



THE WADI EL-JARF SITE: A HARBOR OF KHUFU ON THE RED SEA

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ABSTRACT

Wadi el-Jarf, located south of Zafarana, has parallels to two other Red Sea sites, Ain Sukhna (Ayn Soukhna) and Mersa/Wadi Gawasis. Over the course of two campaigns (2011-2012), an elaborate complex of storage galleries (some for storage of boat parts), including a system for closure, was excavated, as were camps, facilities for pottery production, dry-stone structures, and an L-shaped jetty with associated stone anchors. Inscriptional evidence allows for interpretation of the organization of the site and a date (reign of Khufu). Seemingly the earliest Egyptian harbor installation on the Red Sea, it may have been superseded by Ain Sukhna.

Over the past decade, our understanding of the occupation of the Red Sea coasts by the Egyptians has extensively developed, thanks in no small part to the exploration of two harbor sites, which were recently subject to major archeological work. Mersa Gawasis, discovered in 1976 by Egyptian archeologist Abd el-Moneim Sayed near the modern city of Safage,¹ was the subject of a new study started in 2001 as a joint mission of the University of Naples and Boston University, under the direction of R. Fattovich and K. Bard. The result of this work has allowed for the shedding of light on the existence at this location of a harbor built in a lagoon, which was regularly used over the course of the Twelfth Dynasty for the sailing of expeditions to the mysterious land of Punt, along the southern reaches of the Red Sea.²

At Ain Sukhna (Ayn Soukhna), in the northern Gulf of Suez, a longer lasting installation was explored starting in 2001 by a joint team from the Université Paris-Sorbonne (Joint Research Unit 8167 of the French National Centre for Scientific Research) and the IFAO (French Institute of Oriental Archeology).³ In this location, a system of storage galleries was gradually uncovered along the shore. It was used starting in the late Fourth Dynasty by expeditions launched from the administrative capital of Memphis. These sailed from this spot when heading to the south of the Sinai Peninsula, to a mining zone used by the Egyptians for the exploitation of copper and turquoise. Between two expeditions, the boats for these voyages were most likely dismantled and stored in the galleries until they were used again. The site seems to have been used under conditions similar to those during the Middle Kingdom of Egypt – and two complete crafts from this period, which had been burned in ancient times, were discovered in two of the site's galleries.

The sites of Ain Sukhna and Mersa Gawasis demonstrate well, and each in its own manner, the importance of the Red Sea coast throughout Pharaonic history.⁴ The discovery of a new site in Wadi el-Jarf, slightly south of the coastal city of Zafarana and some 100 km south of Ain Sukhna (Figure 1), brings further information to the general picture of this ancient occupation of the coast.⁵

The site of Wadi el-Jarf has been mentioned a number of times but never formally identified as a harbor site from the Pharaonic era. The first description of these vestiges was provided by British explorer Sir John Gardner Wilkinson, who visited the site in 1823 in the company of James Burton.⁶ A passage from his travel notes, published in 1832 upon his return from Egypt, describes in this location a system of galleries, which he believed to be catacombs, built into a rocky hillock a few kilometers from the coast:

Near the ruins is a small knoll containing eighteen excavated chambers, beside, perhaps, many others, the entrance of which are no longer visible. We went into those where the doors were the least obstructed by the sand or decayed rock, and found them to be catacombs; they are well cut and vary from about eighty to twenty-four feet, by five; their height may be from six to eight feet. They are rounded at the upper end, and in many of them, at nearly two feet and a half from that wall, is a partition of hewn stone, stretching across from one side to the other, but not now, if ever, of any height. Some of the chambers are double, communicating by a door.

A century later, in the 1950s, the site was once again reported, this time by two French Suez Canal pilots and amateur archeologists, F. Bissey and R. Chabot Morisseau. The work that they carried out on the site, which they referred to as Rod el-Khawaga, as suggested by their Bedouin guide, is now known thanks to the recent publication of their field notes through the efforts of Ginette Lacaze and Luc Camino.⁷ They sketched out a provisional plan of the complex of galleries present on the site,

accompanied by a number of photos. A selection of ceramics was also drawn and attributed to the Old Kingdom (Sixth Dynasty), thanks to the expertise of W.B. Emery.⁸ On the coast, a harbor structure was also located by François Bissey, who provided a brief description of this in the *Bulletin de la société d'études historiques et géographiques de l'isthme de Suez*.⁹

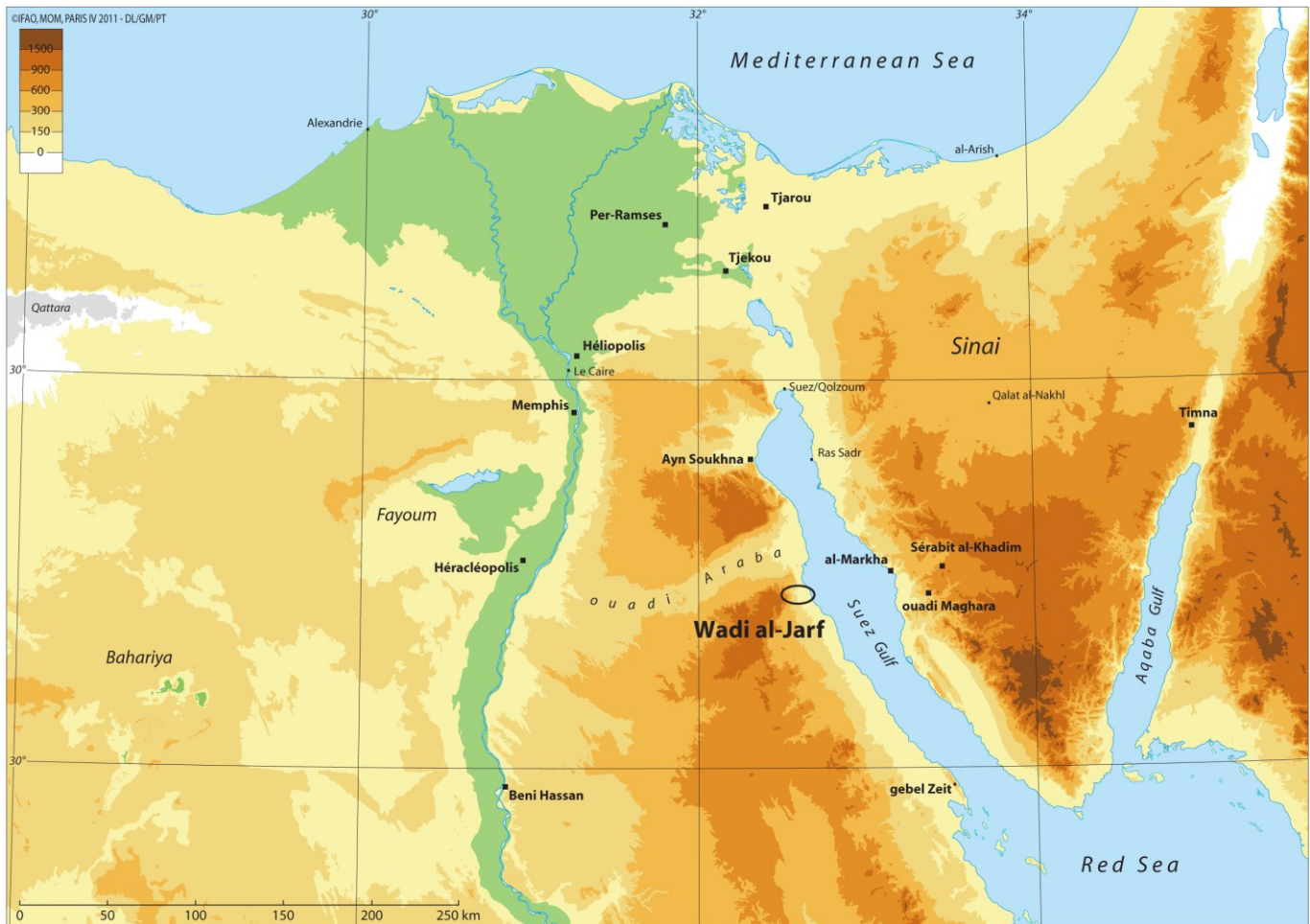


Figure 1: Map of Egypt showing the position of Wadi el-Jarf

Due to the Suez Crisis of 1956, this study had to be abandoned, however, and it was only recently that work started up once again on the site, in the framework of a mission undertaken by Université Paris IV, Assiut University and the IFAO.¹⁰ In June 2011, an initial field campaign allowed for the identification of different components and the sketching out of a thorough topographical plan. The site is developed over 6 km from east to west, from the first rocky foothills of the mountains of the eastern desert to the Red Sea coast (Figure 2). It consists of the following elements:

- a) A system of storage galleries comparable to those recently uncovered on the other two currently known harbor sites (Ain Sukhna and Mersa

Gawasis) (Figures 3 and 4). This complex is substantially more developed than those of the other sites, including some thirty galleries. Seventeen of them are arranged in a radial fashion around a small rocky hillock, while nine others – and most likely many more buried in the sand – are dug into the side of a small wadi oriented north-south. At this location, the topography is distinguished by a substantial accumulation of rubble resulting from the digging of this storage system, which seems to have been built in relatively consistent fashion in an extremely limited number of phases; indeed, despite the density of the installation, the galleries accidentally intersect only

twice, which seems to attest to the efficient and uniform planning of the complex. On average, they are some 20 m long, 3 m wide and 2 m high – but at times extend more than 30 m. At the entry, the vestiges of an elaborate closure system are systematically present (evidenced at each of the 30

galleries recorded to date), with the gallery's opening having often been made narrower by the placing of a slab on one side, prior to its condemnation by large blocks in the axis of the slope.

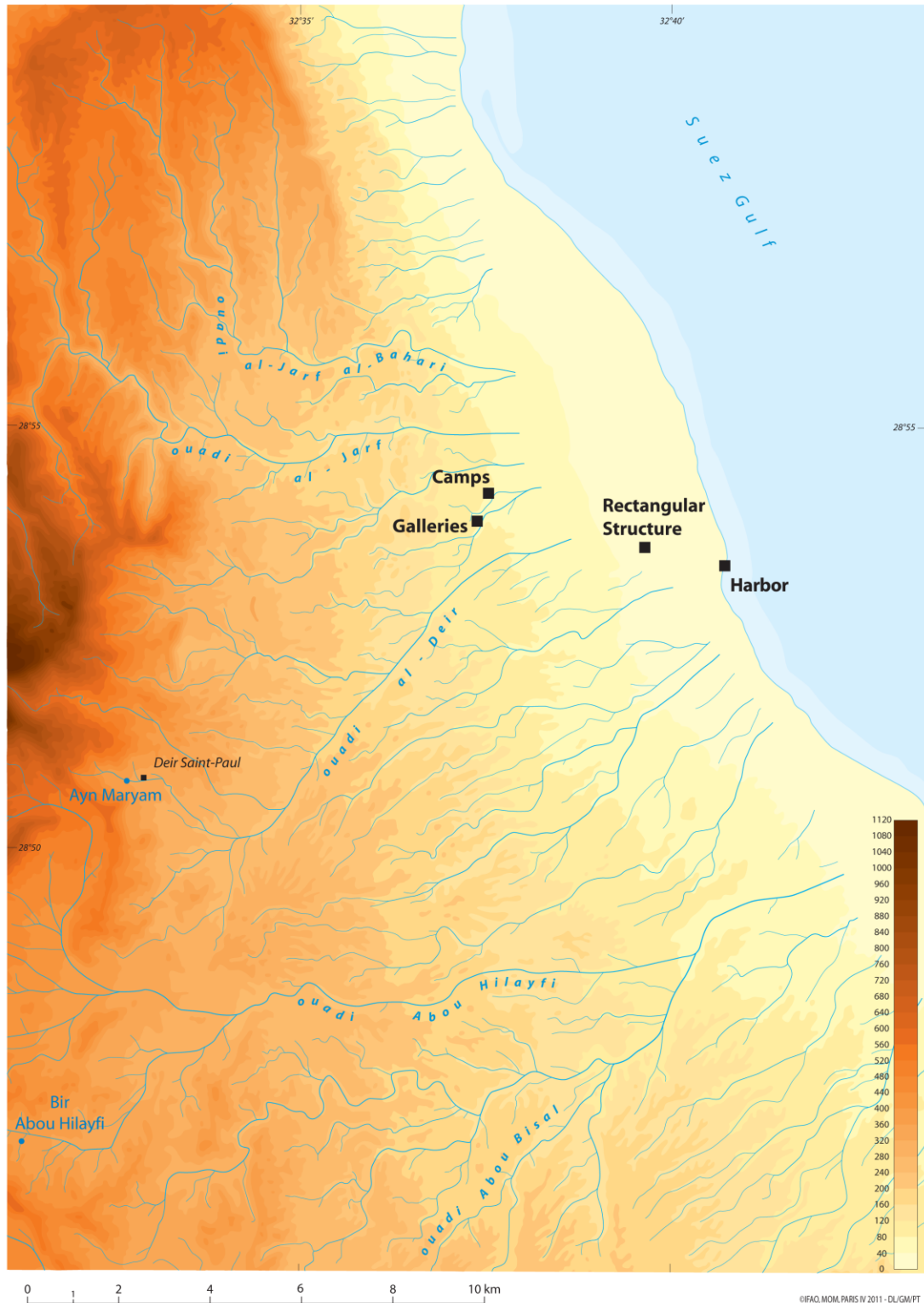


Figure 2: Map showing the position of the components of the Wadi el-Jarf site

b) The camps of the Old Kingdom are farther east, in the last of the limestone hills overlooking the immense coastal plain bordering the Red Sea at this location (5 km away). The most developed one contains several stone installations circumscribed by a long north-south wall

controlling access to the complex, with a natural drain doing so to the east. It must be emphasized that the raised position of these installations provides an excellent point from which to view both the gallery zone to the southwest and the Red Sea coast complex to the east.

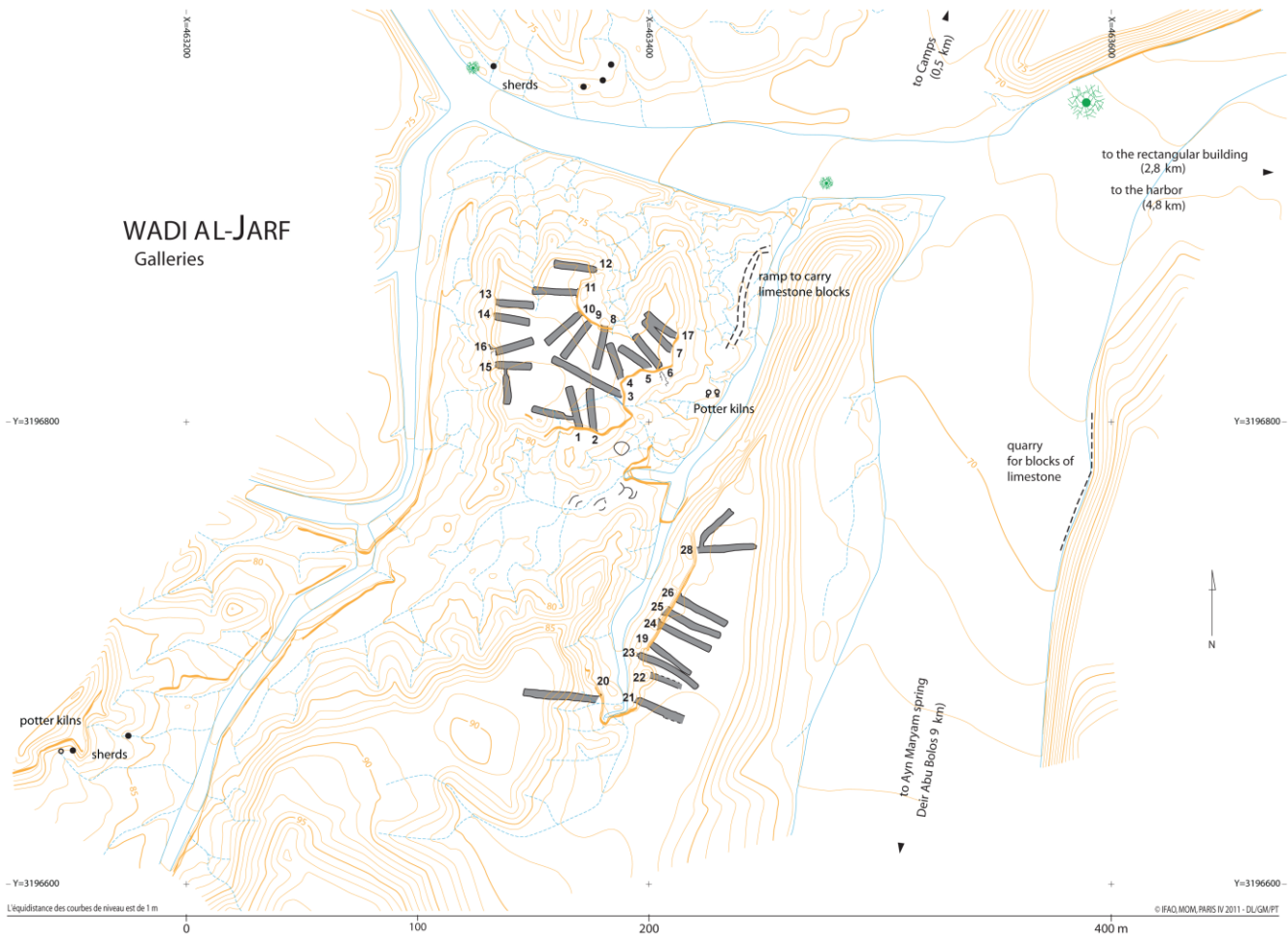


Figure 3: Map of the galleries complex

c) Halfway between the camps and the coast, at the heart of the coastal plain separating the last mountainous surge from the sea, a large rectangular dry-stone structure has been discovered, covered in a great deal of sand (60 x 30 m, internally divided into 13 long transverse spaces).

d) A final complex of installations is located on the coast itself (Figure 5). Here, a complete dry stone structure is found – possibly a landmark – alongside installations covered in a great deal of sand.

e) Finally, some 160 m to the east, an L-shaped jetty is visible during low tide, largely underwater except for the extremity of the east-west branch,

which is anchored to the shore (Figure 6). This jetty begins on the shore and continues underwater to the east, with a length of 155 to 160 m. It then veers off southeast on a more irregular track for around 120 m. Its visible part reveals a rather regular assembly of large blocks and limestone stones, allowing for the protection of a vast artificial anchorage zone of over 2.5 ha. Submarine exploration carried out during low tide has confirmed the harbor function of this installation: at least 21 limestone boat anchors were discovered in situ, in sheltered position to the south of the jetty’s east-west branch (Figure 7). The discovery near the anchors of at least four large jars identical to those found elsewhere on

the site indicate that all of these installations are

contemporaneous with one another.

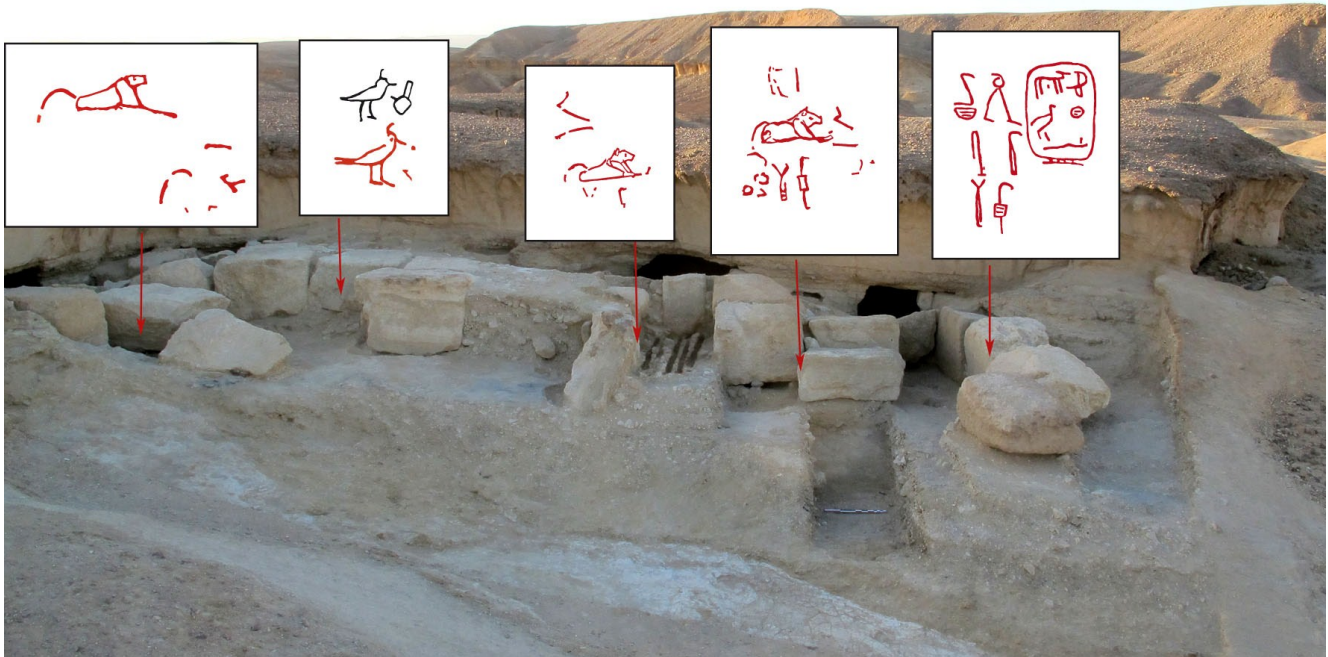


Figure 4: Entrance to galleries G3-G6, with position of control marks found in 2012

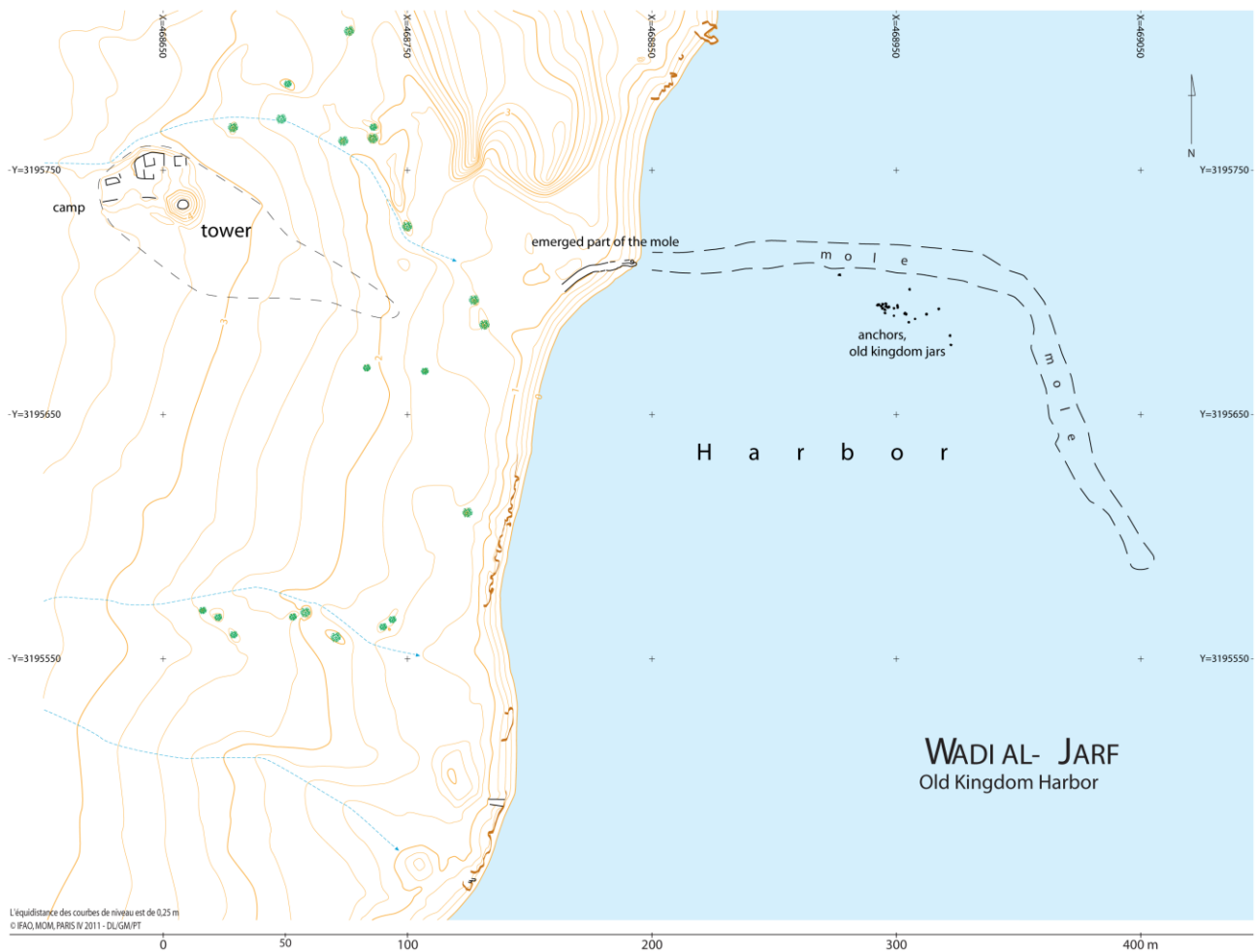


Figure 5: Map of the Harbor

Ultimately, it is clear that the series of installations of Wadi el-Jarf are closely linked with the coastal site of El-Markha/Tell Ras Budran, on the other shore of the Gulf of Suez, directly across from the aforementioned jetty. At this location, a team from the University of Toronto directed by G. Mumford has been excavating a circular fortified structure¹¹ that visibly marks the landing point for expeditions leaving from Wadi el-Jarf, which is confirmed by the fact that the ceramic locally produced at the latter site represents an overwhelming proportion of what is found along the Sinai coast.



Figure 6: The Old Kingdom Wharf

The second campaign of the Wadi el-Jarf archaeological mission, which ran from March 15 to April 15, 2012, allowed for the clarification of a certain amount of information obtained during the first survey operation of the site. The importance of the information gathered from the zone of storage galleries led to their being the focus of the efforts of the excavation carried out this year. Eight galleries were excavated in total out of the 30 contained on the site. Three of them still contained a substantial stock of large storage jars, visible at the surface, which most likely served as water containers for boats. The complete excavation of these complexes allowed for an estimation of the scale of the supplies: a minimum of 70 items in G15a, 63 items in G15b, and 188 items in G23. These large jars were locally produced: two potters' kilns used to make them were discovered at the foot of gallery zones G3 to G6. Furthermore, prior to being fired they nearly systemically received an inscription in red ink indicating their destination, invariably naming a team – or more specially, a crew – that had worked on the site. It is also observed that an identical indication appears in repetitive fashion in each one of these storage spaces, which must have therefore been assigned to one specific work group. Gallery G23 mainly houses jars bearing the indication *m3 wrr*; Gallery G15b, that of a team known as *wr m3j-s* (*Great is his lion*); Gallery G15a, containers reserved for a group designated by the name *rhw bjk.wy nbw* (*Those who are known of Two Falcons of Gold*) (Figure 8). This last indication,

using Khufu's Horus of Gold name, also reveals a precise dating of these markings, largely confirmed by the typology of the pottery, characteristic of the first half of the Fourth Dynasty. The other excavated galleries seem to have been used for the storage of boat elements. They are regularly equipped with transverse short low walls with just one stone foundation serving as a support for the large planks arranged within. Very little remains of this stock, which seems to have been fully recovered prior to the definitive abandonment of the site. However, several hundred fragments and wood offcuts, the presence of tenons, oar elements, and various other fittings provide a rather clear idea of the presence of these boats in the galleries at one point in the history of the site.

The systematic excavation of the esplanade built before the entry to galleries G3 – G6 has also provided more precise insight into the steps of the overall construction of this storage system. The complex of galleries was clearly dug out all at once, with one part of the excavated material having been used to even out the natural slope lying before the entries. On this first terrace, levels of occupation contemporaneous with the galleries' functioning are found, characterized by fire pits and ash accumulations.



Figure 7: Ship anchor of the Old Kingdom found underwater

Subsequently, the closure of the galleries brought about major construction: at this time, large limestone blocks weighing several tons were used to build a platform in front of the entries, creating an access ramp before each one. The ground retains traces of traction and adjustment operations for these blocks. Ultimately, each of the galleries was condemned by a large limestone block obstructing its entry. In front of G5, the sliding system used during the closure of the galleries was discovered in an exceptionally well-preserved state (Figure 9). It is made up of five massive wooden beams – most likely recycled boat elements – placed in the axis of the slope. The presence of numerous control marks on the large blocks making up this platform is also enlightening in many respects. The names of a number of teams/crews may thus be found in this complex: for example, the presence of *The team of retainers of 'Great is the Lion'* (*ꜥpr šms.w*

wr m3j). This demonstrates that there is a close relationship between the inscriptions discovered on the jars and those used in the final installation of the storage system. The presence of Khufu's cartouche on one of these blocks furthermore gives the

exact date of the definitive condemnation of the complex of galleries, most likely shortly prior to the complete abandonment of the site (Figure 10).

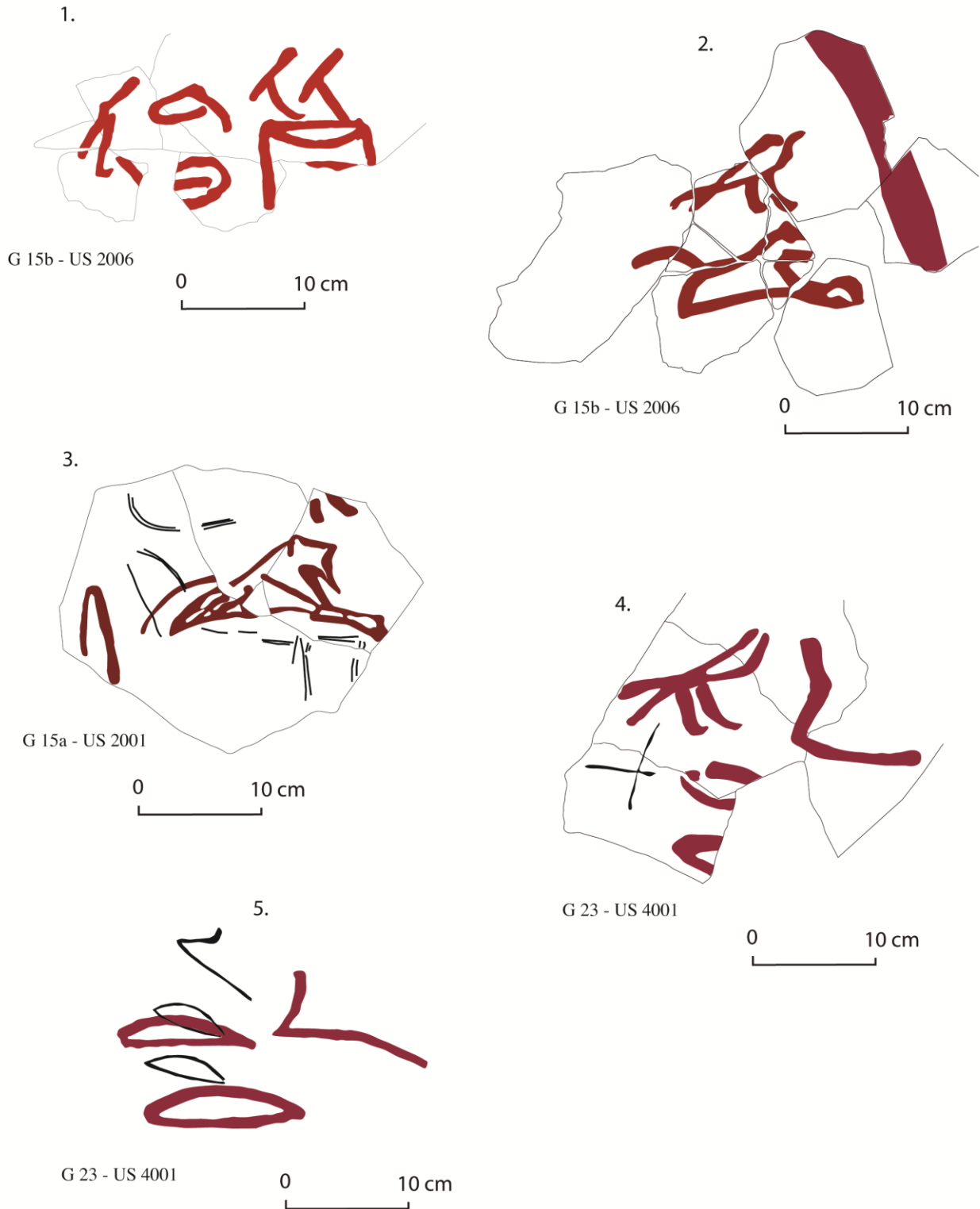


Figure 8: Red marks giving names of ship crews on big storing jars. N°1 gives the Golden Horus name of Cheops ([ship crew named] "Those who are known to Horus Two Falcons of Gold").

The understanding of the very modes of the site's occupation was thus considerably refined over the course of this campaign, with the whole of the data simultaneously highlighting the massive nature of the Egyptian installation and the brevity of this occupation, most likely limited to the early Fourth Dynasty and more specifically the reign of Khufu, with the majority of the discovered material marked with the name of this king. This system may very well be the first Red Sea coastal structure in Egyptian history, serving a function later taken over by the site of Ain Sukhna, which was closer to the administrative capital of Memphis. The question lingers, however, as to the essential

purpose of a complex as vast as the one built at Wadi el-Jarf. Expeditions could clearly be sent to the Sinai from this location, as attested to notably by the discovery of abundant ceramic material produced at Wadi el-Jarf on the southwest coast of the Sinai, at El-Markha. But the massive production of these water containers may also have been intended for the equipment of long-haul boats, and we think it possible, despite the absence of formal proof so far, that this site may have also served as a stopover point on the journey to Punt during an extremely ancient period of Egyptian history.¹²



Figure 9: Entrance to gallery G5 (detail).

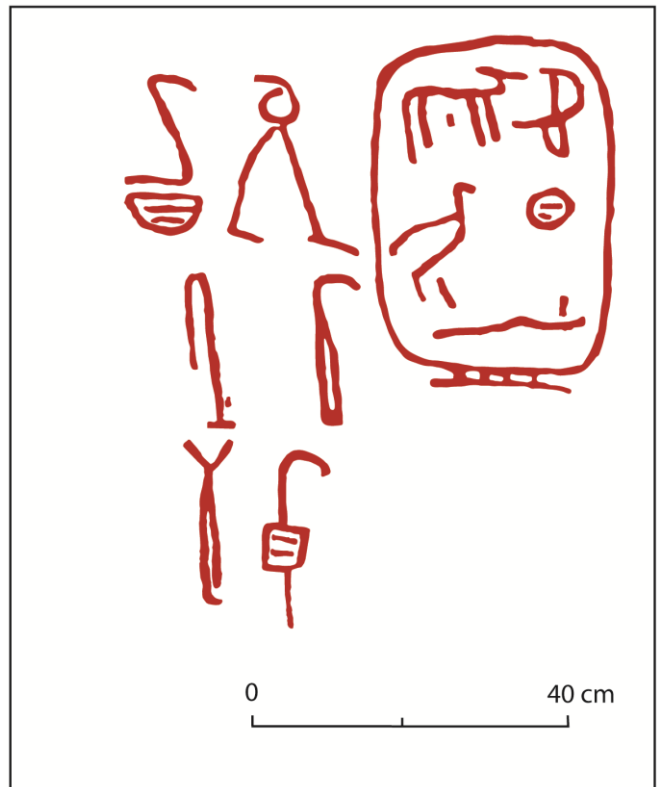


Figure 10: Control mark with the name of a crew including the name of Cheops "The crew of the followers of Cheops is his goddess (?) Inti."

NOTES

¹ A. Sayed, "Discovery of the Site of the 12th Dynasty Port at Wadi Gawasis on the Red Sea Shore," *Revue d'Égyptologie* 29 (1977): 140–178.
² K.A. Bard, R. Fattovich, *Harbor of the Pharaohs to the Land of Punt* (Naples: Università degli Studi di Napoli "L'Orientale," 2007).

³ M. Abd el-Raziq, G. Castel, P. Tallet, V. Ghica, *Les inscriptions d'Ayn Soukhna*. Mémoires publiés par les membres de l'Institut Français d'Archéologie Orientale du Cairo 122 (Caire: Institut Français d'Archéologie Orientale, 2002); M. Abd el-Raziq, G. Castel, P. Tallet, Ph. Fluzin, *Ayn Soukhna II. Les ateliers métallurgiques du*

Moyen Empire. Fouilles de l'Institut Français d'Archéologie Orientale du Cairo 66 (Caire: Institut Français d'Archéologie Orientale, 2011).

- ⁴ On the comparison of these two sites, and the preliminary results of their study in 2009, see P. Tallet, E. Mahfouz (ed.), *The Red Sea in Pharaonic Times. Recent discoveries along the Red Sea Coast. Proceedings of the Colloquium held in Cairo/Ayn Soukhna 11-12 January, 2009*, Bibliothèque d'Étude 155 (Cairo: Institut Français d'Archéologie Orientale, 2012); also see P. Tallet, "Les Egyptiens et le littoral de la mer Rouge à l'époque pharaonique," *CRAI 2009* (Paris: Comptes rendus de l'Académie des Inscriptions et Belles-lettres, 2010): 687–719.
- ⁵ A detailed presentation of the first excavations of the site has gone to press: P. Tallet, G. Marouard, D. Laisney, "Un port de la IV^e dynastie au ouadi el-Jarf (mer Rouge)," *Bulletin de l'Institut Français d'Archéologie Orientale* 112 (2012), forthcoming. For a general presentation of the site, see also: P. Tallet, G. Marouard, "An Early Pharaonic Harbour on the Red Sea Coast," *Egyptian Archaeology* 40 (2012): 40-43; P. Tallet, "Ayn Soukhna and the Wadi el-Jarf: Two Newly Discovered Pharaonic Harbours on the Suez Gulf," *British Museum Studies in Ancient Egypt and Sudan* 18 (2012): 147–168.
- ⁶ J.G. Wilkinson, "Notes on a Part of the Eastern Desert of Upper Egypt," *Journal of the Royal Geographical Society of London* 2 (1832): 28–60.
- ⁷ G. Lacaze, L. Camino, *Mémoires de Suez. François Bissey et René Chabot-Morisseau à la découverte du désert oriental d'Égypte (1945-1956)* (Pau : Société d'égyptologie de Pau, 2008): 33–78.
- ⁸ *Ibid.*, p. 130.
- ⁹ Fr. Bissey, *Bulletin de la société d'études historiques et géographiques de l'isthme de Suez* 6 (1960): 266.
- ¹⁰ The mission is the fruit of a partnership between Université Paris-Sorbonne (represented by Pierre Tallet) and Assiut University (represented by El-Sayed Mahfouz). Beyond the funding granted by IFAO, the CNRS (Joint Research Unit 8167 Orient and Mediterranean) and the Ministry of Foreign Affairs, the mission benefited from substantial funding from the Aall Foundation, as well as logistical support from the companies Vinci and Colas Rail.
- Participants in this undertaking included Pierre Tallet, Egyptologist (mission head, Université Paris-Sorbonne); Grégory Marouard, archeologist (Oriental Institute of Chicago); Damien Laisney, topographer (Maison de l'Orient et de la Méditerranée); Georges Castel, archeologist (IFAO); Patrice Pomey, specialist in ancient navigation (Centre Camille Jullian); Mohamed Abd el-Maguid, specialist in submarine archeology (SCA); Hassan Mohamed, restorer (IFAO); Adel Farouk, intendant (SCA); and Aurore Ciavatti, PhD student (Université Sorbonne). The Supreme Council of Antiquities was successively represented by Abd el-Rahim Mahmoud Ahmed of the inspectorate of Hurgada, and Aid Hussein Aid Mohamed of the Suez inspectorate. The team of workers from Gourna was directed by the Rais Gamal Nasr al-Din.
- ¹¹ G. Mumford, S. Parçak, "Pharaonic Ventures into South Sinai: El-Markha Plain Site 346," *Journal of Egyptian Archaeology* 89, (2003): 83–116; G. Mumford, "Tell Ras Budran (site 345). Defining Egypt's eastern frontier and mining operations in South Sinai during the late Old Kingdom (early EBIV/MB1)," *Bulletin of the American Schools of Oriental Research* 342 (2006): 13–67.
- ¹² The first Egyptian expedition to Punt known so far is the one organized by Sahure, as recorded by the Palermo stone (T.A. Wilkinson, *Royal Annals of Ancient Egypt* (London: Routledge, 2000): 168–171). However, the tomb of Seshat-hotep at Giza shows probably the representation of a Puntite dweller (PM III, 149-150 [G5150]; H. Junker, *Giza II* [Vienna: Hölder-Pichler-Tempsky, 1934], 172–195; R. Herzog, *Punt, Abhandlungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 6 [1968]: 9–10), and this tomb can now be securely dated of Khufu's reign (M. Baud, *Famille Royale et pouvoir I*. Bibliothèque d'étude 126/1 [Cairo: Institut Français d'Archéologie Orientale, 1999], vol. 1, 58; vol. 2, 576-577; N. Cherpion, *Mastabas et hypogées d'Ancien Empire* [Brussels: Connaissance de l'Égypte Ancienne, 1989], 180–181; 185). This could be an evidence of former expeditions to Punt as early as the beginning of the Fourth Dynasty, during the period the Wadi el-Jarf harbor was used.