



ONGOING INVESTIGATIONS AT A LATE OLD KINGDOM COASTAL FORT AT RAS BURDRAN IN SOUTH SINAI

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ABSTRACT

The late Old Kingdom, circular stone fort at Ras Budran in South Sinai contains traces of an underlying Old Kingdom occupation layer, perhaps predating the fort. The fort's western "buttress" was traced 22 meters, and may represent a quay and shelter for ships. The courtyard yielded diverse activity areas, including storage for jars under an awning, grinding grain, baking bread, probably brewing beer, and processing turquoise and copper. The decision to dismantle the fort after one or two periods of use may reflect its poor placement beside the shoreline and exposure to severe storms; by 2,200 B.C.E., a huge Red Sea storm destroyed the western buttress.

The 2008 continuing excavations and 2010 study season regarding a late Old Kingdom, circular, stone coastal fort and adjacent anchorage at Ras Budran¹ in South Sinai (see figures 1 and 2) have refined our understanding of the nature and role of this site in turquoise and copper mining operations during Dynasties 5(?) to 6.² The 2008 excavation of part of the eastern remaining half of the interior courtyard revealed an intervening layer of windblown and hardened sand separating the upper and last occupation layer from an earlier Old Kingdom layer (figure 3). Further excavation will be needed, however, to determine whether the lower layer represents activities predating the foundation of the fort (e.g., an earlier campsite), one or more layers associated with the earliest usage of the fort, or possibly an in-filled depression or pit in the center of the courtyard (e.g., a well). The uppermost layer appears to contain a variety of activities near the northern interior wall face, including grinding stones (perhaps from processing grain into flour), the placement or disposal of mainly bread moulds and other open vessels (reflecting baking and consumption) (figure 8), and the smelting or disposal of copper slag. The courtyard's interior northwest quadrant displays some working and polishing of raw turquoise nodules, while marine mollusc plates to the north of a central, stone slab paved hearth suggest the roasting and consumption of a few Red Sea Chitons. An entry passage and adjacent staircase lay along the western side of the courtyard, near a western "buttress" (figures 11 and 12). The Southwest quadrant also contained the remains of post holes that once supported an awning around two-thirds of the excavated western

half of the interior courtyard, shading an area that yielded mostly storage jars that may have held such products as grain, meat, wine, and water (figure 7). A single spouted vessel may reflect local beer production from barley (90% of the pottery was made "locally"). The interior part of the southwest quadrant also yielded some evidence for copper smelting. The western side of the Southeast quadrant contained another stone paved hearth (figure 4), which may have facilitated both bread baking and beer brewing. The appearance of many different types of Red Sea shells inside the courtyard suggests their purposeful collection and shipment to the Nile Valley where the same shell species are found during the Old Kingdom and other periods.³

Preliminary excavations along the northern side of the exterior western "buttress" revealed that it had extended at least 22 meters towards the sea, and may have been closer to, or associated with, the late Old Kingdom shoreline (figure 12). Future investigations aim to determine whether this feature represented a quay or breakwater for sheltering ships, a defensive feature, a combination of these functions, or another purpose. The "buttress" lay beside the only ground level entrance to the structure, and had suffered fairly severe wind erosion along its northern face, which appears to have been faced originally with a mud plaster facing. A potential poor siting of this fort and its seaward facing entry too close to the Red Sea may have encouraged the sealing up of the exterior end of the entry passage with a 1 meter blocking of stone (figure 13), thereby forming a long, stone paved chamber accessed from the interior courtyard. This chamber had been subsequently sealed from the interior by

a lighter blocking of mud and stones, against which a cobble stone ramp was placed, perhaps representing an inter-seasonal storeroom not unlike the contemporary and later sealed rock-cut chambers at Ain Soukhna,⁴ Wadi al-Jarf,⁵ and Wadi Gawasis⁶ along the western side of the Red Sea.

The fort seems to have been left empty for a year or two, before a late Old Kingdom expedition returned to Ras Budran to find its interior partly filled with windblown sand. However, this returning expedition appears to have realized the fort's poor location too close to the shoreline, and began to dismantle the rough limestone blocks along the southern half of the structure (figure 5), leaving worn or broken hammer stones discarded in the courtyard (figure 6). Excavations inside and outside the fort have shown that several Red Sea storms and windblown sea spray and salts had begun to coat the exterior face of the blocked-up entryway and the ground surfaces associated with four successive campsites placed upon accumulations of windblown sand inside the fort. During their dismantling of the fort's upper wall courses, the Egyptian workforce apparently breached one of the stone slabs roofing the inter-seasonal magazine, and may have entered and removed some materials from this chamber, which otherwise yielded only a few copper alloy pieces (including a similar chisel fragment) (figure 9). The dismantling of the fort mostly ended during this initial return expedition, and the stone may have been taken to a new, albeit not located, building site (i.e., the local Bedouin have reported that a similar structure

occurs in el-Markha Plain, but it has yet to be found or verified). Three further late Old Kingdom expeditions camped on the slowly accumulating sand within and around the abandoned fort (figure 10), processing some copper and cooking Red Sea molluscs. This activity is terminated by a severe Red Sea storm, perhaps a storm surge or seismic sea wave, which hit the western side of the remaining fort, scouring the exposed buttress/quay's wall face, displacing many large stone blocks, scattering them across the exterior sand dune against the fort's exterior western wall, and depositing a thick layer of many shells and cobblestones.

Recent investigations at Ayn Soukhna and Wadi al-Jarf to the northwest and west, across the Red Sea, have found two probable Old Kingdom departure points for ships heading to Ras Budran and el-Markha Plain.⁷ Although links between Ras Budran and the contemporary late Old Kingdom anchorage at Wadi Gawasis remain unconfirmed, it seems likely that at least some pharaonic expeditions to the Eastern Desert, South Sinai, and Punt combined multiple objectives. For instance, a few missions may have departed the Nile Valley using a northern route (e.g., via Ayn Soukhna and Wadi al-Jarf), with separate portions of the personnel mining turquoise and copper in Sinai, while other expedition members remained in the eastern Desert to obtain stone and other materials; some expeditions may even have departed Sinai and returned to Egypt via the Wadi Hammamat, with a few texts alluding to a possible added voyage to Punt before returning to Egypt via the Wadi Hammamat.⁸

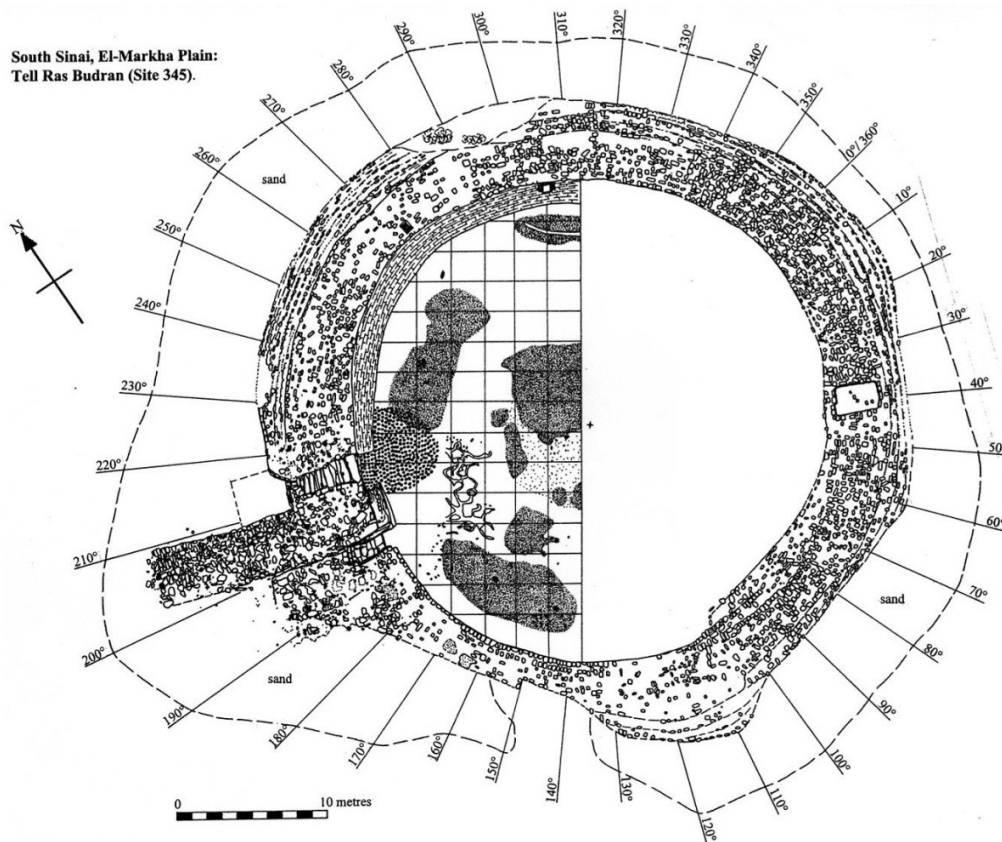


Figure 1: Top plan of 2004 excavation of late Old Kingdom fort (Image: G. Mumford)

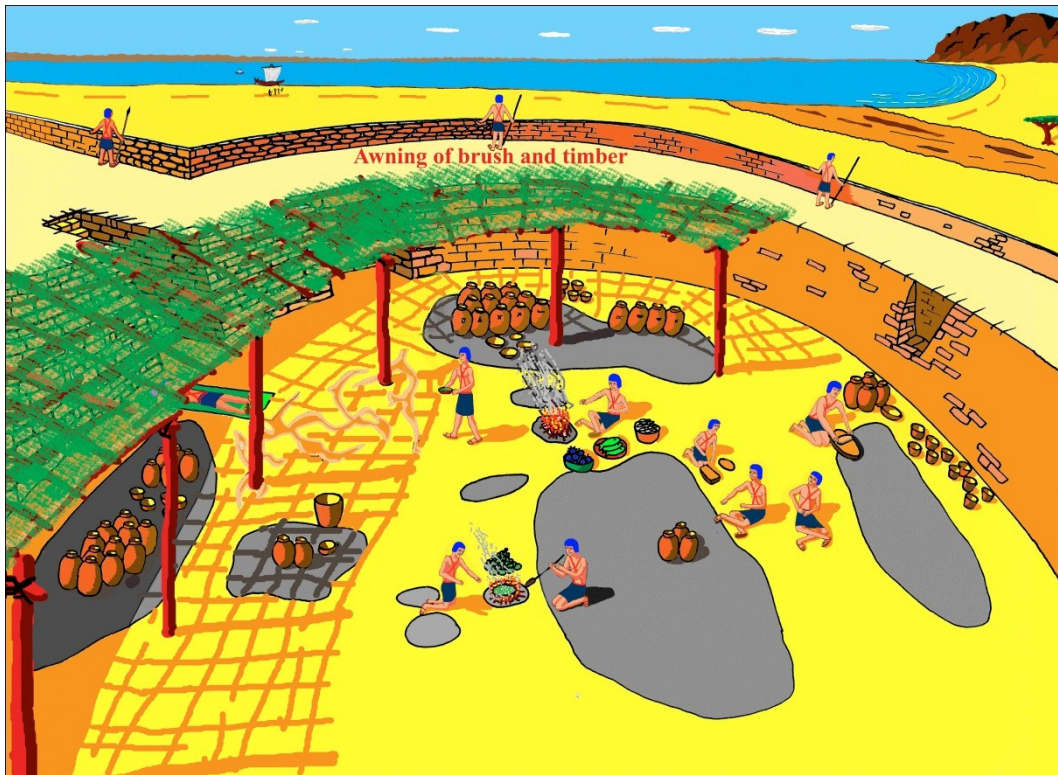


Figure 2: Reconstruction of fort interior based on 2004 excavation results (Image: G. Mumford)



Figure 3: Sieving 1 x 1 m grid squares across the fort's upper occupation layer (Photo: P. Carstens)



Figure 4: Stone paved baking installation in SE Quadrant (Unit 6), B8, locus 6 (Photo: P. Carstens)



Figure 5: Blocks dislodged from wall in SE Quadrant Unit 6, Trench V/VI section (Photo: Carstens)



Figure 6: Hammer stone associated with stone debris from dismantling fort wall (Photo: Carstens)



Figure 7: Late Old Kingdom storage jar fragment RB no. 650 (Photo: P. Carstens)



Figure 8: Late Old Kingdom bread mould fragment RB no. 659 (Photo: P. Carstens)



Figure 9: Late Old Kingdom copper alloy mortise chisel fragment MC no. 9 (Photo: P. Carstens)



Figure 10: Looking north at fort, Red Sea, and mountains bounding Markha Plain (Photo: Carstens)



Figure 11: West side of courtyard with entry passage and stairway to battlements (Photo: Carstens)



Figure 12: 2008 excavation of the fort's western "buttress" (or quay) (Photo: P. Carstens)



Figure 13: Exterior of blocked-up original entry passageway to the circular fort (Photo: P. Carstens)

NOTES

- 1 Special thanks are extended to all project team members, the Bedouin workers from Kilo Tisa, Reis Omer Farouk, Adel Farouk, and officials from the University of Toronto, the University of Alabama at Birmingham, the American Research Center in Egypt, and the Supreme Council of Antiquities in Cairo and Abu Zenima. The project is also indebted for generous funds and donations provided by the Social Sciences and Humanities Research Council of Canada, NASA (via the UAB Laboratory for Global Observation), and G. Abbott, D. Baker, B. Cahill, P. Carstens, D. Gathings, S. Hull, M. Karten, H. Sheeler, K. Sheeler, and M. Yasuda-Abramitis.
- 2 For more details, including the 2002 and 2004 seasons, see Mumford and Parcak (2003: 83-116), Mumford (2005: 24-26), *idem* (2006: 13-67), *idem* (2012: 107-45), and www.deltasinai.com; see also Rothenberg (1970: 18 site 345) for a brief description of the original 1967 survey and discovery of this site, which was designated as no. 345.
- 3 See Mumford (2012) for a discussion on Ras Budran and the Red Sea shell trade; see also Sowada (2009: 95, 123, 203) for a discussion of Red Sea shells imported into the Levant during the Old Kingdom.
- 4 See Abd el-Raziq, Castel, and Tallet (2002); Abd el-Raziq, Castel, Tallet, and Fluzin (2011: 2, 31 text no.1, 31 note 21, 35, 35 notes 31-32, 36, 38 Cat. 6-7, notes 48-49, Marl A1 and Nile B2 Meidum bowl rim fragments, 55 figure. 3 map of wadis 1-2, 56 figure 5 map of Wadi 2, 67 figure 28 Meidum bowl, 141 figure 160, 33 possibly text nos.2-3, 141 figures 161-2).
- 5 Marouard and Tallet (2012: 40-43).
- 6 Bard and Fattovich (2007); *idem* (2011: 110); Ward and Zazzaro (2009: 27-43).
- 7 Abd el-Raziq et. al. (2007: 49, bois importé); Abd el-Raziq, Castel, Tallet, and Fluzin (2011); Marouard and Tallet (2012: 40-43).
- 8 See Meeks (2003: 68-69); such multiple objectives are attested in expeditions to the Wadi Hammamat and Punt.

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