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# Spatial Use of the Twelfth Dynasty Harbor at Mersa/Wadi Gawasis for the Seafaring Expeditions to Punt

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## Abstract

*Recent excavations at the Middle Kingdom harbor at Mersa/Wadi Gawasis, on the Red Sea, have uncovered evidence of shrines aligned along the shore as well as harbor facilities farther inland, including eight manmade caves located above an ancient lagoon that extended considerably inland from where the present-day shoreline is located. The harbor was used for the seafaring expeditions to Punt, located somewhere in the southern Red Sea region. Hieroglyphic and hieratic texts on stelae, seal impressions, and ostraca—along with associated pottery—have aided in dating the use of different features at the site to the early and later Twelfth Dynasty.*

In the 1970s, Abdel Monem Sayed (University of Alexandria) identified the remains of a Middle Kingdom harbor, known anciently as *Saww* (Sayed 1977), at Mersa/Wadi Gawasis on the Red Sea, about 22 km south of the modern port of Safaga (Figure 1). Sayed found Twelfth Dynasty inscriptions there on a shrine of an official of Senusret I named Ankhu, and an inscribed stele of the king's vizier Intef-iker (Antefoker). The latter text describes ships that were built in Coptos for an expedition to "Bia-Punt" with over 3,700 men. Based on these and other finds of Sayed's, re-investigation of the site by the University of Naples "l'Orientale" (UNO) and Boston University (BU) began in 2001 under the direction of Kathryn Bard and Rodolfo Fattovich.

The harbor of Saww was located near the shortest overland route from the Nile Valley in Upper Egypt to the Red Sea, from Qift through Wadi Qena and then Wadi Gasus (Bard, Fattovich, and Manzo, forthcoming). Saww was the staging point and harbor for pharaonic seafaring expeditions to regions in the southern Red Sea (Punt and Bia-Punt) to obtain exotic raw materials, including incense, ebony, elephant ivory, and gold (see Kitchen 1993:606). The sea route to Punt was an alternative to the river/land routes, and was less frequently undertaken because of the complexity of the logistics required for such expeditions and the risky nature of long-distance voyages to and from the southern Red Sea. The rise of the kingdom of Kerma in the late third millennium BCE (see Bonnet 2004:72), and its eventual control of the Upper Nile, were probably the major reasons for the organization of seafaring expeditions to Punt in theTwelfth Dynasty, the period to which most of the excavated material at Mersa/Wadi Gawasis dates. There may also have been threats on overland routes across the Eastern Desert/Mountains from desert peoples who were belligerent or simply capable of robbing Egyptian expeditions (Manzo 2010a:220).

Although there is a small amount of evidence dating to the late Old Kingdom and early New Kingdom (Perlingieri 2007a:116–117), most of the excavated finds at Mersa/Wadi Gawasis date to the Twelfth Dynasty. After nine field seasons of excavations, we now have a better understanding of the use of the harbor in the Twelfth Dynasty (Figure 2). In the eastern sector of the site, small shrines were constructed using local materials (coral and conglomerate stone), but the major focus of use of the site was in a now-inland area along the slopes of the western fossil coral terrace, originally located above the waters of the ancient lagoon. An industrial area has also been excavated at the base of the western terrace slope. The following sections will explore the organization and use of the harbor in the Twelfth Dynasty.

## The Eastern Terrace

Overlooking the Red Sea along the edge of the eastern terrace at the site are the remains of six ceremonial structures/shrines (Features 1, 4, 6–8, 10), most of which had been earlier investigated by Sayed. Also in this area, Sayed found fragments of five small, round-topped stelae, two of which contained the cartouches of Senusret I. One of these fragmented stelae, in which the toponym Bia-Punt is mentioned, belonged to a man named Yameru (Sayed 1977:149–150).

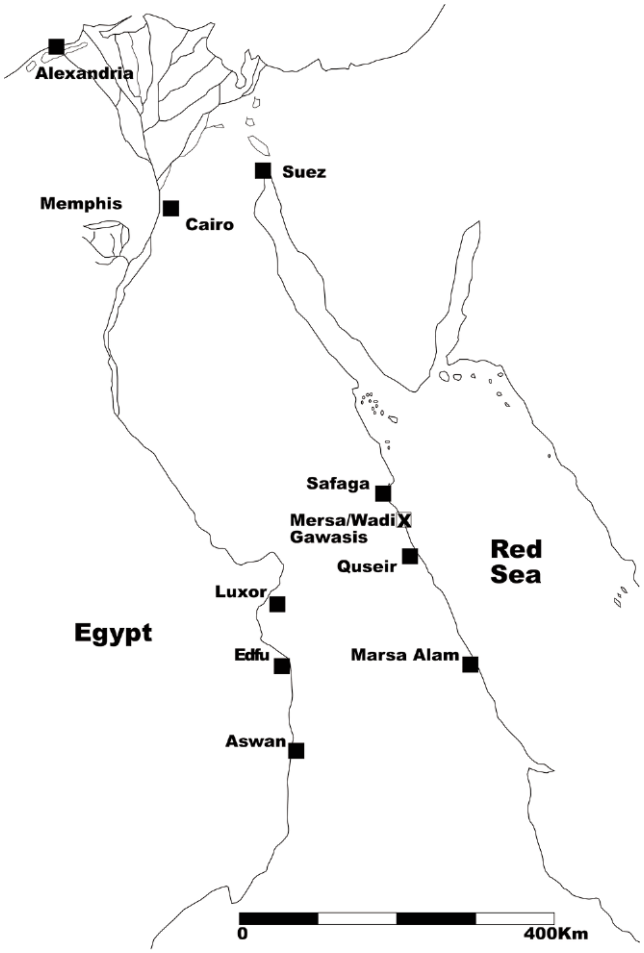


**Figure 1.** Map of Egypt showing location of Mersa/Wadi Gawasis.

Reinvestigation of this area by the UNO/BU team did not reveal any other evidence of camp use or activity by the seafaring expeditions: the area was used for ceremonial activities, and at the same time the shrines probably served as landmarks for returning seafaring expeditions. Three of these (Features 6–8) consisted only of circular/oval mounds of coral rocks covered by gravel, with two small internal chambers defined by large, dressed blocks of conglomerate stone (Bard and Fattovich 2007:39–43; Fattovich 2009:1). Feature 4 consisted of an oval enclosure of rocks (fossil coral and conglomerate), inside of which is a small, horseshoe-shaped stone arrangement opening on the east, with no conglomerate slabs used in its construction (Bard and Fattovich 2007:41–42). In Feature 10, a larger, open, horseshoe-shaped space was defined within a gravel mound (Fattovich 2009:1). The most unusual of these shrine structures is Feature 1, which consisted of an oval platform about 9 × 10 × 1.2 m, with a ramp on the west side. Originally, the top of the platform was covered with slabs of conglomerate, and over 650 *Lambis lambis* shells were collected here (Bard and Fattovich 2007:43–44). The ceramics associated with these structures date to the Twelfth Dynasty (Bard and Fattovich 2007:39–44).

All six shrines along the edge of the eastern terrace were oriented to the sea—prominent markers that could be seen by ships leaving for and returning from Punt. Not only were these shrines landmarks for ships, but the fragments of small, personal stelae that Sayed found here suggest commemorative activities associated with the structures. The huge number of *Lambis lambis* shells associated with the platform of Feature 1 suggests ceremonial activities, perhaps offerings to a marine deity by sailors who participated in the Punt expeditions (Bard and Fattovich 2007:244).

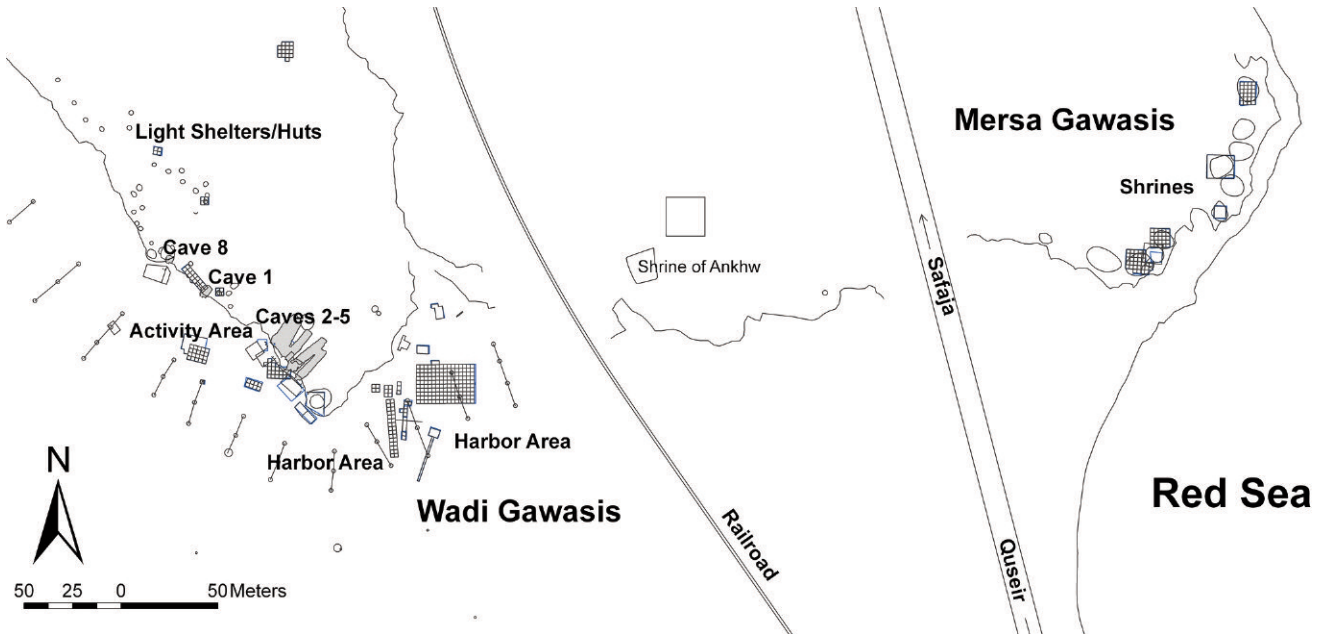


**Figure 2.** Mersa/Wadi Gawasis site plan.

## The Harbor

The ancient harbor at Mersa Gawasis was an open, protected bay with a maximum area of 560,000 m² around 7,500 years ago and a depth of approximately 6–8 m (Figure 3). Large ships could pass through the channel at the mouth of the bay, which was 10 m (maximum) deep and 150 m wide (Hein et al., forthcoming). After reaching its maximum extent as sea levels rose above their modern levels, the bay rapidly closed due to high sediment loads from the adjacent wadi during a time of significantly wetter climatic conditions. Rapid aridization ca. 3000–2000 BCE greatly reduced sediment supply to the lagoon. Slower infilling rates combined with slowly falling sea levels to allow for the existence of a stable, shallow lagoon at the site when it was used as a harbor in the Twelfth Dynasty. Lagoonal waters reached the southern edge of the site near the beach (which was used for expedition camps) and the rock-cut caves and galleries (which probably had multiple functions, but were mainly used for storage). Ships would have moored near the southern side of the site, where they were protected from the northerly winds by the coral terrace on land.

## Central Terrace and Western Terrace Top

In the area between the shrines overlooking the Red Sea shore and the western terrace, along the channel leading into the harbor, there is only one structure: the monument of Ankhu, which dates to the early Twelfth Dynasty. Despite the construction of the modern road and railroad through this part of the site (which has also left significant evidence of bulldozing), there is no evidence of any other ancient features or structures in this large area. Earlier surface surveys and a test excavation in this area in 2010 revealed no cultural remains.

The monument of Ankhu, a high official of Senusret I, was located overlooking the Wadi Gawasis on the southern edge of the terrace, about 250 m inland. The shrine consisted of three upright, inscribed blocks of limestone, resting on two horizontally laid limestone anchors. On the eastern block, Ankhu's titles are given, including "Chief Interior-overseer of the Great House" (i.e., palace) of Senusret I. Also on this block is the king's name, followed by "beloved of Hathor, Mistress of Punt." Many of the inscriptions on the middle block were only partially preserved, but seem to record the number of troops and officials on the expedition as well as the date of its departure: first month of winter in (Year?) 24 of this king's reign. On the western block is an inscription about Bia-Punt and the gifts/tribute brought from the "God's Land" (i.e., Punt) (Sayed 1977:140–178).

Another monument, of Senusret I's vizier, Intef-iker, was found 200 m farther inland, overlooking the southwestern edge of the coral terrace (ibid.). This monument consisted of an inscribed, round-topped stele associated with a mound later excavated by the UNO/BU team (WG 8; Bard and Fattovich 2007:48–49).

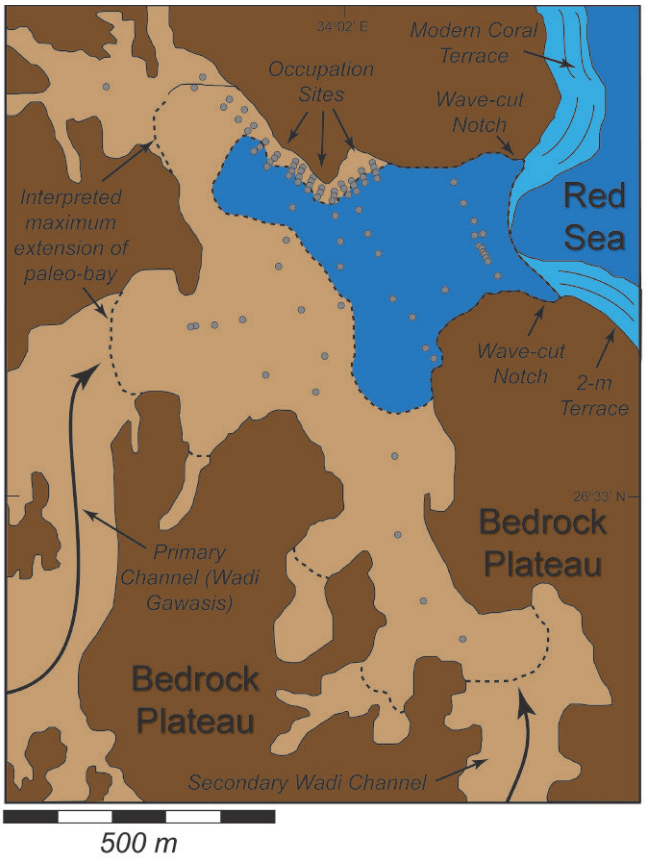


**Figure 3.** Mersa/Wadi Gawasis paleo-bay. The gray dots represent areas where geological coring was done. Drawing by Christopher Hein.

According to the text of Intef-iker, he was ordered by Senusret I to build ships (plural, but the number is not given) at the dockyards of Coptos, to "travel" or "send them to Bia-Punt" (Sayed 1977:170). Also mentioned in this text is the reporter/herald Ameni, son of Mentuhotep, who was on the shore of the Great Green (Red Sea), building/reconstructing the ships, together with the group of functionaries (*ḏ͡ʒḏ͡ʒt*, of a single commission; see Quirke 1990:54) of the Head of the South (i.e., the southern vizierate) (Sayed 1977:170). Along with Ameni on the shore of the Great Green were the soldiers (*mšʿ*) together with the reporters/heralds (*wḥmw*) and:

> 50 Retainers of the Lord [= King]
> 1 Steward of the Assembly (*ḏ͡ʒḏ͡ʒt*)
> 500 Personnel of the crew of the Lord
> 5 Scribes of the great Assembly (*ḏ͡ʒḏ͡ʒt wrt*)
> 3,200 men [Citizen-militia]
> (Kitchen 1993:590)

Sayed (1977:173) thought that the two monuments of Ankhu and Intef-iker related to the same expedition. While the Intef-iker inscription is about the building of ships at Coptos

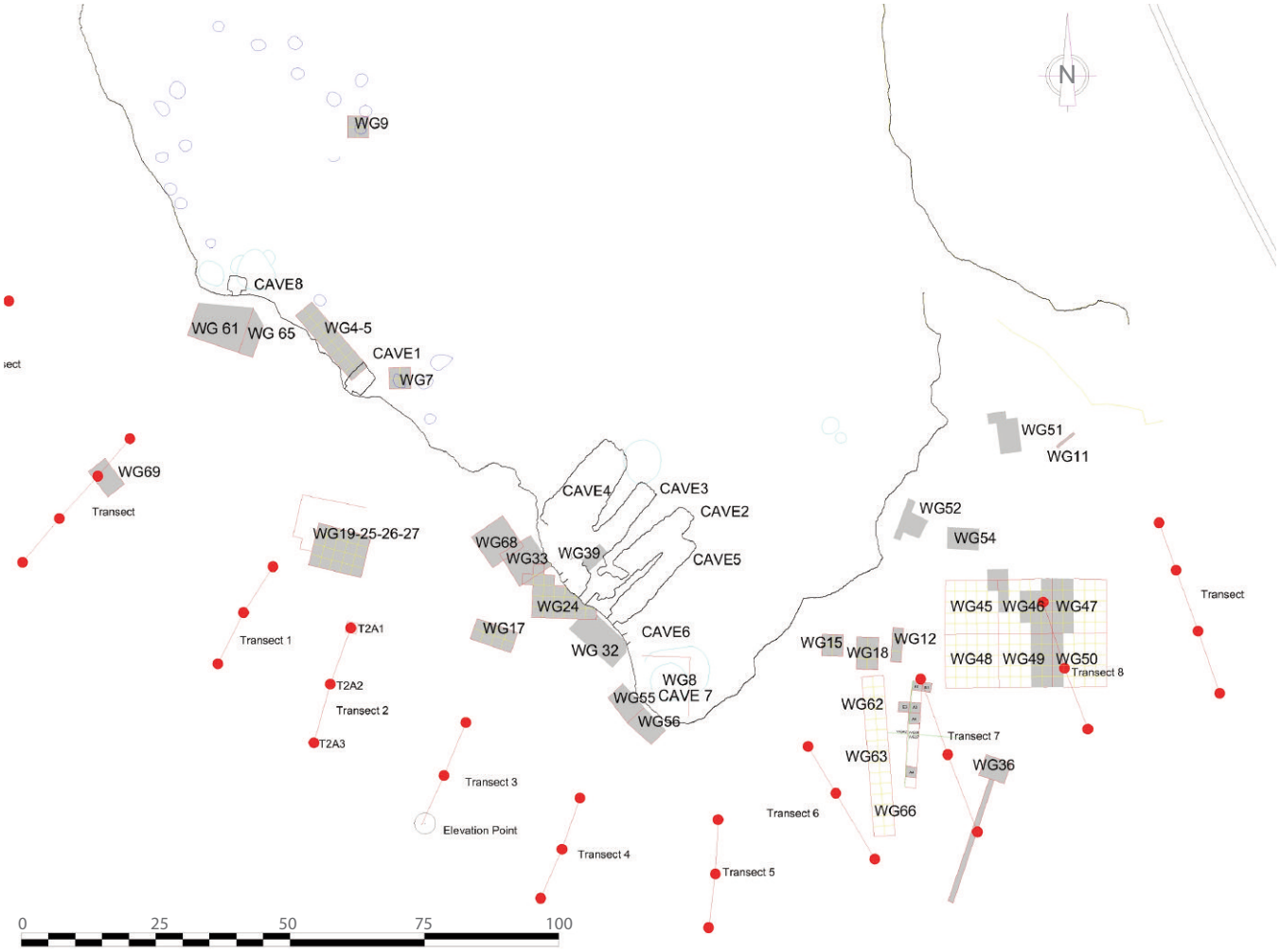


**Figure 4.** Location of excavation units on the western terrace and Wadi Gawasis.

and (re)constructing them on the Red Sea, the Ankhu inscription is about the actual expedition on the Red Sea to Bia-Punt and Punt—the result of the ship-building commission.

To the north of the Intef-iker monument (from Excavation Unit WG 8), 24 small circular features were recorded and selectively excavated (in WG 1, WG 4/5, WG 7, WG 9) (Bard and Fattovich 2007:44–50). Some of these features were associated with hearths and postholes; the few associated ceramics date to the Twelfth Dynasty, but one feature, in WG 7, had ceramics of both the early Twelfth Dynasty and early New Kingdom (Bard and Fattovich 2007:48). These features were around 2–3 m in diameter and 10–50 cm deep. Most likely, these features were originally for tents or temporary shelters/huts, which could have provided shelter for a small number of soldiers, perhaps up to forty (Manzo, forthcoming b). Given the strong northerly winds that frequently whip across the terrace top, it is unlikely that this area was ever used for a main expedition camp or other activities. Test excavations along the top of the western terrace also produced no evidence of a camp or activity area here.

## Western Terrace Slope

The major focus of site use at Wadi Gawasis during the Twelfth Dynasty was along the slope of the western terrace, where chambers and galleries were excavated in layers of conglomerate stone, which was easier to remove than the layers of fossil coral (Figure 4). Evidence of these ancient excavations consists of dark pebbles/cobbles, originally part of the conglomerate layer, left outside the cave entrances. The caves were used for storage, but there is also evidence of other activities inside the rock-cut rooms. Likewise, on the slope outside the caves, there is evidence of activities including the packing and unpacking of supplies and goods, as well as the administration of goods and materials, and information, on ostraca and papyri. This is the area where expeditions from the Nile Valley would first arrive via the Wadi Gasus and Wadi Gawasis.

The rock-cut caves fall into two groups: Caves 1 and 8 to the north and Caves 2–7 to the south. There are probably more manmade caves along the western terrace between these two groups, but this area remains to be investigated in future field seasons.

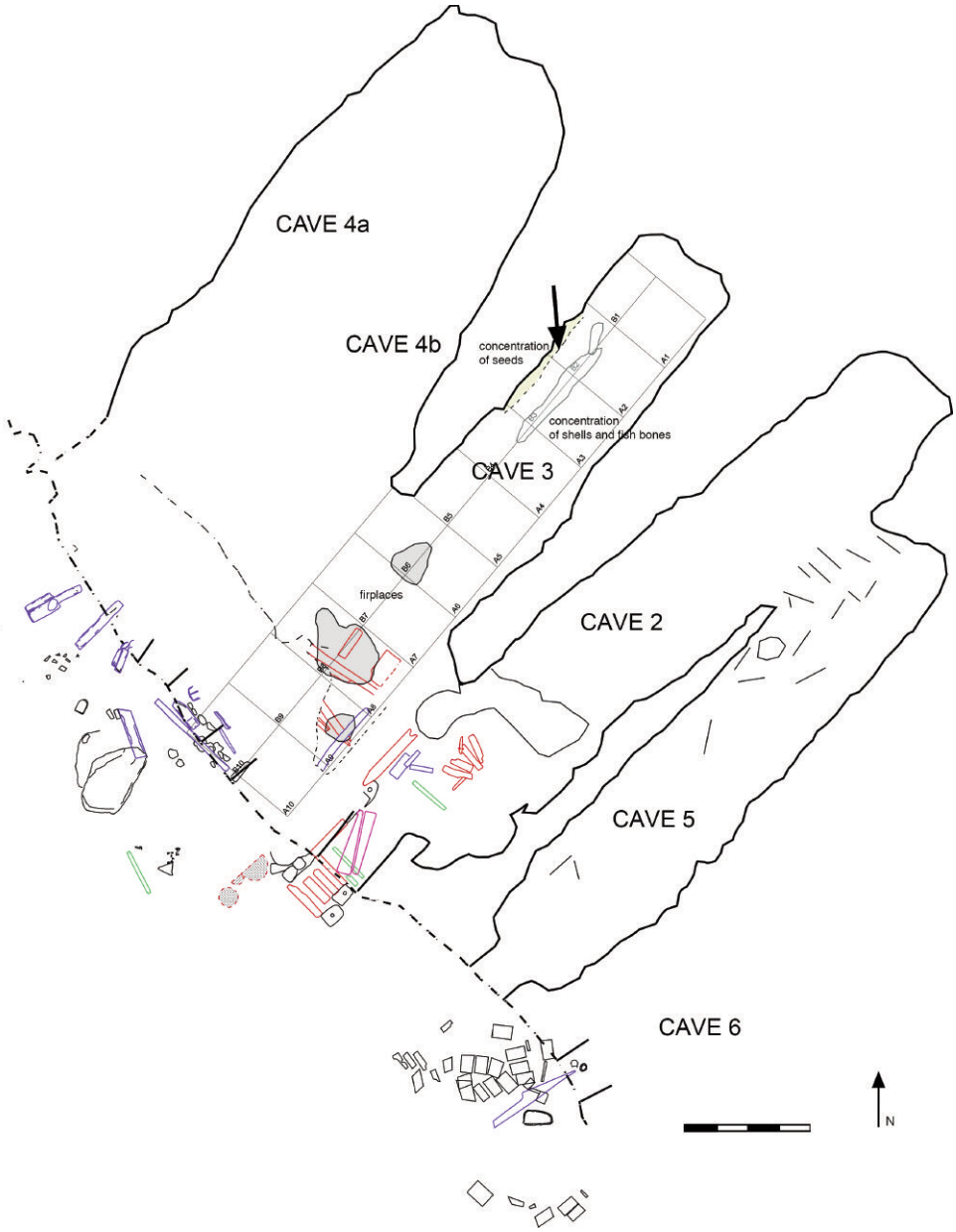


**Figure 5.** Plan of Caves 2–5.

*Western Terrace Slope, North*

In 2004, Cave 1 became the first manmade cave discovered at the site. Cave 1 is approximately 7.0 × 4.5 m in area, and 2.0 m high in the center, forming a roughly hemispherical space inside. Sherds of storage jars (late Old Kingdom and early Twelfth Dynasty), cedar planks of boxes, and five grinding stones were found inside, along with other small finds (Bard and Fattovich 2007:70–72). The original entrance sealing was no longer in place, having been breached in antiquity. A later Twelfth Dynasty ostracon (WG 101) bearing the cartouche of Amenemhat III was also found in this cave (Mahfouz 2007b:225–227). Thus, the cave was probably excavated in the late Old Kingdom, then reused in the early and later Twelfth Dynasty.

The western terrace slope, north, was again investigated in 2009–2010, and another cave (Cave 8) was located to the north of Cave 1. The interior of this cave, similar in dimensions to the first, had been carefully cleared out at some point (as discussed below), and only a few sherds of early Twelfth Dynasty pots were found in corners and along the base of the rear wall. Along with these were sherds of an unknown black ware, probably not Egyptian, with a few traces of burnishing. It had been made on a fast wheel, with a wheel-made ring base and jar handle (Wallace-Jones, forthcoming).

On the terrace slope outside Cave 8 were many ceramics of early-to-mid–Twelfth Dynasty date. These were all of Nile and marl wares, imported from the Nile Valley, including small cups and dishes, cooking pots, medium and large storage jars, and jars for the transport of solids and liquids. The ceramics were what one would expect from a town site, such as that associated with the pyramid of Senusret II at Lahun, and not at a temporary camp (Wallace-Jones, forthcoming). Possibly in the early Twelfth Dynasty there were plans to set up a more permanently occupied settlement at Wadi Gawasis, as the find of a potter's wheel fragment outside Cave 8 also suggests. But this did not happen.

Probably in the later Twelfth Dynasty, Cave 8 was swept clean and the exterior used for administrative activities, as demonstrated by the evidence found there, including clay papyrus sealings (later Twelfth Dynasty types), a scarab/seal, and a papyrus fragment with three lines of a hieratic text. Other clay sealings found in this area were used to seal bags, baskets, and wooden boxes (with ropes tied around pegs) in order to control access to the goods and/or materials in different types of containers. The large number of papyrus fragments with traces of sealings from this area also points to the sealing of letters here, and suggests that letters and despatches were routinely sent to and from Mersa/Wadi Gawasis when Egyptian expeditions were staying at the site, via a kind of regular delivery service between the Nile Valley and the Red Sea (Manzo, forthcoming a).

Also found outside Cave 8 was an inscribed sandstone stele (Stele 29), dating to Year 2 of Senusret II. The text is about an expedition to Bia-Punt directed by the herald Henenu (Mahfouz, forthcoming). As there are no carved niches for stelae in this area of the terrace slope, it is likely that this one was originally associated with a mound of gravel atop the terrace directly above the entrance to Cave 8. The stele was found face down on colluvium that had fallen from above the cave entrance (Bard and Fattovich, forthcoming b).

### Western Terrace Slope, South

The large gallery-caves (Caves 2–7; Figure 5) are located in the southern area, along with niches carved outside the cave entrances for inscribed stelae. Caves 2 and 3 have been partly excavated, but Cave 4 remains unexcavated because of the dangerous faults that have been found in the rock above (Badr 2008:2–3). Cave 5 is where the previously mentioned coils of ship rope were found in 2005; because of their fragile nature, these coils have not been removed, and no excavations have been conducted here. The original entrance to Cave 5 remains closed, and the opening from the interior of Cave 2 that resulted from collapse of the carved wall between these two galleries has now been sealed off with bricks in order to preserve the original environment of the "rope cave" as much as possible. Caves 6 and 7 remain uninvestigated because of their location at the southwest corner of the western slope, where it is feared that the whole coral terrace corner could collapse if the deposits of windblown sand in these caves are removed.

A test trench excavated in this area has clarified the sequence of events (WG 16 transect; Perlingieri 2007a:116). The earliest use was in the early Twelfth Dynasty, before the large gallery-caves were excavated (also in the early Twelfth Dynasty); the conglomerate debris from the excavation then covered the earlier occupation. Early Twelfth Dynasty pottery is also found in the first phase of use after the excavation, when there is also evidence here of sealings used to close containers (Manzo and Pirelli 2007:237).

Excavated outside the entrances to Caves 2 and 5 were ceramics dating to the later Twelfth Dynasty (WG 24 and WG 32; Perlingieri 2007a:117), as well as administrative sealings of the later Twelfth Dynasty (excavated in WG 32), for control of imported goods (Manzo and Pirelli 2006:94–96). Also excavated at the entrance to Cave 2, along with the later Twelfth Dynasty pottery, were two ostraca with partially preserved hieratic inscriptions relating to expedition food/rations. Ostracon WG 105 is about rations: "74 men [ . . . ] / 8 [ . . . ] of ox, 10 [+x] pieces of meat." Ostracon WG 106 gives a date "Year 12, 3rd month of Shemu [summer], 20th day," and "the arrival of 100 meals for a / guard ???" (Mahfouz 2007b:229–231). The latter ostracon must date either to the reign of Senusret III or of Amenemhat III, both of the later Twelfth Dynasty; the final king of this dynasty, Amenemhat IV, reigned for less than twelve years.

Outside the entrances to Caves 5 and 6 (in WG 32), over forty cargo boxes had been unpacked and eventually abandoned. Though the wood of these boxes showed termite damage, many facts are clear: nine boxes had been made in a standardized size of 50–52 × 32–34 × 27–29 cm, while four boxes were slightly smaller at 45–48 × 30–34 × 20 cm (Manzo 2007c:30). Of the six boxes examined by Rainer Gerisch, four were made of planks of sycamore (*Ficus sycomorus*) imported from the Nile Valley (Gerisch 2007:188). Two of these cargo boxes had inscriptions on them, one of which preserves the name of the king, Amenemhat IV (Mahfouz and Pirelli 2007:47). The inscription reads like a package label: "Year 8 under his majesty / the king of Upper and Lower Egypt . . . given life forever / . . . of wonderful things of Punt / . . . overseer of recruits, the royal scribe Djedy" (Mahfouz 2007a:238). Although the sand within and around the boxes was carefully sieved during excavation, nothing remained of the original contents of the boxes, which must have been unloaded here and packed into other containers for easier transport by donkey caravan (donkey bones and coprolites have been found at the site) to the Nile Valley.

Also in the area of the western terrace slope, south, a number of large ship timbers were left outside the cave entrances, as discussed in another article in this volume by Cheryl Ward (Ward 2010). Stone anchors were left here as well (Zazzaro 2007b); several of these were reused for reinforcement of the entrance corridor to Cave 2, along with reused ship timbers, some of which were also used to make a ramp into the cave.

In the most recent excavations (2009–2010), two large rudder oar blades 3.25 m and 4.20 m long were identified that had been reused to form a ramp outside the entrance to Cave 6 (Ward and Zazzaro, forthcoming).

*Caves 2 and 3*

When Cave 2 was first opened in 2004, two large steering oar blades were found lying on a deposit of windblown sand in the cave's entrance corridor. Associated with these were potsherds dating to the early New Kingdom (Zazzaro 2007a:150). This evidence most likely represents the last seafaring expedition at Mersa/Wadi Gawasis.

The main period of use of Cave 2, however, was during the Twelfth Dynasty, when the walls of the entrance corridor were reinforced with stone anchors, ship timbers, mud-bricks, and mud plaster. The entire gallery is 24 m long and 4–5 m wide, and has been divided into three sectors: (1) the entrance corridor, (2) Room 1 (excavated in 2004–2005 and 2005–2006), and (3) Room 2 (excavated in 2009–2010) (Ward and Zazzaro, forthcoming). In Room 1, beyond the corridor entrance to Cave 2, are ceramics that date to two different phases, both from the later Twelfth Dynasty (Bard and Fattovich 2007:64–65; Perlingieri 2007a:117). The second phase was when two ship timbers were laid horizontally at the cave entrance and a ramp/walkway was made using reused ship timbers laid parallel in Room 1 (Bard and Fattovich 2007:64). The excavated evidence in Cave 2, Room 1 (SU92)—of potsherds of small cups, a granite grinding stone, and organic materials—suggests that it was a living area where food production took place. The large quantity of reworked wood fragments and disassembled ship timbers also suggests an activity area for woodworking (Bard and Fattovich 2007:65).

The most recent excavations in Cave 2, Room 2 produced more evidence of woodworking, including approximately 47 L of wood debitage, most likely the result of the dismantling, cleaning, and modification of ship timbers. Identified species in the wood debitage were cedar (*Cedrus libani*) and sycamore (*Ficus sycomorus*). The wooden handle of an adze (sans copper blade), probably used in the debitage activity, was also excavated in this sector (Ward and Zazzaro, forthcoming).

Cave 3, which is 22 m long from the entrance, has an almost rectangular plan in its inner portion (13.5 × 4.0 m) and a vaulted ceiling 1.65 m high in the middle of the gallery. Two phases of activities were recorded in this cave. The later phase of use has evidence of hearths at the entrance/shelter area of the gallery, and wood debris associated with shells, rope fragments and fish bones were scattered throughout the cave. The burning of ship timbers also took place during this phase. Wood fragments in the inner part of the cave from this phase include fragments of mortises, tenons, and dovetails: the fastenings from ships. An earlier phase of use in the cave involved the reworking of ship timbers, which had been placed on the floor of the cave, and food processing (Bard and Fattovich 2007:66; Calcagno and Zazzaro 2007:30–33; Fattovich and Bard 2007:22). The ceramics from the interior of Cave 3 date to the later Twelfth Dynasty (Perlingieri 2007b:27).

T64, a massive timber found in Cave 3, was removed from the cave in 2010 and recorded by Ward, who identified it as a segment of a cedar strake fastened to the keel, originally positioned at the waterline, that had probably been reused as a workbench in the cave, as suggested by the numerous cut marks on one surface (Ward, Zazzaro, and El-Maguid 2010).

Cave 3 was also used for food storage. Well-preserved emmer wheat (*Triticum dicoccum*) spikelets, with the seeds completely eaten by insects, were excavated in a deposit in the inner part of the cave. The emmer had been transported from the Nile Valley as spikelets, already coarsely threshed, and then was stored in Cave 3 (Borojevic 2007:39, 42). Later it would have been milled on saddle querns, which have been excavated at the site (Lucarini 2007:200), to make bread.

Andrea Manzo (forthcoming b) has suggested that the long gallery-caves at Wadi Gawasis are similar in design and use to the long, narrow galleries that Mark Lehner has excavated in the royal production center at Giza (Lehner 2002: 27–74). At the entrances to Caves 2 and 3, there is evidence of activity areas with hearths and the remains of food, behind which these galleries may have been used as shelter for expedition members—similar to how the Giza galleries were organized. The gallery-caves at Wadi Gawasis were also used as workshops for woodworking activities, which would have required lamps for illumination. Ceramic lamps have not been found at the site, but one large valve of a *Tridacna* shell, with traces of a type of fire exposure that suggest that it was used as a lamp, was found in excavations in the beach area (Carannante 2008:13). Cave 3 was also used to store emmer wheat, which would eventually have been removed from the cave to make bread in the production area.

*Cave 5*

Cave 5, the "rope cave," is 19.0 × 3.75–4.10 m in area, with straight walls and a vaulted ceiling 1.6 m high at its grooved center (Bard and Fattovich 2007:67). The coiled ropes were found toward the rear of the cave in at least two layers. At least sixteen complete, coiled ropes are in the upper layer, and an estimated ten are in the lower layer (Veldmeijer and Zazzaro 2008:21). Although unexcavated, Cave 5 and its contents most likely date to the later Twelfth Dynasty, as do most of the deposits and inscribed artifacts found in this area of the site. The coils have not been removed from cave or uncoiled because of conservation issues, but estimates for the lengths of several of them range from 8 to 23 m. The ropes were probably used as standard rigging and/or hogging trusses for several ships, and some might have served as spares (Veldmeijer and Zazzaro 2008:30, 38).

**Figure 6.** View into rear of Cave 5.

At present, there is disagreement on the material used to make the ropes: a species of grass (the common reed or the giant reed; Veldmeijer and Zazzaro 2008:26), or papyrus (Ksenija Borojevic, personal communication, April 2010). Veldmeijer and Zazzaro (2008:39) suggest that the ropes were made of a species of grass that grew at the site of the ancient harbor, and were manufactured there. There is no archaeological evidence, however, of rope-making anywhere at the site. If the ropes were made of papyrus, they would have been transported already manufactured in coils from the Nile Valley, along with the rest of the ship parts and equipment.

To view these coiled ropes in situ is truly an extraordinary sight: a frozen moment of time from ca. 3,800 years ago, when the sailors left them on the floor of the "rope cave," probably intended for use on a future expedition that never happened (Figure 6).

*Cave 7 Shrine*

In 2007–2008, a shrine was partially excavated (in WG 56) to the east of the entrance to Cave 7, which remains unexcavated. Both the shrine and the entrance to Cave 7 are located directly below the circular mound on top of the terrace where the Intef-iker stele was found by Sayed. The shrine consisted of an alcove-like opening in the terrace wall, outside of which was a U-shaped structure composed of three large conglomerate blocks, with a fourth block leaning against the southernmost one. A large, possibly votive jar was found upside-down at the base of the largest conglomerate block, missing only its neck. A large curved "cobble wall" cut into the conglomerate layer of the terrace (approximately 80 cm high and 50 cm thick) extended around the shrine.

Unlike the excavated deposits in other areas of the terrace slope, which typically have evidence of woodworking, administrative activities, and accumulated materials from expeditions, evidence of such activities was missing here (Bard and Fattovich 2008:22–25). Throughout the strata, the ceramics associated with the shrine were very mixed: both early and later Twelfth Dynasty ceramics were found together (Sally Wallace-Jones, personal communication, January 2010), similarly to the stratigraphic evidence at a shrine excavated at the Gebel Zeit galena mines farther north. The mining site was used only periodically by expeditions, and the shrine would have been abandoned for periods of time, robbed, then periodically repaired and cleaned out. These cycles of activities at the Gebel Zeit shrine explain why older artifacts were mixed with more recent ones (Régen and Soukiassian 2008:2). Such activities can probably also explain the very mixed ceramics at the Wadi Gawasis shrine, which was used by expeditions throughout the entire Twelfth Dynasty.

To the west of this shrine is the entrance to Cave 7. Excavations here in 2007–2008 (in WG 55) uncovered two limestone stelae (Stele 23 and Stele 24) near the entrance to the cave (Bard and Fattovich 2008:19–22). Stele 23 dates to Year 41 of Amenemhat III, but most of the text is now missing (Mahfouz and Manzo 2008:31–32). At the southern limit of the excavation unit, another stele (Stele 28) was found; the unfinished inscription on this offering stele includes "an offering which the king gives to Osiris of *Wadj-wer* [Great Green, i.e., Red Sea in this case] and Horus the Great" (Mahfouz and Manzo 2008:33; translation from the French by Bard). This is the earliest known example of the "of *Wadj-wer*" epithet for Osiris, which is rarely found later (Mahfouz, personal communication, 2010).

Four rod-like pieces of ebony (now in fragments) were also excavated in WG 55, along with two Minoan potsherds. The rods of ebony suggest the original shape in which they were imported from Punt, where ebony trees grow. Although the two Minoan potsherds were found in the same stratigraphic unit (WG 55, C2, SU2), they come from different pots dating to very different periods. One potsherd is characteristic of the Proto-palatial period, possibly as early as ca. 2000 BCE, of the White-Banded Style of MMIB Kamares pottery; the other potsherd is from a shallow bowl of Fine Buff Crude Ware of the MMIIIA, ca. 1700 BCE (Wallace-Jones, forthcoming).

The shrine and exterior area of the entrance to Cave 7 thus provide evidence of the most unusual ritual activity excavated so far at the ancient harbor site. A shrine that was used throughout the entire Twelfth Dynasty was erected here, and offerings were left that included Minoan pots and (burnt) rods of ebony, as well as an offering stele to a maritime deity, Osiris of *Wadj-wer*, and Horus. The shrine was located at a prominent point at the site, at a corner in the western coral terrace overlooking the inland lagoon/harbor.

Middle Minoan pottery is known from a number of Middle Kingdom sites in Egypt (Kemp and Merrillees 1980), especially from burial contexts, but the presence at Mersa/Wadi Gawasis of two sherds of Minoan pottery dating to different periods—in the context of a shrine—is unusual. The most likely explanation is that the Minoan pots were brought here by Egyptian members of seafaring expeditions, and were left as offerings at this shrine.

Given that some expedition supplies—and possibly expedition workers—came from the eastern Nile Delta (as represented by the Nile E cooking pots, and probably the Canaanite jars), this seems the likely route for the Minoan pots into Egypt, and then from the eastern Delta to Upper Egypt and the Red Sea harbor. The possibility cannot be excluded, however, that some Minoan sailors, probably known for their seafaring expertise, were hired in the Delta for Egyptian expeditions to Punt and left these offerings at the shrine at Saww.

### Harbor Edge

Below the western terrace slope at its base and at the edge of the harbor, there is evidence of different uses: a dump below Cave 8, with a production area to the south. Excavation Unit WG 69 was excavated below Cave 8. In Middle Kingdom times (throughout the Twelfth Dynasty) this area was at the water's edge, and broken pottery was dumped here. The ceramics were a mix of early and late Twelfth Dynasty wares, and a possible fragment of an Old Kingdom bread mold was also found here. A Canaanite jar was also excavated in the dump (Wallace-Jones, forthcoming).

In sections of this excavation unit, the roots of mangrove trees were found in the level below the pottery, while above the final use of the area as a dump there were no mangrove roots. Interpretation of this section is as follows:

- The mangrove trees originally grew in stands along the edge of the lagoon.
- As the site was repeatedly used as a harbor, the mangroves were cut down and used during expeditions.
- After abandonment of the harbor, as the area infilled with wadi silts and aeolian sand, the mangrove trees died out (see Hein et al., forthcoming).

### Production Area

The production area (WG 19/25/26/27) located to the south of WG 69 was excavated by S. Terry Childs and Cinzia Perlingieri in four field seasons beginning in 2003–2004. A great number of fire pits were excavated in this area, along with many deposits of ash and charcoal from ceramic production. The charcoal from this area has provided most of the samples used by Rainer Gerisch for wood identification (Gerisch 2007:170–185). Although most of the ceramics at the Twelfth Dynasty harbor were imported from the Nile Valley, long cylindrical bread molds and large, chaff-tempered "platters" were produced here using local clay (Bard and Fattovich 2007:73–76). Most of the imported Egyptian ceramics associated with these fire pits date to the later Twelfth Dynasty, but the earliest phase of use of the production area is associated with early Twelfth Dynasty pottery (Bard and Fattovich 2007:76). Stone tools were also made in the production area (Lucarini 2007:205–207).

The most prolific samples of cereal grains excavated at the harbor site have come from hearths and fires in the production area. These include numerous burnt grains of hulled barley (*Hordeum vulgare*) and some emmer grains (*Triticum dicoccum*), as well as mineralized barley chaff from ashes, once used as tinder for starting fires. An excavated residue with burnt barley grains adhering together was perhaps from a porridge or was the residue of beer-making (Borojevic 2007:41–42).

### Western Terrace, Southern Slope

Under a rock shelter along the slope of the northern edge of Wadi Gawasis, near the stele of Inef-iker, Sayed found evidence of a camp: "traces of ashes and food remains," as well as some inscribed potsherds (in painted hieratic or incised hieroglyphs) and two unfinished anchors (Sayed 1978:70-71). Twenty-five of the potsherds had hieratic texts, one of which mentions the toponym "Punt." One hieratic text mentions the funerary temple of Senusret II at Lahun, while another one mentions an official known from the Kahun papyri, from the reign of Senusret III (Sayed 1983:24-26).

At the base of the southern slope, the UNO/BU team excavated more evidence of a camp: a mound of (anciently) discarded later Twelfth Dynasty pottery. Beneath and around the broken pottery was evidence of a camp: wooden poles, potsherds, hearths, and charcoal. Early Middle Kingdom pottery was found at the bottom of a test pit in this area (WG 10: Bard and Fattovich 2007:50–51). Another nearby excavation unit (WG 18) revealed similar evidence, with ceramics from two periods of use: the early and later Twelfth Dynasty. Thus, the ceramics and hieratic inscriptions on ostraca in this area provide evidence of temporary expedition camps (with no permanent architecture) dating to both the early and later Twelfth Dynasty.

### Beach Area Above the Harbor

In 2007–2008, Fattovich excavated large areas of a beach next to the harbor, opening to the south of the western terrace, southern slope, where there is again evidence of two periods of use as a camp, both marked by later Twelfth Dynasty ceramics. The largest area excavated here consisted of several contiguous excavation units (WG 45/46/47/48/49/50), covering an area of 600 $m^2$ (Bard and Fattovich 2008:25–27), and was stratigraphically earlier than the other area excavated at the beach (WG 51). Many of the ceramics in WG 49 were from large jars (mainly of Marl C Ware and it variants, as well as large storage jars of Marl A variant 3 from Upper Egypt (Wallace-Jones 2008:47–48). A number of these large jars were aligned along the shoreline, and were probably related to work/activities along or near the edge of the harbor. Evidence of camp subsistence activities in this area consisted of a number of hearths, charcoal, and fish bones. Fragments of a Canaanite jar were also found in WG 47, as was a large cooking pot of Nile E fab-

**Figure 7.** Stele 5, with the cartouche of Amenemhat III. The text below the offering scene is about expeditions to Punt (left) and Bia-Punt (right).

ric, "typical of those found at Tell el-Daba" in the eastern Nile Delta (Wallace-Jones 2008:47–48). Possibly the eastern Delta, where Canaanite wares could also be found, provided provisions for this expedition, and also may have provided personnel who brought their own cooking wares.

Excavation Unit WG 51 was located farther away from the harbor edge in this beach area, at the mouth of a small wadi that drains from the coral terrace into the Wadi Gawasis (Bard and Fattovich 2008:27). A wide variety of ceramic wares from the Nile Valley were found here, including three Marl C rim sherds from bag-shaped jars also found at Tell el-Dab'a and dating to the Twelfth Dynasty (Wallace-Jones 2008:46). Two body sherds of Nile E Ware were also excavated in this unit, suggesting ongoing supplies from the eastern Delta.

## Stelae

More than thirty niches were carved into the terrace wall, south, near the entrances to Caves 2–6. Round-topped limestone stelae have been found here, some still in their niches, but most have been found in deposits of sand along the terrace slope. Two types of stelae have been recorded: (1) personal stelae inscribed with the "offering formula" and sometimes carved with an offering table scene, and (2) commemorative stelae with "historical" information about expeditions.

Most of the inscribed stelae have missing sections of text, but of the evidence that remains, these stelae all date to the later Twelfth Dynasty, suggesting all stelae in this part of the site date to that time. Of the stelae on which the king's names/cartouches

have been preserved, only Stele 14 is from the reign of Senusret III (Mahfouz and Pirelli 2007:48). Of the five stelae that preserve the names/cartouches of Amenemhat III (Stelae 5, 6, 8, 16, 23), only two have year dates: Stele 16 (Year 23) and Stele 23 (Year 41) (Mahfouz and Manzo 2008:30–32).

Stele 5, from the reign of Amenemhat III, has the best-preserved text (Figure 7). At the top of the stele is a scene of the god Min of Coptos, who is given an offering by the king. Standing behind the king in this scene is the stele's owner, Nebsu, who was overseer of the cabinet of the "Head of the South" (i.e., the southern vizierate). The main text of the stele is about two different expeditions during the reign of this king: one to Bia-Punt under the direction of Nebsu, and the other to Punt under the direction of Nebsu's brother, Amenhotep—the scribe in charge of the seal of the treasury (Pirelli 2007a:220–221). Mentioned in both expedition texts is the chief steward Senbef, the king's deputy, who was the nominal head of the expeditions, but he may only have overseen the organization of the expeditions as far as the point of departure in the Nile Valley at Coptos (Pirelli 2007b:98–99). Whether the text on this stele represents two different expeditions to Punt and Bia-Punt (per Pirelli) or one expedition that separated at some point, going to the two different locations (as Bard suggests), cannot be determined. Pirelli (2007b:95) states that Punt, Bia-Punt, and Bia-n-Punt (known from other inscriptions) "corresponded to a vast territory, the latter two indicating a specific or limited area within the wide region of Punt." We would like to suggest, however, that "Punt" in this text may have referred to the coastal region of the southern Red Sea, probably in the area of eastern Sudan and northern Eritrea, while the "Bia-Punt" of this text was a (gold?) mining region somewhere inland.

## Conclusions

At Mersa/Wadi Gawasis, there is evidence of a large, sheltered harbor that was used primarily in the Twelfth Dynasty to send seafaring expeditions to Punt and Bia-Punt. These seafaring expeditions were organized because of geopolitical problems farther up the Nile: control of this region by the Kerma kingdom greatly restricted river/overland access to the goods of Punt. In the early New Kingdom, Egypt vanquished Kerma and gained control of the Upper Nile, rendering seafaring expeditions from Mersa/Wadi Gawasis for the most part unnecessary. By New Kingdom times, the harbor was no longer usable due to falling sea levels.

Material evidence of these seafaring expeditions at Mersa/Wadi Gawasis includes the remains of ship timbers and rigging, expedition equipment, and food—all brought from the Nile Valley. Mounting these expeditions required impressive logistics as well as a highly organized state bureaucracy. Wood for the large ship timbers was brought in ships from Lebanon down the coast of the eastern Mediterranean to the Nile Delta, then up the Nile to Coptos to the shipbuilding yard. Other woods from the Nile Valley, especially Nile acacia, were also used for ship parts. The ships were then disassembled and carried roughly 150 km through desert wadis across the Eastern Desert—along with the rigging and all needed equipment, supplies, and food—to the harbor on the Red Sea. All the ceramics excavated at the harbor site, with the exception of bread molds and the chaff-tempered "platters," came from the Nile Valley, and were made of wares from Upper Egypt, the Memphis-Faiyum region, and the Delta. The ships were then reassembled at the harbor and sailed perhaps 1,200–1,300 km south to Punt. The seafaring voyage would have been a very risky venture, as the Middle Kingdom text *Tale of the Shipwrecked Sailor* suggests (for a translation, see Simpson 1973:50–56)—not to mention the possible risks of interactions with peoples in Punt and Bia-Punt. Sailing to Punt, the crew would have benefited from the northerly winds, but on the return voyage, they would have been rowing against the wind for at least half the return trip, if made in January; any other month and the entire northward trip would have been made against the wind (Facey 2004:11).

Textual evidence at the site dates to reigns of the Twelfth Dynasty. From these inscribed stelae and ostraca we know that expeditions were sent to both Punt and Bia-Punt. Punt was most likely located on the African side of the southern Red Sea region, in what are today eastern Sudan and northern Eritrea (Bard and Fattovich, forthcoming a), and for the purpose of Egyptian seafaring expeditions, they would have sailed to coastal regions of Punt. Bia-Punt (the "mine" of Punt) may have been a region in the Punt hinterland where (gold?) mining took place.

Materials from the southern Red Sea region excavated at Mersa/Wadi Gawasis include obsidian (Lucarini 2007:207) and ebony (*Diospyros* sp.; Gerisch 2007:178–180, 183–184; Gerisch 2008:71; Gerisch, forthcoming). Obsidian is a hard natural glass of volcanic origin found on both sides of the southern Red Sea region, in the Horn of Africa and the southern Arabian peninsula (Zarins 1989). Ebony trees grow in the Red Sea Hills of eastern Sudan and the western lowlands of Eritrea (Fattovich 1991:260; see also Kitchen 2004:26).

Whatever was in the two cargo boxes labeled "the wonderful things of Punt" was also, presumably, from Punt. Frankincense is the most likely material to have been transported in these boxes, then unloaded into cloth bags for easier transport to the Nile Valley by donkey caravan; however, no frankincense has yet been identified at the harbor site.

Finally, Andrea Manzo has studied the imported ceramics at Mersa/Wadi Gawasis from the southern Red Sea region, as well as the Middle Nubian pottery found there (Manzo 2007a, 2007b, 2008, 2010b). These ceramics have provided evidence of the contacts of the seafaring expeditions from Mersa/Wadi Gawasis, including a potsherd from the west coast of what is today the Yemeni Tihama dating from the late third to late second millennium BCE, as well as potsherds from the Aden

region in southern Yemen (one from the site of Ma'layba, Phase 1, Sabir culture, dating to ca. 2000–1500 BCE, and two others from this region; Manzo 2010b:443–445). Another potsherd, found at Mersa/Wadi Gawasis in Cave 3, has been identified as Gash Group Basket Ware dating to the mid–second millennium BCE, from the Eritrean-Sudanese lowlands (Manzo 2010:445). Several other sherds excavated at the harbor site may also be from regions in the southern Red Sea, but are atypical (Manzo 2010b:445). Given the paucity of the ceramic evidence from both sides of the southern Red Sea region at Mersa/Wadi Gawasis, they cannot be used to reconstruct the types of contact with this region. Nonetheless, these ceramics demonstrate—along with the other excavated evidence from the southern Red Sea—that Egyptian ships were indeed reaching Punt, wherever it was located, and returning successfully to their harbor of Saww.

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