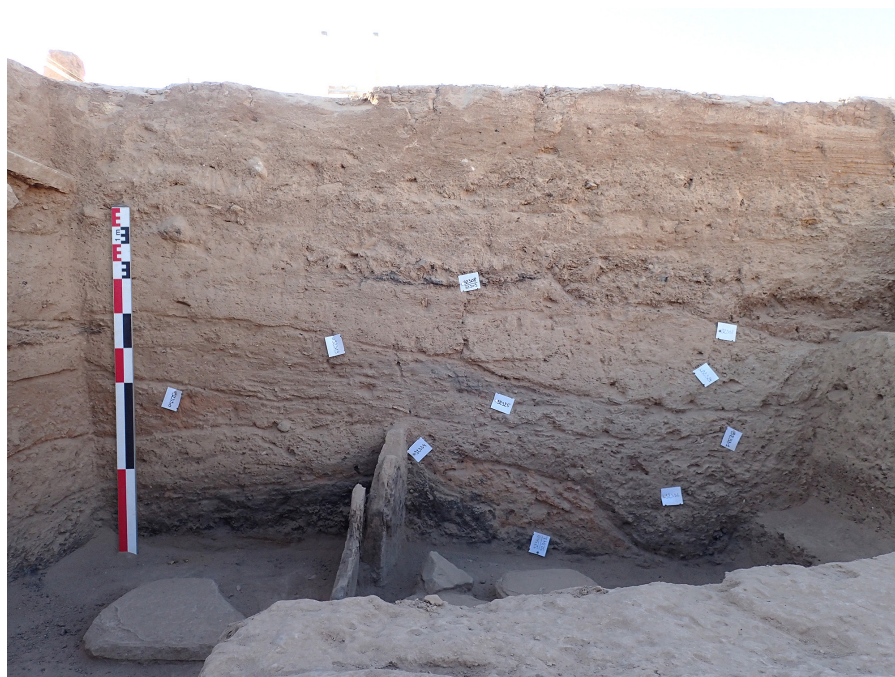


**Fig. 20.** Oven/kiln 92334 viewed from the north-west.

10. This cooking pot was probably laid on the bottom of the niche at a period when it was still exposed, i.e. at the latest when floor 92338 was in use. It was then abandoned and buried under disuse deposit (92333, 92329). In this scenario, 92333 would already be a layer of disuse. There is also a possibility that this pot was partially buried into the niche contemporarily during the deposition of *locus* 92333 (which would then be an occupation layer), but no trace of cut was observed around the pot.

11. See above, section I.B.





**Fig. 21.** Trench D: picture of the eastern part of the southern section.

## Conclusion

Regarding the layout of the uppermost stratum, the 2017 excavation season in Area 9 established that the building brought to light in trench C extends towards the north (trench D), while the area located south of wall 92001 may be a L-shaped passage or street (**fig. 22**). However, no decisive clue concerning the nature and function of this building was collected during this season. As for the layout of the earlier phases, it remains very fragmentary.

From a chronological point of view, the complete stratigraphic sequence of trench C was recovered in two deep soundings which provided consistent results. It features three main phases spanning the 2nd/1st century BC to the 4th century AD, with an apparent occupational gap between the mid-2nd century AD and the late 3rd/early 4th century AD.<sup>12</sup> Interestingly, this gap was not observed in trench D, where 2nd/3rd century AD occupations are clearly represented (phase D3). Two explanations can be proposed for this discrepancy between trenches C and D.

First, there might be an 'invisible' occupational gap in trench D, though perhaps shorter than in trench C. Indeed, there seems to be a significant architectural break between the Nabataean phase (D2) and the 2nd/3rd century AD phase (D3), since phase D3 saw the definitive disuse of wall 92328 and the construction of new features and walls following different orientations. Besides, most layers of phase D3 cannot be dated precisely within the 2nd/3rd century AD interval, and the only layers for which a more precise dating can be proposed (92308, 92309) seem to date to the 3rd, not the 2nd century AD.

Second, the 2nd/3rd century AD occupations in trench D seem to be less elaborate than the previous and the later ones. Except perhaps for 92335 (which we interpret as the corner of two walls located outside of the trench), no proper wall seems to have existed in trench D during phase D3. On the other hand, several makeshift features (92321, 92327) and postholes (92347, 92348) were observed. It seems therefore possible that the 2nd/3rd century AD occupation was

12. See my observations on this break in Rohmer 2014: 130.



Fig. 22. Phased plan of trenches C and D.

less dense and less intensive than the previous and the following ones – which would explain why its remains are irregularly distributed.

The occupational sequence of trenches C and D can be summarized as follows (**table 1**):

General phase	Local phase in trench C	Local phase in trench D	Dating
1	C1	D1	2nd/1st c. BC
2	C2	D2	1st/early 2nd c. AD
3	/	D3	(2nd–) 3rd c. AD
4	C3	D4	4th c. AD

**Table 1.** General phasing of trenches C and D after the 2017 season.

Compared to trenches A and B, where the dating of the late phases was problematic for lack of diagnostic pottery, the excavations of trenches C and D brought critical progress in our understanding of the sequence of Area 9 from the Nabataean period onwards.<sup>13</sup> However, as far as the earliest phases of the site are concerned, the results from trenches C and D have been quite disappointing until now.<sup>14</sup> In trench C, no occupation earlier than the 2nd century BC could be identified. In trench D, the earliest excavated layers also date to the 2nd/1st century BC, but the sequence may remain incomplete since the virgin soil was not reached. At any rate, the absence of 4th/3rd century BC layers in both soundings of trench C may suggest that the earliest occupations of the area were not very dense and were not regularly distributed in the area. Judging by the data at hand, the occupation of Area 9 probably began by the 5th/4th century BC but it intensified from the 2nd century BC onward – i.e. precisely at the time when Hegra gained a new economic and political importance.<sup>15</sup> However, this scenario will have to be confirmed by completing the excavation of trench D down to the virgin soil.

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13. About the problematic dating of phases 9 and 10 in trench A and B, see Fiema 2011: 168, 191, 193.

14. On the early phases in trench A, see lastly Rohmer and Fiema 2016.

15. Rohmer and Charloux 2015.





# Pottery Report

Caroline DURAND (HiSoMa, Lyon) and Yvonne GERBER (University of Basel)

The pottery study was conducted by Caroline Durand (January 26th to February 26th) and Yvonne Gerber (January 26th to February 9th). Part of the time was dedicated to the preparatory work for the final publication of the pottery, which is currently in progress, while the rest of the available time was devoted to the recording and reading of the pottery material which came out from the ongoing excavations in the Roman fort (Area 34), in the domestic area known as Area 9, around the Nabataean sanctuary IGN 132 (Area 6) and along the city wall (Areas 35, 37, and 38).

## Ongoing excavations, recording of pottery

### *The Roman fort (loci 34000)*

The excavations continued in the Roman fort, in areas 34300 and 34400 (see Fiema's report in this volume). As was already the case in the previous seasons, the surface and upper layers of the excavated areas yielded an enormous amount of pottery. Among this pottery were many complete jars which still have to be partly restored and recorded.

In area 34400, the upper layers (*loci* 34401, 34406, and 34409) seem to be dated to the last occupation phase of the fort, i.e. to the (late) 4th–5th century AD. Below this late occupation phase, the area presents a stratigraphic sequence which goes down to the Nabataean period (*loci* 34420, 34424, and 34425), 1st century AD, perhaps back to the late 1st century BC for *locus* 34425. The lowest layers (*loci* 34428, 34430, 34439, and 34447) correspond to an early occupation phase, which precedes the construction of the fort. They can be dated to the 'early' Nabataean period in Hegra, i.e. to the second half/end of the 1st century BC.

### *Domestic Area 9 (loci 92000 and 92300)*

Two trenches were excavated in 2017 in Area 9 (see Rohmer's report in this volume). The first one corresponds to the lower levels of Trench 92000, the excavation of which started in 2014, while the second is a new trench (*loci* 92300).

The upper levels of Trench 92000, which had already been recorded in the pottery files, were re-examined and were dated to the last occupation phase of the site, most probably to the second half of the 4th/early 5th century AD. In the lower levels, a Nabataean occupation phase is clearly recognizable, dating between the late 1st century BC and the first half of the 1st century AD (*loci* 92062, 92063, and 92064). Below is an earlier occupation phase which corresponds to *loci* 92068, 92072, 92073, 92075, 92080, 92081, and 92088. The pottery assemblage from this phase is mainly composed of body sherds, but according to the presence of fabrics no. 9 and no. 41 and

to the stratigraphy, it can be dated to the (late) 'Hellenistic', i.e. pre-Nabataean period in Hegra, somewhere between the 2nd century BC and the first half of the 1st century BC.

The same stratigraphic sequence is visible in Trench 92300, with the upper layers (*loci* 92303, 92304, and 92305) dating to the 4th century AD, perhaps turning into the 5th (especially *locus* 92305). Below is a Late Roman phase, 2nd–3rd century AD (*loci* 92307–92309, 92313, 92319, 92320, and 92322), then a Nabataean phase (*locus* 92325) and finally, in the lowest part (*loci* 92329, 92331 to 92343), a pre-Nabataean phase – probably not earlier than the second half of the 2nd century BC to the first half of the 1st century BC. The latter yielded a few complete vessels: a complete bowl in fabric no. 9, 92331\_P01 (**fig. 1**), and a complete cooking-pot, 92343\_P01, clearly dated to the 1st century BC.



Fig. 1. Bowl in fabric no. 9, 92331\_P01.

### IGN 132 (*loci* 61000 and 60900)

In the area of IGN 132, the 2017 excavations focused on a room located in the south-east corner of the area, just inside what is now identified as a temenos wall (see the reports of D. Gazagne and L. Nehmé in this volume). *Locus* 61030, which corresponds to the first occupation level and is only badly preserved in a small area in the north-west corner of the room (see fig. 18 in Gazagne and Nehmé) could be dated to the 1st–early 2nd century AD. *Locus* 61025, which is an initial layer of levelling, could be dated to the late 1st century BC to the first half of the 1st century AD. These dates, however, are suggested on the basis of a few sherds only and remain uncertain. The upper layers present a mixture of residual Nabataean elements and late material which correspond to the last occupation phase of the site (late 4<sup>th</sup>/5<sup>th</sup> century AD?).

A small sounding was also made in the northernmost corner of the temenos. The first floor level reached, *locus* 60908, yielded mainly small body sherds which do not allow to give a precise date. *Locus* 60910, which corresponds to an earlier floor, is most probably Nabataean (1st century AD). For the study of this area to be complete, the pottery from Area 64000, south-west from IGN 132, will be studied in 2018.



### City wall (loci 37000)

Excavations were undertaken in Areas 37 and 38 along the eastern section of the rampart (see P.-M. Blanc's report in this volume), in what corresponds to the towers numbered 22 and 16 respectively. *Loci* 37055 and 37056 seem to be homogeneous and can be dated to the 'late' Nabataean period in Hegra, mid- to second half of the 1st century AD. *Locus* 37060 corresponds to an intentional deposit before the construction of a possible second phase of the rampart. The complete cooking-pot found in this deposit must probably be dated to the Roman period, 2nd to 3rd century AD. The pottery from Area 38 will be studied in 2018.

### Final pottery publication

The first volume of the final publications of the pottery of Madâ'in Sâlih is the responsibility of the authors and will contain the pottery of the following excavation areas: Area 1 (by G. Charloux), Area 2 (by Z.T. Fiema, J. Rohmer and M. al-Hâjirî), and Area 9 (by Z.T. Fiema and J. Rohmer). The excavation of these three areas are now all completed.

However, in order to get a comprehensive understanding of the pottery typo-chronology from the ancient site of Hegra, pottery assemblages from specific *loci* from other areas, where excavations are still ongoing, will also be taken into account. This includes the Roman and Late Roman layers (2nd to early 5th century AD) from the Roman fort (Area 34, excavation by Z.T. Fiema) which fill the time period gaps in Areas 1, 2 and 9. It also includes the pottery from the monumental tombs excavated by N. Delhopital and I. Sachet (Area 5) as well as the pottery from the Jabal Ithlib *triclinia* excavated by L. Nehmé (Area 6). The latter two will help confirm a 1st century date for the local pottery production. All in all, the time-period covered by the areas which are included in the publication goes from the 'Hellenistic' – and possibly pre-'Hellenistic' – period to, at least, the 5<sup>th</sup> century AD.

Conversely, the pottery from the following areas will not be included: city wall and so-called South-east gate (Area 3, excavation by F. Villeneuve and P.-M. Blanc); *tumuli* (two cairn complexes excavated by W. Abu-Azizeh); IGN 132 and surroundings (Area 6, excavation by L. Nehmé, D. Gazagne, D. al-Talhi *et al.*); Area 7 (excavations by D. al-Talhi *et al.*); Area 8 (excavation by S. Marion de Procé).

The information on which the publication will be based on is two-fold: the preliminary reports published by the excavators after each excavation season in the annual project's reports; syntheses (containing Harris Matrix, maps, specific information to phases and *loci*, final conclusions, *etc.*) arranged and provided later on by each excavator. In order to help the reader understand the stratigraphy of each area, it is planned that each archaeologist (G. Charloux, Z.T. Fiema, and J. Rohmer) provides a summary of the excavations.

In the first part of the book, the pottery typo-chronology of each excavation area will be presented separately. The pottery forms and shapes will be shown on plates according to their stratigraphic order, based on the phases defined by the excavators. In the main part of the publication, the specific features of the pottery by area and by phase will be discussed. A concordance and a comparison between the different areas will follow. Functionality (vessel categories per room) and spatial distribution analysis will be provided.

After the presentation of the pottery from areas 1, 2 and 9, a chapter will present an overall pottery typo-chronology for the site of Hegra. This will include the typical and unambiguous forms and shapes which characterise each time period, an essential part of the publication which will help archaeologists identify and date their pottery material in the future.

A catalogue of a selection of the pottery<sup>1</sup> will finally be provided with the following information: 1/ catalogue number, area and *locus*, suggested phase and illustration number; 2/ morphological description and identification of the sherd, including the estimated diameter; 3/ fabric description and colour indication (although only roughly orientated on Munsell Soil Charts); 4/ parallels, with the date of the parallels as proposed in the publications; 5/ final dating for Hegra (either by period or centuries).

From the very beginning of our work on the pottery of Madâ'in Sâlih, we distinguished fabric groups (*ca.* 60), some of which may be typical of specific time periods. The majority of the sherds recorded in the pottery database can thus be assigned to one fabric group. Close-up photos of the main fabrics will be included in the publication. Finally, chemical and mineralogical analyses of a selection of fabric groups will be provided in order to define the local chemical fingerprint of the clay of the local pottery production and to determine whether some fabric groups (fine and coarse ware) were produced locally or imported. The programme of the archaeometric investigations still needs to be finalised. If funding is available, the scientific investigations and the final report will be undertaken in the course of next year.

### *Preparatory work undertaken during the 2017 field season*

During the time we spent together at Madâ'in Sâlih (two weeks), the working time was split into two parts: 1/ reading of the pottery from areas 9 and 34; 2/ going through all the excavation reports and updated syntheses on areas 1, 2 and 9, and setting up 'phasing charts' for each area with their attributed *loci*. Having these 'phasing charts' ready, we examined our pottery FileMaker database in order to check what kind of pottery sherds is present in each *locus* and to examine the date we originally suggested. While browsing through the sherds attested in each *locus*, we discussed the pottery forms, repertoire and dating. Considering that after almost ten years our knowledge of the pottery from Hegra has considerably increased, some of the datings provided in the past – especially those from years 2008 and 2009 – had to be revised. This browsing through the pottery database was an excellent exercise to compare our mutual knowledge.

### *Preparatory work undertaken after the 2017 field season*

Based on the 'phasing charts' compiled during the 2017 season, pottery plates for each phase and each area will be established, including photos showing the fabric. These will be 'working plates' in order to learn and understand the development of the vessel and rim forms and their fabrics throughout the centuries. After having established these 'working' plates, meetings will take place in order to discuss them. It is expected that the plates will be designed and ready by the end of 2017 so that it is possible, if necessary, to check the material from some *loci* during the 2018 study season.

To conclude, we would like to insist on the fact that the pottery database (3459 cards of isolated sherds and 1459 cards of *loci* so far), with all the information it contains, is a working tool which was set up in order to record all the pottery reading data. For convenience, the fields with the dating suggestions were made available to the excavators after each season *without* prior editing. Each excavator was thus supposed to check with the pottery specialists when questions or doubts concerning the suggested – preliminary – dates arise. It is also important to stress on the fact that the pottery production of Hegra is mainly local and that, since there are no published pottery typo-chronologies of Northern Arabia, the pottery typo-chronology from Hegra had to be established *ab ovo*. The establishment of a solid chronological grid for the pottery sequence is a long process and only the final publication will bring final results.

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1. Apart from the complete vessels, only clearly identifiable sherds will be published but it will be as complete as possible.

# Conservation and Care of Artefacts

Marie PEILLET (Metallic and archaeological objects conservator)

During the 2017 season, the conservation work focused on the metallic artefacts and on the pottery.

## 1. Metallic artefacts and coins

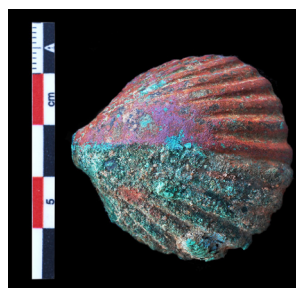
The 2017 excavations yielded many metallic (copper alloy mostly) artefacts, including complete objects such as a spoon, a key, a shell and a group of four figurines. All these objects were treated in the laboratory in order to get information that was not visible under soil and corrosion: decoration, technical and aesthetical details, etc. Some were partly and some totally cleaned, depending on the size of the object, the preservation of the material and the accuracy of the treatment.

The conservation techniques are the same for every artefact but they are combined differently. Both chemical and mechanical treatments are used under binocular. They include solvents (demineralised water, ethanol, acetone), sequestering agents (EDTA, TAC), citric acid, scalpel, fiberglass sticks, Dremel© (with diamond burs, corindon burs, steel brushes, etc.), ultrasound pen, etc.

Some broken parts were glued back together with acrylic resins (Paraloid© B72 and B44).



**Fig. 1.** Copper alloy shell 60897\_M01 before treatment.



**Fig. 2.** Copper alloy shell 60897\_M01 after chemical and mechanical treatments. The object was half cleaned as it is quite symmetrical, to have the exact profile and dimensions of its shape.



**Fig. 3.** Copper alloy key 60910\_M01 before treatment.



**Fig. 4.** Copper alloy key 60910\_M01 after mechanical treatment.





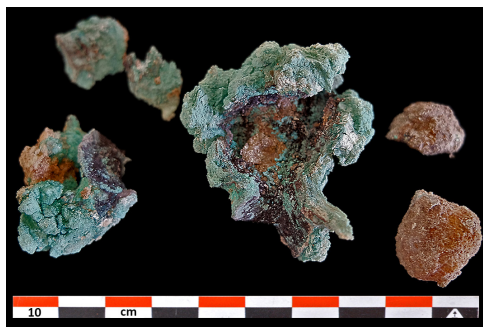
**Fig. 5.** Copper alloy tree figurine 34240\_M02 before treatment.



**Fig. 6.** Copper alloy tree figurine 34240\_M02 after chemical and mechanical treatments. All the details of the branch lines are visible and a hole, probably meant to suspend the figurine, has appeared near the extremity.



**Fig. 7.** Fragments of the Harpocrate figurine 34240\_M05 before treatment.



**Fig. 8.** Same as fig. 7.



**Fig. 9.** Copper alloy Harpocrate figurine 34240\_M05 after mechanical treatment. Some details of the surface have appeared (the belly for instance) but most of the upper part of the figure has badly suffered from heat and corrosion. An interesting detail is that the inner clay core of the sculpture is visible, allowing us to understand the technique used to produce the figurine: lost wax casting technique, with a clay core left in place. Some lead sealing residues have also been found under the feet of the figurine.

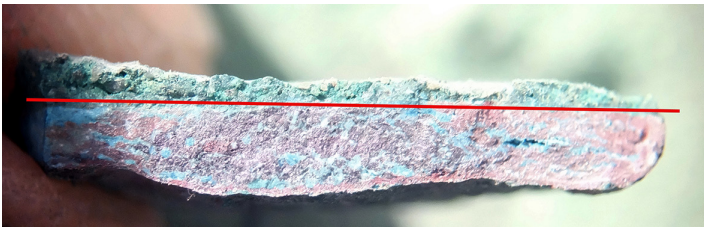
The 2017 season excavation areas also yielded a large amount of coins (approximately 128). Most of them are made of copper alloy of different quality and manufacturing techniques, depending on the period they date back to and the location of the workshop they were made in. Some of them are very well preserved but the vast majority is badly damaged.



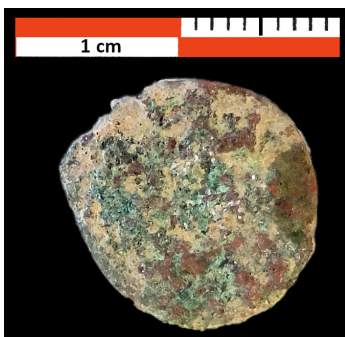
**Fig. 10.** The conservation lab organisation, working close with Thomas Bauzou, the project's numismatist.

The corrosion layers of copper alloy coins are typical of Madâ'in Sâlih: the external layer is very thick, light green and contains a lot of sand grains. The internal layers are mostly made of cuprite, red, dense and hard. The surface which contains the interesting information is more or less located at the interface between these two layers. One should note however that the succession of layers varies over the surface of the coins and the identification of each is not so easy.

The treatment applied to the coins allowed to identify four silver coins, very well preserved under



**Fig. 11.** Coin corrosion stratigraphy, with the original surface materialised with a red line.



**Fig. 12.** Well preserved coin Surface\_C327 before treatment.



**Fig. 13.** Well preserved copper alloy coin Surface\_C327 after chemical and mechanical treatments.



**Fig. 14.** Partially damaged coin after treatment.

a thick copper corrosion (the material was an alloy made of a lot of silver and a little copper).

The 2017 results for the coins which were treated was good : most of the coins could be read



**Fig. 15.** The coin being restored.



**Fig. 16.** Silver coin 34015\_C01 under treatment. Most of the corrosion has been removed with acid citric bath and the rest is treated mechanically. Part of the red and green corrosion layers are still visible.



**Fig. 17.** Silver coin 34015\_C01 after chemical (citric acid) and mechanical treatments.



by Thomas Bauzou. Finally, coins which had already been treated in the previous seasons were checked and examined/treated again when possible (particularly the so-called “owl” type coins) in order to retrieve more information from them.

## 2. Pottery

This year, the excavation areas have provided many rather complete pottery pots, broken into pieces. In order to help the archaeologists studying the pottery types and shapes, almost a dozen of them were at last partly restored.

The sherds were cleaned with water by a workman, except for one fragile specimen, but the edges were systematically cleaned again with mechanical tools, due to the hardness of the soil crust. The sherds were then glued back together with acrylic resins (Paraloid© B72 and B44).

The assembled pieces were carefully put in boxes with protective paper cushions to avoid any breaks. If necessary, they can be totally reassembled, for example in order to be exhibited.



**Fig. 18.** *Work in progress in the pottery laboratory.*



**Fig. 19.** *Organised sherds of the 92343\_P01 pottery.*



### 3. Other works

Stone and glass objects have also been treated in the conservation laboratory. They were cleaned with water, glued back together or consolidated with acrylic resins (Paraloid© B72 and B44).

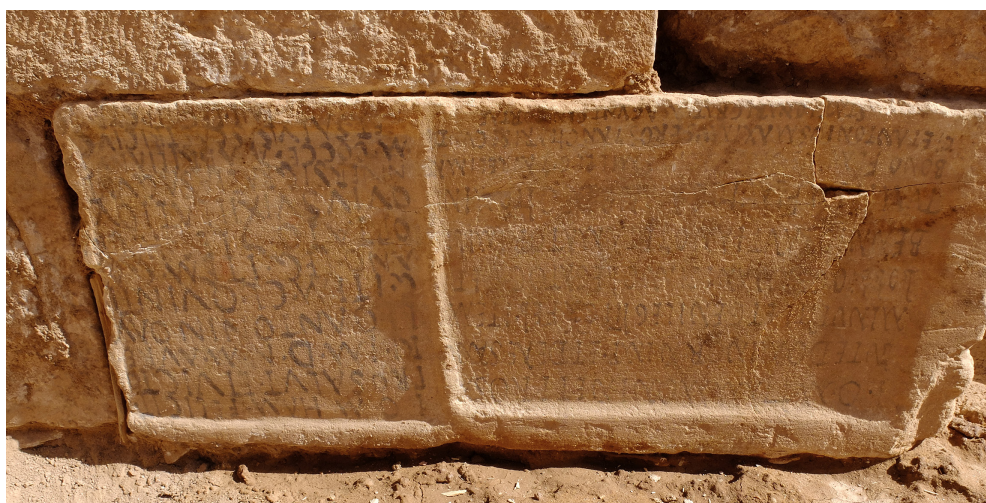


**Fig. 20.** *Salinated glass sherd 35408\_G01 before treatment.*

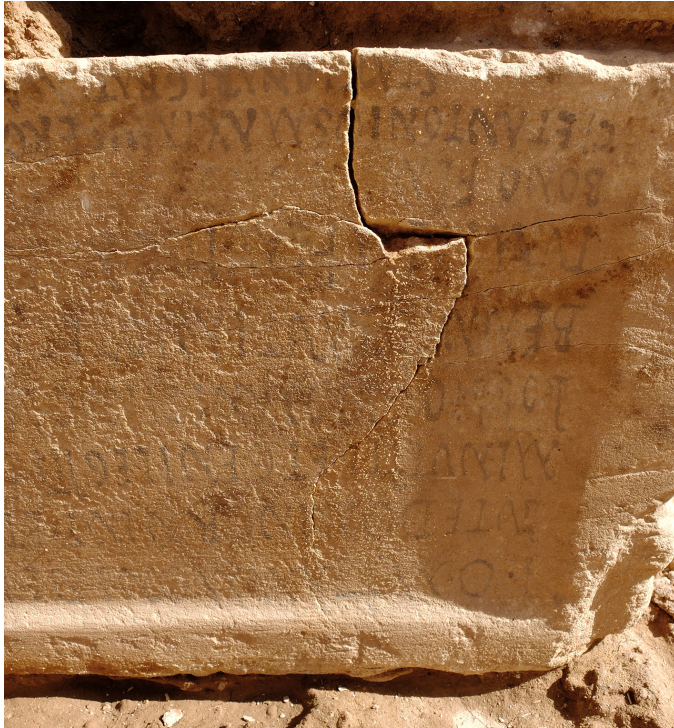


**Fig. 21.** *Salinated glass sherd 35408\_G01 after consolidation. The sherd was found in the last days of the campaign so it couldn't go through a desalination treatment (put in demineralized water for a few days). Nevertheless the consolidation should keep it in good enough condition to be treated during next campaigns.*

Again (it was also the case in 2014 and 2015), inscriptions were discovered in the so-called South-east gate of the rampart, on some of the stones used for the foundation of the building. Some of them showed cracks or abrasions which the unearthing may emphasize. Some consolidations were therefore made by infiltration of acrylic resins (Paraloid© B72 and B44) or vinyl resin.



**Fig. 22.** *Latin inscriptions painted on blocks reused in the South-east gate of the rampart which needed consolidation.*



**Fig. 23.** Part of the same stone after consolidation of the cracks.

During the 2017, the conservation laboratory was very active and more than 100 objects were treated. A focus was put on the treatment of the complete pottery pots.

## Faunal Report, with a Focus on Modified Knucklebones

Jacqueline STUDER (National Museum of Natural History, Geneva)

The 2017 archaeozoological season aimed at completing the faunal analyses of the bones discovered during the previous excavation seasons, mainly in Area 1, as well as continuing the study of the fauna remains which come from areas where work is still in progress. For the latter, priority was given to the Roman fort (Area 34), to the area of the Nabataean sanctuary (Area 60), to Area 92 and to the so-called South-east gate of the ancient city (Area 35). By the end of the season, 2,295 new animal remains were recorded in the faunal data bank.

It was also decided, this year, to focus on the camel bones (tentatively attributed to *C. dromedarius*) that were found next to the South-east gate (Area 35). They were found in an almost sterile level attributed by the excavator, F. Villeneuve, to the transition between the 2nd and the 3rd century AD (Villeneuve 2015). These remains, which appeared as forming part of a camel skeleton, had been previously removed from the field (in several blocks) with their surrounding sediment. It was therefore possible, in 2017, to excavate them carefully in the base camp. Once cleaned and reconstituted in their anatomical position, ribs as well as thoracic and lumbar vertebra revealed the presence of chop marks that were not obvious when each bone was observed separately. This partial thoracic section is a huge part of waste which results from the preparation of the dromedary carcass.

Another unexpected find was that of the talus (astragalus) bone of a sheep (*Ovis aries*) which can be linked with the spectacular discovery, hidden under a heavy sandstone basin in the Roman fort, of several Cu/Cu alloy statuettes or statuette fragments (see Z.T. Fiema's report). This very strange discovery provides the opportunity to briefly discuss all the talus bones discovered so far at Hegra, which belong to several periods. This bone in particular has raised a lot of interest among archaeozoologists, for reasons which are summarised below.

The astragalus, also known as the talus or knucklebone, is one of the relatively small compact bones at the junction of the lower hind limb. Two such bones, a left one and a right one, are found in each animal. The talus of small ruminants presents a shape close to a rectangle and it can easily be held in a human hand (Poplin 1984). Apart from astragali which represent dietary and butchery refuse, modified astragali of caprines (sheep and goats) are frequently found in archaeological sites from different periods all over the world, including North America, Europe and Asia (e.g. Lass 1981: 8, Reese 1985, Holmgren 2004, Dandoy 2006, Sasson 2007, Bejenaru *et al.* 2010, Bernáldez-Sánchez *et al.* 2013, Carè 2013). Several types of modifications have been documented in the publications. These include: 1/ smoothing of the medial and/or lateral sides of the bone to create flat surfaces; 2/ intentional perforation, often multiple, with holes sometimes filled with metal; 3/ coloration applied to astragali; 4/ decoration with incisions; 5/ writing of inscriptions on them. In addition, concentrations of astragali are found (from pairs to hundreds of items), sometimes made of unmodified bones only and sometimes made of a mixture of modified and unmodified bones.

Many different uses for these modified astragali and astragali caches have been suggested. They have been interpreted as offerings (votive offerings in temples or in funerary contexts), as weights



for use in commerce, as tokens or money, as objects used for divination, and as pieces used for gambling or for games, much like dice (e.g. Gilmour 1997, Reese 1985, Holmgren 2004, Affani 2008, Carenti 2012, Tahberer 2012). Caprine astragali have a particularly suitable size and shape for use in games which require a number of pieces on a wooden or stone flat board and their interpretation as gaming pieces has been the most commonly adopted explanation. Astragali are still used in games in Asia, Europe, and North America (e.g. Brewster 1960, Dandoy 2006).

In the Middle East, the oldest use of a talus is attested in 5th millennium BC Iran. In the Iron Age, astragali became a common item, regularly found by dozens in Levantine sites (Gilmour 1997, Dandoy 2006). In this short report, I will present places in ancient Hegra where modified astragali or concentrations of astragali were found and briefly discuss their possible uses.

Nearly all of the 32,000 animal remains recovered to date from ancient Hegra derive from culinary process. Bone elements which do not enter into this process are difficult to recognise and this is particularly the case of the talus (**fig. 1**). It is well known that humans always were, and still are, attracted by this small bone. To date, at Hegra, 315 talus have been documented, of which 289 correspond to domestic sheep and goat, and 5 represent gazelle. Three main arguments made us consider these talus as non-refuse bones: the presence of an anthropic modification on the bones, an accumulation of talus in the same archaeological unit, and finally a specific and/or unusual archaeological context. All this considered, some 86 pieces have been identified as artefacts, all of which derive from sheep, goats and gazelles (**fig. 2**).

Several types of modifications have been noted (via macroscopic analysis or under a binocular x15). The most common and the easiest to recognise consists in the abrasion of the lateral or medial side of the talus by rubbing it against a hard surface (**fig. 3**). The smoothing may have been done intentionally in order to obtain a flat face but it may also result from its use. In order to distinguish between traces left by manufacture and traces resulting from wear, one needs at least a microscopic analysis that has not yet been undertaken. Such abrasions have been observed on 12 astragali (see fig. 1): 8 in Area 1 (pre-Nabataean period: *loci* 10227, 10319; post-Roman period: *loci* 10133, 10137, 10148, 10177) and 2 pieces in Area 2 (*loci* 25012, 25438).

Another type of modification identified on the material is the presence of a patina which covers part or all of the astragalus. This patina is likely to be the result of contact between the talus and



**Fig. 1.** Talus from ancient Hegra identified as butchery remains. It includes two articulation parts of the lower hind limb still in anatomical connection (photo J. Studer).

a smooth surface, whether vegetal or animal. It is possible to imagine a textile or leather basket used to keep the bones or, more likely, a regular manipulation of the talus in the hands. Two such astragali have been identified in Area 1 (post-Roman period: *loci* 10133 and 10148).

Three exceptional types of modifications which, as far as I know, are not or rarely documented in the publications, have also been identified at Hegra. Indeed, we found talus that seem to have been painted in red (2 pieces in Area 6, 4th century AD, *locus* 60893), a talus probably intention-

TALUS <i>Locus</i>	Period	Sheep or goat	Sheep <i>Ovis aries</i>	Goat <i>Capra hircus</i>	Gazelle <i>Gazella sp.</i>	Total
<b>Concentration total</b>		29+2m	25	17+1m	3	77 (74+3m)
10319	Hellenistic	12+2m	—	—	—	14 (12+2m)
34207	4th c. AD	3	12	5	—	20
60893 and 60894	4th c. AD	7	6	6	3	22
10177	post-Roman	7	7	6+1m	—	21 (20+1m)
<b>Isolated talus total</b>		6m	2m	1m		9m
10227	pre-Nabataean	—	1m	—	—	1m
34240	4th c. AD	—	1m	—	—	1m
10133	post-Roman	1m	—	—	—	1m
10137	post-Roman	1m	—	—	—	1m
10148	post-Roman	1m	—	—	—	1m
10279	post-Roman	2m	—	—	—	2m
25012	?	1m	—	—	—	1m
25438	?	-	—	1m	—	1m
<b>Total</b>		<b>37 (29+8m)</b>	<b>27 (25+2m)</b>	<b>20 (18+2m)</b>	<b>3</b>	<b>86 (74+11m)</b>

Fig. 2. Quantification of talus artefacts found in ancient Hegra. Out of 86 talus recognised so far as artefacts, 77 are part of four concentrations and 11 are modified (3 from a concentration and 9 isolated ones). m = modified.

Fig. 3. Modified right talus of a goat *Capra hircus* (*locus* 10177, Post-Roman period). Dorsal view. Severe abrasion of the medial side to create a completely flat surface (on the right on the photograph). In addition, the talus shows damage due to rodent activities. This piece is part of a concentration of 22 astragali found in Area 1 (photo Y. Gayet).



ally put in fire to become harder (same *locus* 60893), and a talus that presents a slight patina around the hole in the centre of its dorsal face (Area 34, *locus* 34207). The latter can be related to the votive/cultic deposit found in room XI of the Roman fort (Area 34, phase 4) which includes several Cu/Cu alloy statuettes. We suggest, as a preliminary interpretation, that this astragalus was used as a recipient or as support for a soft substance (incense?).

Four groups of knucklebones were found in ancient Hegra. The oldest one is dated to the 'Hellenistic' period and consists of 14 talus (Area 1, *locus* 10319). Five of them are goat (2 left and 3 right talus), 6 are left talus from sheep and 3 represent unidentified domestic caprines (2 left and 1 right). The second group comes from a level dated to the 4th century AD (Area 6, *loci* 60893 and 60894). It contains 22 astragali that correspond to 6 sheep (4 left and 2 right), 6 goats (3 left and 3 right), 7 domestic caprines (4 left and 3 right) and 3 gazelles (2 left and 1 right). The third group of talus contains 21 astragali and was found in the same room as a flat base of a basin possibly used as game board (Area 1, room 10111, Charloux *et al.* forthcoming). They represent 7 goats (2 left and 5 right talus), 7 sheep (4 left and 3 right) and 7 sheep or goat astragali (5 left and 2 right). One last find includes 20 talus recovered in the Roman camp (Area 34, *locus* 34207). They are represented by 12 sheep knucklebones (6 left and 6 right), 5 goats (4 left and 1 right) and 3 domestic caprines (3 left).

This preliminary analysis of the astragali used by the inhabitants of ancient Hegra shows that this particular bone served different purposes. Talus have served as some kind of hard support in a votive/cultic context in Area 34 as well as game pieces in Area 1. In order to give a more detailed analysis that what is presented in this report, one would need a microscopic investigation. It is however possible to say that both sheep and goat were equally used and the animal species did not play a crucial role in the choice of the bone, except for the gazelle. The reason for each of the concentrations of talus, especially the accumulation in Area 6, with gazelle astragali, coloured sheep or goat pieces and such a large number of talus, is a pending question which will require more detailed analyses to be answered.

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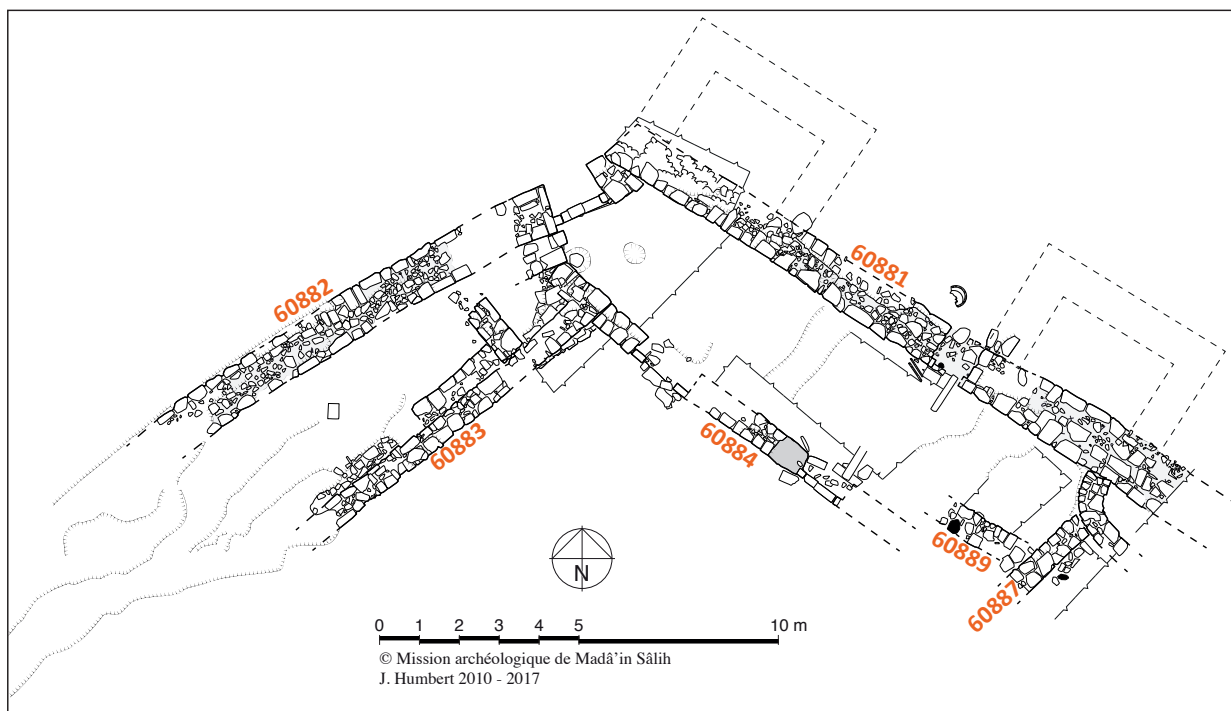
## Restoration and Site Preservation

Ibrahim AS-SABHAN (Masmak Museum) and Mohammed AL-MATHAMI (SCTH)

Restoration and site preservation have always been among the priorities of the Madā'in Šāliḥ Archaeological Project and the 2017 season was not an exception. Two members of the team took these aspects in charge and their reports are presented together because they are in a way complementary.

### Restoration (I. as-Sabhan)

During the 2010 excavation season, work around the sandstone outcrop IGN 132 included the scraping of the sloping terrace which extends north of the hill. In its lower part, four walls built in masonry and made of sandstone blocks were brought to light and cleaned (**fig. 1**): 60881, 60882, 60883, 60884, to which should be added two small sections of walls, 60887 and 60889. Two of these walls, 60881 and 60882 were, and are still interpreted as the temenos wall of the sanctuary (see the report of D. Gazagne and L. Nehmé in this volume). The other two, 60883 and 60884, which are narrower, are later, probably Roman, additions, built when at least part of the internal space of the sanctuary was turned into a domestic or craft area. This is also probably the case of 60887 and 60889.



**Fig. 1.** Plan of the area where restoration work was undertaken in 2017.



Wherever their foundations were observed, the walls are founded on the bedrock and the masonry follows closely its profile (**fig. 2**). In places, the bedrock was even cut in order to prepare a ledge on which to place the blocks. The walls are double-faced with rubble in the middle. The sandstone blocks are of uneven quality and the stone has suffered from destruction and weathering. Moreover, it turned out that the jute canvas we used to protect the walls at the end of the 2010 season were not as efficient as we assumed: the canvas became damp and stuck to the stones, thus increasing the weathering of the stones. It was therefore time we removed them. Several excavation areas were restored between 2011 and 2016, including the platform on top of IGN 132, and the four walls mentioned above were not considered as a priority until we resumed large scale excavation in the area of IGN 132 in 2016. Besides, in the meanwhile, the restoration team gained experience in the treatment of walls built in masonry. The restoration technique is indeed not the same as for the mudbrick walls: it is necessary to collect stones and in many cases to cut them to the right size in order to make them fit into the restored wall. This requires special technical skills which are now available.



**Fig. 2.** *View of wall 60882 at the end of the 2010 season.*

It was therefore decided, in 2017, to proceed to the restoration of these walls in order to start making IGN 132 accessible to the public. The walls mentioned above, with the exception of wall 60884, which was not touched this year, were restored.

First, as usual, mud mortar was prepared in the area devoted to this activity, away but not too far from the excavation areas (**fig. 3**). The 'recipe' is now perfectly mastered. At the same time, the jute canvas was removed and the walls were cleaned with brushes and trowels. The edges of the walls were also cleaned in order to determine the exact thickness of each wall and the number of preserved courses. After that, the walls are sprayed with water and mud mortar is spread over what is left of them. The external faces of the walls are then rebuilt with new stones, sometimes cut on site, and the space between them is filled with rubble (**fig. 4**). The walls were not all restored in one go but one section after the other, each section being between 2 and 5 m long and between 37 to 77 cm high.

At the end of the restoration season, more than 20 m of walls built in masonry were restored (**fig. 5**), and this improved considerably the aspect of the north-west corner of the Nabataean sanctuary. Further restoration is of course needed and will be undertaken in forthcoming seasons.





**Fig. 3.** Preparation of the mud mortar in 2017.



**Fig. 4.** Wall 60882 during restoration of the masonry.



**Fig. 5.** Aerial view of the restored area at the end of the 2017 season.

## Removal of baulks (M. al-Mathami)

The area south-west of IGN 132 was first excavated in 2003 according to the so-called 'wheeler' square system, i.e. 3 × 3 m squares with 0.75 to 1 m wide baulks between them (fig. 6).<sup>1</sup> Nine squares were thus excavated with baulks between them. These baulks were useful at the beginning to remove the excavated material and to circulate between the squares, but they have two disadvantages: they hamper the understanding of the structures brought to light and they are also not very nice for sightseeing. The decision to remove the baulks was therefore taken at the beginning of the excavation project, in 2008. After that, baulks were removed first in Area 7 (2008, 2009), then in the area excavated in 2003 (starting from 2011).<sup>2</sup> The last baulk was removed in 2017 (fig. 7). The area south-west of IGN 132, or so called 'Architectural unit' is now completely uncovered (fig. 8) and the connection between the architectural features appears much more clearly on the plan. This allows, in turn, for a better identification of the walls, thresholds and doors and hence of the rooms.

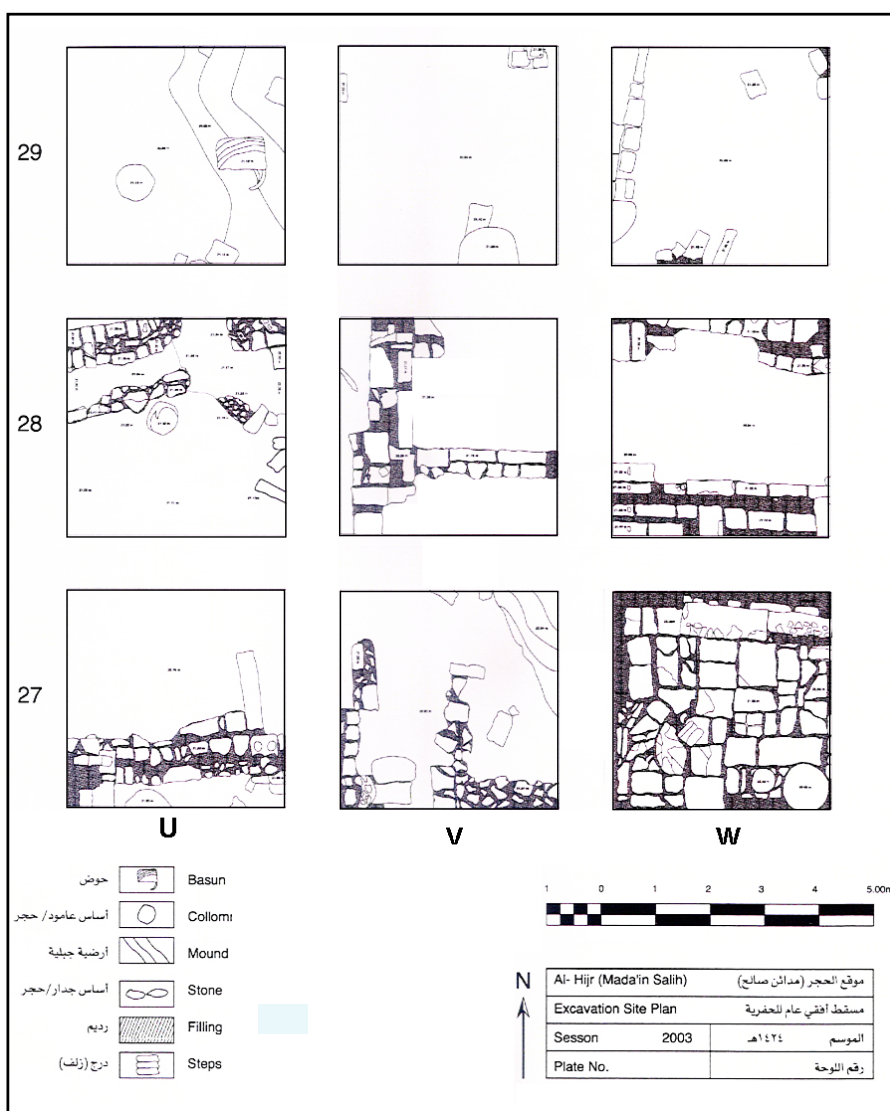
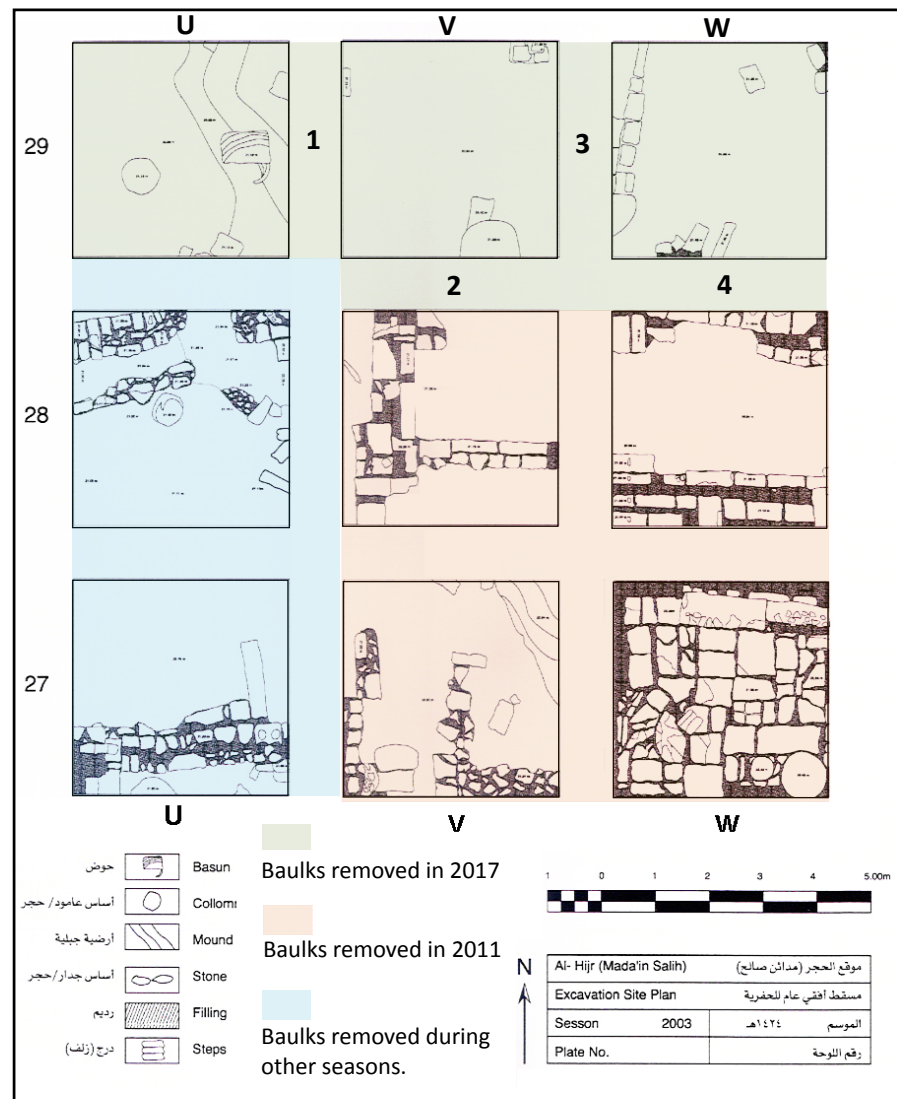


Fig. 6. The area excavated in 2003.

1 This system was abandoned in the subsequent excavation seasons, from 2011 onwards.

2 This area does not have a number of its own, only its continuation to the south was given number 64000 and 65000.





**Fig. 7.** The removal of the baulks between 2011 and 2017 in the 2003 excavations.

The baulks removed in 2017 are the following (see fig. 7):

- between squares U29 and V29: baulk no. 1;
- between squares V28 and V29: baulk no. 2;
- between squares V29 and W29: baulk no. 3;
- between squares W28 and W29: baulk no. 4.

**Baulk no. 1:** the removal of this baulk yielded to the uncovering of a long north-south mudbrick wall (see fig. 8), *locus* 65223, which rests over two courses of stones, *locus* 65224. At the northern end of this wall, the threshold of a door was put to light. The bedrock was reached at 782.19 m asl.

**Baulk no. 2:** the removal of this baulk did not yield anything apart from the base of a stone basin, 1.07 m in diameter (*locus* 65226, see fig. 8). The bedrock was reached at 782.39 m asl.

**Baulk no. 3:** the removal of this baulk yielded to the uncovering of a north-northeast–south-south-west stone wall, *locus* 65229 (see fig. 8). Some of the stones of this wall, particularly in its northern part, had fallen. This a one face wall thin wall, the original width of which was 23 cm. It is preserved up to 42/44 cm high. Note that this wall connects with east-west wall 65232, for which see below. The base of a stone basin, 0.95 m in diameter and 8 cm thick, *locus* 65228, was also uncovered under the baulk. The bedrock was reached at 782.34 m asl.



**Fig. 8.** Aerial view of the area south-west of IGN 132 with the new architectural features uncovered after the removal of the baulks.

**Baulk no. 4:** the removal of this baulk uncovered several features (see fig. 8). These are an east-west stone wall, 4.66 m long and from 0.98 m (west) to 1.20 m (east) thick, *locus* 65232, which is connected to wall 65229 and the eastern part of which has collapsed; a threshold, 1.72 m long, with the remains of a doorjamb numbered 65230 (this threshold is more or less opposite a previously identified threshold); mud bricks between two stone facings, *locus* 65233. The bedrock was reached at 782.30 asl.

It will be necessary, in the future, to draw on the plan of the area all the new architectural features which were uncovered during the removal of the baulks and then to undertake a reflexion on the area as a whole.



## Other activities of the Madā'in Šāliḥ Project

Laïla NEHMÉ (CNRS, Orient & Méditerranée )

Apart from the excavations and the study of the material, a number of activities are undertaken by various members of the team during each season. These include lectures, visits, films, but also proper archaeological or epigraphic research. They are presented below under three headings. Some of them activities are important and deserve particular attention.

### Archaeological activities

#### *The religious monuments of the Jabal Ithlib*

During the first five year research programme at Madā'in Šāliḥ (2002–2006), the religious monuments of the site, most – but not all – of which are located in the area of the Jabal Ithlib, were the object of a systematic survey in order to determine their location as well as describe, photograph and measure them.<sup>1</sup> Sketch drawings were made and a pre-publication catalogue was established. During the same research programme, all the Nabataean inscriptions which are associated with these religious monuments, c. 400, were recorded and proper copies as well as provisional readings were made in view of a joint publication of the monuments and the inscriptions.

A close examination of the documentation prior to the field season showed however that some measurements were missing, that the descriptions were sometimes incomplete, and that new photographs had occasionally to be taken. Delphine Seigneuret and I thus devoted two days, in 2017, to a proper reexamination of all the small monuments for which complementary information or documentation was needed. It is hoped that during the 2018 season, the same will be done with the inscriptions so that the publication of both the archaeological and epigraphic records related to the Nabataean sanctuaries of Madā'in Šāliḥ can be prepared in the next couple of years.

#### *The Dadanitic watch post of the Jabal Ithlib*

During the 2016 season, Khalid Alhaiti and I spent two days finding and photographing a large group of Dadanitic inscriptions (epigraphic point no. 94.1) written on a vertical rock panel covered with a dark patina in a very high and difficult to access narrow terrace located on the northern side of the Jabal Ithlib mountains (**fig. 1**, see the 2016 report,<sup>2</sup> p. 125–126). A large

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1. See L. Nehmé 2004. “Explorations récentes et nouvelles pistes de recherche dans l'ancienne Hégra des Nabatéens, moderne al-Ḥijr / Madā'in Šāliḥ, Arabie du Nord-Ouest”, *Comptes rendus de l'Académie des inscriptions et Belles-Lettres*: 631–682 (see p. 656–667).

2. <https://hal.archives-ouvertes.fr/hal-01518460>





**Fig. 1.** The location of the watch post. **1.** The panel with the Dadanitic inscriptions; **2.** The watch tower; **3.** The path leading to inscribed panel, with many inscriptions carved on the horizontal surface of the rock.

part (36) but not all of the inscriptions had been published by H. Abu al-Hassan in 2002.<sup>3</sup> Some of them are very carefully carved, including in relief, and may be considered as ‘monumental’. The collection is very interesting because fifteen texts contain the expression PN + *nṯr ddn*, ‘PN, he protected Dadan’.

In 2017, in order to show the place to Jérôme Rohmer, who is interested in the pre-Nabataean occupation of Madā’in Šāliḥ, and to photograph again, after cleaning with a smooth brush, the – so far all unpublished – inscriptions written on horizontal surfaces along the path which leads to the large panel (**fig. 2**), we went back to the place and discovered, on a terrace facing the inscribed panel but on the other, south, side of the fault, a well preserved tomb (**fig. 3–4**). It is built in dry masonry under a rock overhang and it still contained a few human bones scattered on the surface inside the tomb. A few meters away from it, two rectangular basins are dug in the rock which forms a natural bench at this point (**fig. 5**). One is shallow (21 × 33 cm and 3 cm deep) while the larger one is deeper (35 × 42 cm and 8 cm deep). A small canal is dug between the front side of the second basin and the ledge of the bench, probably to drain off excess liquid, whatever it was (water? liquid for libations?). On the vertical face of the rock below the basin and on the horizontal surface of bench, two small groups of Dadanitic letters are incised.

Considering the location of the tomb, it is very likely that it is associated with the inscriptions: did a soldier die while on duty on this watch post and was he buried there? Whatever the scenario, there is no reason to consider the tomb as modern. Besides, since there is no trace of Nabataean remains in the area, we tentatively suggest that the tomb belongs to the same period as the inscriptions, i.e. a time when Dadanitic inscriptions mentioning Dadan were written in the area. Considering that the academic community is desperately seeking for an absolute dating of the Dadanitic inscriptions which are thought to date to the second half of

3. H. Abu al-Hassan 2002. *Nuqūš liḥyāniyyah min miṭṭaqat al-‘ulā. Dirāsah taḥlīliyyah muqāranah*. Ar-riyāḍ.





**Fig. 2.** Dadanitic inscriptions carved along the path leading to the main inscribed panel.

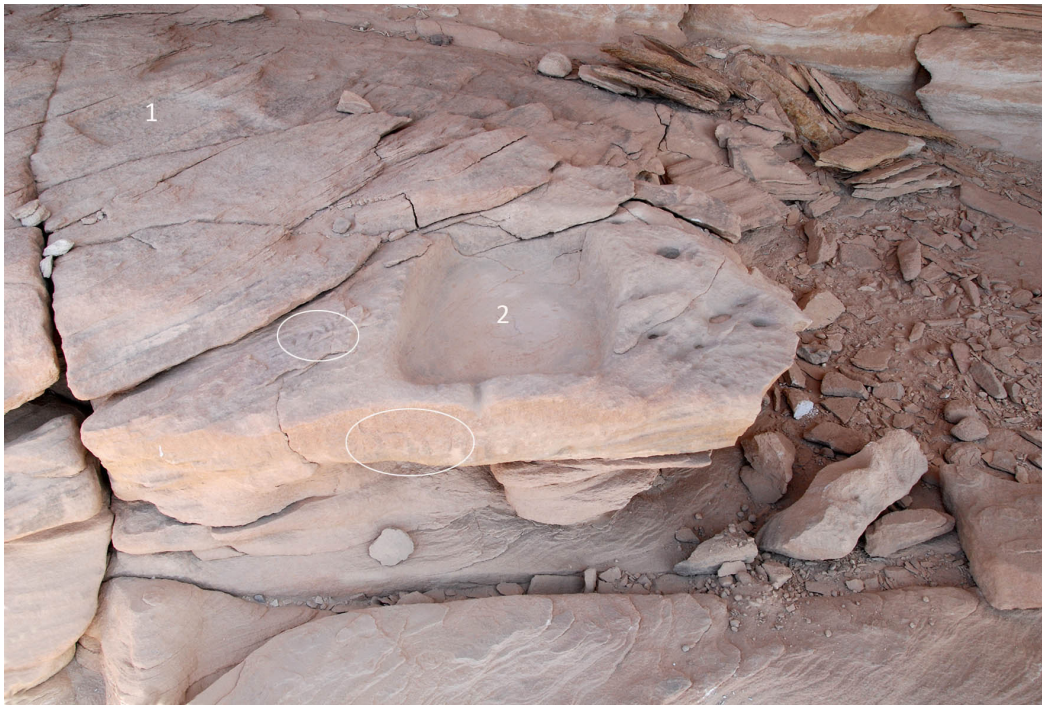


**Fig. 3.** The tomb on the other side of the fault.



**Fig. 4.** General view of the tomb, built with local sandstone slabs.





**Fig. 5.** The basins on the natural bench of rock. **1.** The shallow one; **2.** The deep one. In the circles, Dadanitic letters.

the first millennium BC (but none of them is dated), a few bones were removed from the tomb and exported to France for  $^{14}\text{C}$  dating. They were handed over to Antoine Zazzo, from the CNRS team of the National Museum of Natural History. A preliminary analysis of the bone fragments showed that there may still be enough collagen in them for a traditional dating (as opposed to the use of apatite) but in such small quantity that the preparation of the sample needs special procedures. The date will hopefully be obtained in the autumn of 2017. If a relatively precise date is obtained, this would give, for the first time, an absolute date for a group of Dadanitic inscriptions, and it would give the first secure chronological point of reference for the kingdom of which Dadan was the capital.

Finally, I went back to the place on a personal visit at the end of the 2017 season and discovered, on a platform between the inscribed panel and the terrace with the tomb, the remains of a tower – obviously a watch tower – on one side of which three courses of the external ring are preserved (**fig. 6**). A small sounding in the middle might yield archaeological artefacts and we will try to undertake this in the near future.



**Fig. 6.** General view of the watch tower.



The inscriptions, the tomb and the watch tower form a very interesting group of remains which combine inscriptions and archaeological structures and it deserves attention despite the difficulty of access. There are also, on the summit of several hillocks in the same area of the Jabal Ithlib, towers or open air shelters built in dry masonry which may be either be Ottoman (but why build them so far from the Ḥijāz railway buildings?) or ancient, but for the moment not a single sherd of pottery was found around them and some are inaccessible without climbing facilities.

### *The flower pot*

I was asked by Ali al-Ghabban, former general secretary of the Saudi Commission for Tourism and Heritage, to find and examine the painted drawing of a flower pot which was supposed to come from the Jabal al-Maḥjar area north of Madā'in Sāliḥ and was subsequently published in *Adumatu* in 2016<sup>4</sup> as being a Nabataean painting. A reconnaissance survey on the terraces of the Jabal al-Maḥjar allowed me to find the flower pot (**fig. 7**). The latter is in fact painted on an Ottoman quarry face, identifiable not only through the traces left in the rock by the dynamite sticks used in the quarries at that time, but also through the dry stone shelters and dry stone mosque built and used by the Ottomans on the Jabal as well as by a cartridge case found in the vicinity. The latter bears an inscription in Arabic letters which reads "Mauser" and the date 1329 (AD 1911), i.e. four years after the opening of the al-Ḥijr railway station. It is well known that the Mauser rifles equipped the Ottoman army and it is likely that soldiers were on guard on top of this outcrop. The Ottoman settlement at Madā'in Sāliḥ is an interesting subject of study and might be worth investigating further in the future.



**Fig. 7.** *The Ottoman flower pot painted on a quarry face.*

## Epigraphic activities

### *The Dadanitic inscriptions of Madā'in Sāliḥ*

During the 2016 season, Khalid al-Haiti and I had spent a few days re-examining the collection of c. 100 Dadanitic inscriptions of Madā'in Sāliḥ which belong to about about seventeen epigraphic points scattered throughout the site. Proper geographical coordinates were taken, previously published inscriptions the precise location of which was not known were searched for and new

4. By M. al-Daire and A. Al-Abodi.

photographs were taken. While doing this survey, we realised, however, that some inscriptions had to be photographed at a particular time of the day in order to get a proper light. The approximate time was written down and in 2017, I visited again these epigraphic points and photographed the inscriptions with a good light. The Dadanitic ‘file’ is therefore ready to be prepared for publication, with the proviso that some inscriptions are so badly preserved or written over that it will be impossible to read them from the photographs. Proper copies and reading will have to be done *in situ* for some of them.

### *The Arabic inscriptions of Madā'in Šāliḥ*

With the agreement of the directors of the project, the opportunity was given to Maher al-Musa, from the SCTH research centre in Riyadh and a member of the Madā'in Šāliḥ team since 2008, to survey the Arabic inscriptions which are incised in the Jabal Ithlib, the number of which may reach one hundred (fig. 8).<sup>5</sup> The location of some groups of texts was already known but Maher al-Musa undertook a more systematic survey, photographing and recording the location of all the inscriptions in the area. It is hoped that Maher al-Musa will be given permission to study them, possibly as part of a PhD dissertation. The Arabic inscriptions are the only epigraphic evidence of Madā'in Šāliḥ which have not been surveyed yet and since no occupation from the Islamic period was evidenced during the excavations, these texts are the only witness of the presence of people or of passersby in the area. Many of them seem to be relatively early, and it would be very useful to have them properly recorded.<sup>6</sup> An official permission will be requested from the SCTH in order to study them in due time. This study will be integrated in the Madā'in Šāliḥ project and the documentation recorded with the same accuracy.



Fig. 8. Arabic inscriptions in the Jabal Ithlib (*al-Kilābī 2009: no. 181–184*).

5. Only eight of them were published by H. al-Kilābī in 2009 (no. 178–185): H. al-Kilābī, *al-nuqūš al-'islāmīyyah 'alā ṭarīq al-ḥajj al-šāmī bi-šamāl ġarb al-mamlakah al-'arabiyyah al-sa'ūdiyyah (min al-qarn al-'awwal 'ilā al-qarn al-ḥāmis al-hijrī)*. Ar-riyāḍ: Maktabat al-malik Fahd al-waṭaniyyah.

6. Some of them had probably been recorded more than ten years ago by Jahaz ash-Shammarī.



### Inscription CIS II 333

While on a touristic visit in the old village of al-'Ulā, my attention was drawn, by the guide who was accompanying me, Ahmad al-Emam, to what he thought was a 'lihyanite' text carved on a sandstone block reused vertically in the lower part of the left doorjamb of a house door which had recently been restored (**fig. 9**). Considering that it was visible to anyone who was visiting this part of the old village, and therefore subject to robbery, the Saudi Department of Antiquities was immediately informed and we were asked to supervise the removal of the stone by the workmen in charge of the restoration. The stone was then moved to Madā'in Ṣāliḥ and is now in the storerooms of the al-'Ulā museum.

This inscription is in fact not Lihyanite (one should say Dadanitic) but Nabataean (**fig. 10**), and it is written in a script which is not 'calligraphic' 1st century Nabataean but shows characters which are evolving towards what is called, from the end of the 3rd century onwards, Nabataeo-Arabic. The examination of the stone allowed to identify it as CIS II 333, an inscription which was known so far only by 19th century hand copies made by J. Euting and Ch. Huber. The text is likely to be dated to the early 4th century AD. I made many photographs and a proper copy of it but the surface of the stone is in places very worn and no complete reliable decipherment can be offered yet.



**Fig. 9.** The stone bearing inscription CIS II 333 in the doorjamb of a house in al-'Ulā old village.



**Fig. 10.** CIS II 333 after removal from the doorjamb (see fig. 9).

## Various

### Aerial photos by drone

It was decided, in 2017, to try to obtain an orthophotograph and a Digital Elevation Model (DEM) of the residential area of ancient Hegra. This will allow the drawing of all the walls and other structures (for example the stone basins) which are visible on the surface of the urban settlement and will help undertake a reflexion on the urbanism of the ancient city, especially if the results of the interpretation of the aerial image are compared with those of the geophysical surveys. The QuickBird satellite image which the project had bought more than ten years ago is indeed not accurate enough (60 cm per pixel) to allow for this kind of analysis. Photogrammetry has been used in archaeology since the 1970s but the drone technology now makes it accessible to archaeological projects with much



reduced costs. It has been used recently in various sites in Saudi Arabia, for example in 'Aynūna and in Thâj, and it is time it is applied in Madā'in Šāliḥ.

The SCTH very kindly put at the project's disposal a drone and a pilot who came to Madāin Sâlih and flew over the residential area. However, because of the kind of drone (small Phantom) and its equipment (fisheye lense only and no possibility of following a fly plan), it was not possible to make photographs usable for photogrammetry. Instead, only documentary photographs of each area were taken (**fig. 11**).



**Fig. 11.** Aerial view (with a fisheye lense) of the area of the Roman fort, from the west. This photograph has only an aesthetic value.

It was consequently decided to ask a specialised firm, FalconViz (<http://www.falconviz.co>), a Saudi registered company focused on 3D surveying and mapping by Unmanned Aerial Systems, hosted at King Abdullah University of Science & Technology in Jeddah, to come and take aerial photos. After defining precisely the area to be surveyed (the residential area and its immediate surroundings), a good financial agreement was found between FalconViz and the project. Official permissions were obtained from the Saudi authorities, 22 targets in the form of square slabs painted in black and white were placed at regular intervals on the ground and their geographical coordinates were determined with a differential GPS. A team<sup>7</sup> from FalconViz came on March 2nd and performed three flights (**fig. 12**): one of the whole area with a fixed wing (FVJet), which is optimised for scanning large areas at 2.5 cm definition, and two of restricted areas (Area 9 and around IGN 132) with a Hexacopter, which gives images at an even better resolution. The results (GIS data, Digital Elevation Model, orthophotos, etc.) were handed over to the project in May and are now ready to be used. It is hoped that this data as well as all the other geographically centred documents produced by the Madā'in Šāliḥ project and presently available in various formats (GIS on ArcGis, field drawings, archaeological map, geophysical survey, etc.) will all be imported into a free software such as QuantumGIS so that it is made easily available to anyone.

7. Neil Smith, Ryan Boekeloo, Mohamed Karkadan and Ahmad Hasanat.



**Fig. 12.** *The FalconViz team before flying the fixed wing.*

### *Photographs for the archaeological and epigraphic guide of the site*

The partnership contract signed between the Madā'in Šāliḥ project and Airbus Group includes the writing of an archaeological and epigraphic guide of the site, which is due to be ready by the end of 2018 and to which part of the Airbus financial support will be devoted. This book will be prepared in two versions, English and Arabic (rather than one bilingual volume) and it will hopefully be published both by a European and a Saudi publisher so that it can be distributed more easily in Riyadh. The increasing number of visitors to this Unesco World Heritage<sup>8</sup> site and the lack of any proper archaeological guide make it necessary to publish such a book intended for the learned general public. In order to illustrate it, however, we need photographs of a particular kind which were not available in the project's photographic archive (fauna, flora, buildings of the Ḥijāz railway station, old mudbrick houses, etc.). One day was therefore devoted to taking photographs which will illustrate the book but more will be taken in 2018.

### *Saudi-American documentary film*

The Madā'in Šāliḥ project directors were approached, mid-February, by a production film company, South Coast Film & Video (Houston, Texas), who has a counterpart in Riyadh, to film the team at work. Having obtained the agreement of the SCTH, a huge TV production team arrived on February 14th and spent a few days at Madā'in Šāliḥ, filming and interviewing the members of the team (**fig. 13**). Unfortunately, no more information is available with regards to the scenario, title, length and content of the documentary.

8. Which will increase when the big Red Sea touristic project across a lagoon of fifty untouched islands between the cities of Um Lajj and al-Wajh starts.

See <http://www.arabnews.com/node/1137781/saudi-arabia#photo/1>



**Fig. 13.** Interview of François Villeneuve near the South-east gate by the South Coast Film & Video company.

## Visits, lectures

The visitors were less numerous in 2017 than in 2016. A group from Airbus and the French Embassy (15 persons) took a complete tour of the site on February 3rd, and the new French Ambassador, François Gouyette, visited the site on February 24th.



**Fig. 14.** The announcement of Laïla Nehmé's lecture in Riyadh.

## Lectures

As every year, Laïla Nehmé gave a lecture both in the French consulate in Jeddah (January 10th) and in the French Embassy in Riyadh (January 11th). The title of the 2017 lecture (in French) was "The dromadery (*camelus dromedarius*) in Arabia in Antiquity" (**fig. 14**). The audience was much more important in Riyadh than in Jeddah.