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Control posts and navigation
system of the Pharaonic
Abu Ballas Trail

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Heiko Riemer
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1. FOCUS OF RESEARCH

The so-called Abu Ballas Trail is the 400 km long pharaonic road through the Western Desert of Egypt which starts at Balat in Dakhla Oasis (the former Old Kingdom town of Ayn Aseel) and continues to the Gifl Kebir Plateau (Kuper 2001; 2003; Förster in press). It is named after the pottery hill of Abu Ballas that had already been discovered in 1918 half way to the Gifl Kebir. Since 1999 a large number of new road stations and pottery dumps have been discovered by the modern camel nomad C. Bergmann along the trail. Consequently, the Trail was the subject of a number of ACACIA campaigns during the following years, and the examination of the pottery indicated that the trail was installed and used during the Old Kingdom (6th Dynasty / First Intermediate Period), and re-used during the New Kingdom, while traces of the Roman period are very rare. By far the largest number of sites along the trail date back to the Old Kingdom.

The field activities during the last years mainly focussed on the excavation of the large pottery dumps, such as Abu Ballas (site 85/55), Jaqub (99/30), and others which yielded several dozens of large Old Kingdom storage jars that were most likely used as water dumps for the donkeys.

The main objectives of the recent field campaign were:

the survey and excavation of a number of smaller Old Kingdom stations placed between the large pottery dumps, and the survey and documentation of the road signs (Alamat) and donkey paths which connect the individual stations (Riemer in press). The latter can be seen as a contribution to the archaeology of the road itself, as little is known about the navigation and orientation along the pharaonic desert roads.

2. EXCAVATION AND SURVEY OF SMALL ROAD STATIONS

Excavations and surveys took place at the following four small road stations along the Abu Ballas Trail.

2.1 Site 02/50

Some kilometres south-east of the Abu Ballas Trail site 02/50 has been discovered in 2002. Road signs in the direction of the trail may speak for an alternative road close to or connected to the Abu Ballas Trail. The field work performed at the site during this campaign included the excavation of a sheltered room at a large sandstone hill some 10 m above the surrounding plain and a survey around the hill. The excavation yielded pressed dry grass possibly used as animal fodder, remains of roasted locusts, pellets of animal dung and a decorated sandstone stela within a dry stone work. The stela shows engravings of birds, a hunting scene, and a (horus?) falcon among others **[fig. 1]**. No pottery has been found in the excavation trench, but small sherds of a Sheikh Muftah jar have been discovered at the back site of the hill. The stela which measures about 70 cm in height has been transported to Dakhla.

2.2 Site 00/20 and 00/21

The sites in question are likely a functional couple as they are installed in a distance of only a few hundred meters. Site 00/20 is a stone construction of about 5 m length made out of large elongated sandstone slabs which are

placed in two parallel lines some 1.5 m apart [fig. 2]. The excavation led to the discovery of remains of 4 storage jars. A base part of one storage jar contained seeds of grass. The function of the stone construction has not been cleared up, however, a kind of artificially build up storage room is a possible explanation.

Site 00/21 is a sheltered room at a sandstone hill which has been excavated. At the back wall a small cache with remains of dry grass came to light. On the terrace in front of the shelter sherds of one or two storage jars and a red-polished cup were found.

2.3 Site 00/24

The site is a sandstone hill with a total of three sheltered rooms of which two have been excavated. The first room (00/24-1) yielded a mass of pressed dry grass that has most likely been stored as donkey fodder [fig. 3]. The second room (00/24-2) which is larger in size yielded again remains of dry grass and a very small number of potsherds which have not yet been identified.

2.4 Site 00/7

The site marks the end of the Abu Ballas Trail about 15 or 20 km away of the Gilf Kebir Plateau. Unfortunately, no distinctive feature or concentration of pottery could be identified which could support a definite answer to the question whether and if so why the trail ends at this place. A shelter did not yield artefacts except a few widely scattered potsherds (probably from storage jars) in front of the room. At the back side of the hill, a number of highly fragmented sherds of large storage jars were documented, and at a neighbouring hill, a storage jar [fig. 4] embedded into a large amount of pressed dry grass has been excavated and taken to Dakhla. The total amount of sherds from storage jars may speak not only for a small road station but for a larger dump of water jars. Although it is difficult to estimate the number of storage jars as represented by the highly fragmented potsherds, one may suggest a minimum of 10 or 12 jars or even more. However, the widely scattered potsherds and the destruction of the pottery indicate that the site has completely destroyed during the past. Therefore, a final conclusion regarding the reconstruction of the site and its function is not yet possible.

As a preliminary conclusion, the small stations may be interpreted as small watch posts which not only controlled the operations along the trail, but represented possible depots of animal fodder to supply the donkeys. The small amount of pottery - domestic vessels for cooking and drinking, as well as some storage jars - point to a short stay of a few soldiers or watchmen at these sites over some days or weeks.

3. SURVEY OF ROAD SIGNS (ALAMAT)

The course of the Abu Ballas Trail and the road signs or *Alamat* which mark the road between the stations have systematically been followed and documented in some selected parts of the Trail. The documentation included the topology, placement, and location of the *Alamat*, the distances between the individual road signs, the visibility and bearing between the signs, and the possible connection of these factors with the types of landscape that was crossed by the trail. The geographical positions of the road signs have been taken by GPS for a detailed analysis of this navigation system that has been used along the Trail. Additionally, traces of donkey paths have been recorded in some parts of the trail where they are visible on surfaces with stone gravel.

Although we have to await the final analysis of the data, some preliminary results regarding the *Alamat* system can be given here:

Alamat are artificially set upright stone slabs, stone cairns or pyramids, or impressive stones which have been placed on the level ground, on outcrops, or on small or medium large hills [fig. 5]. *Alamat* on hills that are more than

20 or 30 m high are exceptionally rare. The amount of effort spend to erect an Alam obviously was as simple as possible, since stones were always taken from the immediate surrounding or where they were weathering out.

The principle of the navigation and orientation along the road is the visibility of the road signs which were continuously set in a line. The distances between the Alamat are related to the visibility, and in turn to the topography and the surface cover of the landscape. In open plains Alamat can be seen over distances of up to several kilometres while in mountainous, hilly or rocky areas the Alamat were set in very short distances.

The Alamat lines principally followed the general bearing of the Abu Ballas Trail towards southwest. Surface cover and relief which were difficult to cover by the donkeys in some parts of the trail were directionally crossed, despite the fact that alternative routes and bypaths possibly were easier to go along. However, at high escarpments and in cases where the landscape abruptly changes from open plains to rocky or hilly ground or *vice versa* short bypaths and parallel roads were erected.

The system of Alamat road signs definitely goes back to the initial Old Kingdom activities, since they connect all Old Kingdom stations along the trail where younger material has not been found. It can not be excluded that a number of bypaths or alternative routes were built up in the later periods when the Old Kingdom stations were out of use. It seems to us that the strict bearing of the trail is a consequence of the lack of routines and experiences with travel in a desert landscape. In turn, the system of road stations and Alamat indicates the character of a well equipped and organised desert expedition through a complete unknown country that was made possible by the enormous logistical and economical potential of the Egyptian state.

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Fig. 1 Stone stela at site 02/50.



Fig. 2 Stone construction at site 00/20.



Fig. 3 Shelter 1 at site 00/24.



Fig. 4 Storage jar in situ at site 00/7.



Fig. 5 Alam (road sign).