

The Munich University Attab to Ferka Survey Project (MUAFS)

Report of the 2018/2019 Season



Julia Budka et al., LMU Munich

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1. Introduction (J. Budka)

The area which is the focus of the Munich University Attab to Ferka Survey Project (MUAFS) is a stretch along the Nile including various islands between Attab and Ferka in northern Sudan. The new concession, situated just south of the Dal Cataract, can be regarded as ‘periphery’ to two of the main Egyptian centres of the region, to Amara West and Sai Island (Fig. 1).

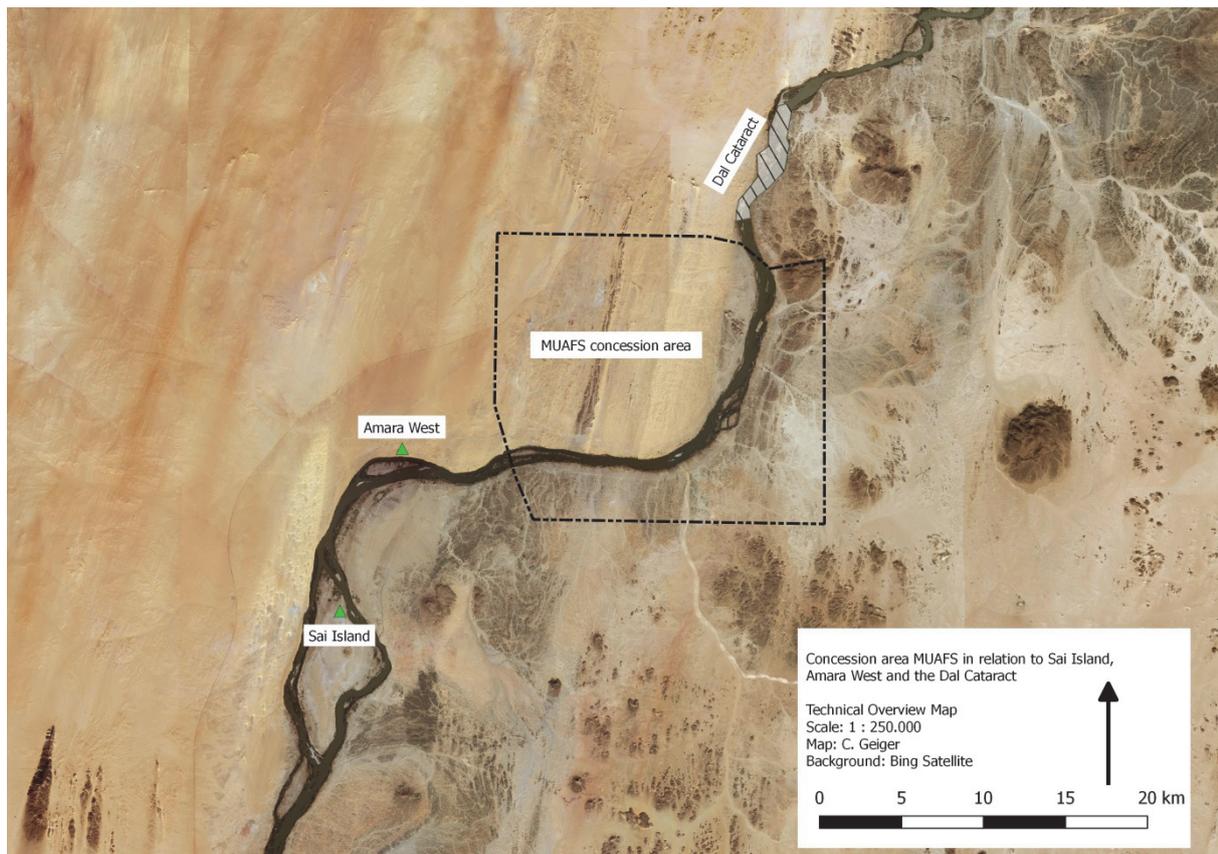


Fig. 1: The location of the MUAFS concession area.

The MUAFS research concession is primarily a geological boundary zone being located next to a cataract region, and secondly a frontier in terms of cultures. This region was previously preliminarily surveyed by the Sudan Antiquities Service together with the French Archaeological Research Unit under the direction of André Vila in the 1970s (Vila 1976a, b; 1977a, b) providing multiple sites comprising settlement and funerary remains (from Palaeolithic to Post-Medieval times).

2. The 2018/19 MUAFS season (J. Budka)

The first season of the MUAFS project was conducted from December 28 2018 to January 11 2019. The mission rented a house in Attab East and set up head-quarters in this district of the concession area.

The principal goal was a new survey of the concession area, checking on Vila's results and sites. Altogether, 119 sites by Vila were re-identified and documented in the area between Attab East and Ferka East and Attab West and Mograkka West (Fig. 2). The registration numbers by Vila were adopted for the MUAFS records, but new labels were introduced for four sites investigated by magnetometry in district Ginis East (with an acronym for the area, GiE, and a consecutive number, 001-004, see magnetometry report). These new labels will allow a clear distinction of recording by survey (and using the numbers by Vila) and new in depth methods like magnetometry and future excavations.

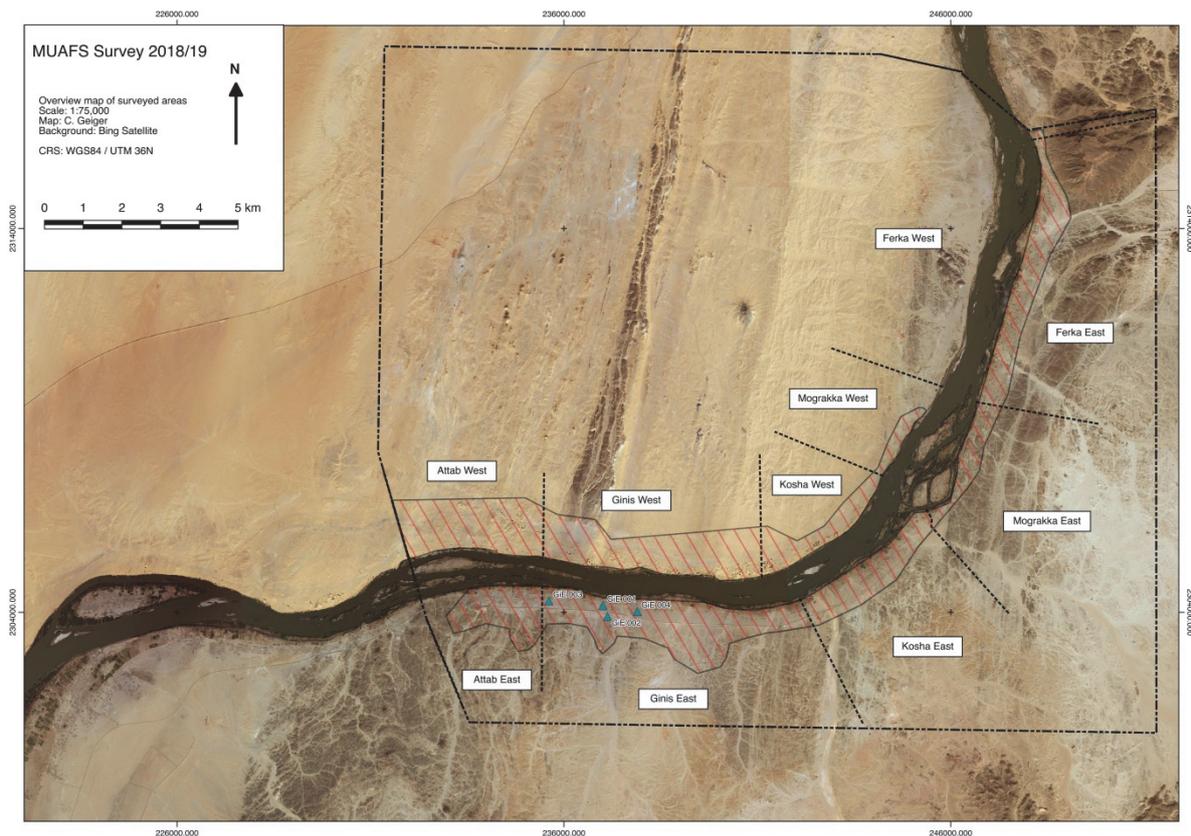


Fig. 2: Areas covered by survey in the 2018/2019 MUAFS season.

For some of the 119 sites, the dating can now be corrected, especially for Khartoum Mesolithic and Abkan sites, Pre-Kerma, New Kingdom and Napatan sites. Diagnostic stone tools and pottery fragments were collected from relevant sites. Other find spots of pottery and lithics previously not recorded by Vila were documented as GPS waypoints and will be integrated in the new map of the area to be composed based on the results of the first season. Besides survey: magnetometry, aerial photography and some preliminary pottery studies. One particular focus was on the state of preservation of the sites nowadays. We encountered very different conditions than Vila in the 1970s. There is a lot of modern destruction going on and many sites are endangered. The most relevant aspects are the new electricity and the electricity posts, car tracks, the asphalt road going to Wadi Halfa and modern gold working in various parts of the concession, in particular at Mograkka West. A site management plan for sites like the church of Mograkka (3-L-22), which is by now partly covered under modern stone debris with some damage in its north-eastern corner, needs to be developed.

3. The 2018/2019 Survey (J. Budka)

The focus of our work was the right bank and here in particular the districts of Attab, Ginis and Kosha (see Fig. 2). The survey in this part of the concession as well as on the left bank was conducted by foot. Only for the northern part of the concession, the region between Mograkka and Ferka, a car survey was carried out.

Within the 119 sites re-located by the MUAFS project, the quantities of sites according to cultural phases largely confirm Vila's results (Table 1). However, there are some important new observations related to the early sites (Meso- and Neolithic sites account to 9.2%, see 3.1.2) as well as fresh information on New Kingdom and Napatan remains; the latter have all been wrongly assigned as "Pharaonic" by Vila, due to the presence of wheel-made ceramic sherds covering the surfaces.

Corresponding to Vila's data, the majority of the remains in the Attab to Ferka region are Christian sites (28.6%). Many Kerma sites (21%) were recorded in the MUAFS concession. Also the New Kingdom, Pre-Napatan and Napatan sites appear in a significant amount (18.5%), but differences between the two riverbanks can be noted. Post-Meroitic (X-Group) sites account to 11.8% and are primarily burial grounds and some rock art stations.

| Cultural phase/dating | Number of sites |
|-----------------------------------|------------------------|
| Palaeolithic | 1 |
| Mesolithic | 1 |
| Neolithic | 5 |
| Meso- and Neolithic | 3 |
| Meso- and Neolithic and Pre-Kerma | 2 |
| Pre-Kerma | 7 |
| Kerma | 25 |
| New Kingdom | 12 |
| Ramesside and Napatan | 3 |
| Pre-Napatan | 3 |
| Napatan | 4 |
| Meroitic | 1 |
| Post-Meroitic | 13 |
| Post-Meroitic and Christian | 1 |
| Christian | 34 |
| Islamic | 3 |
| Multi period | 1 |
| | 119 |

Table 1: Number of sites re-located in the MUAFS concession 2018/2019 according to periods.

Sites attributed by us to the Pre-Kerma horizon are of particular interest because until now Sai Island has provided the northernmost substantial evidence south of the Batn el-Hagar for this third millennium BC occupation. Mostly huts and camp sites were identified according to ceramics and stone tools (e.g. site 2-T-19) and were found sometimes associated with Meso- and Neolithic material (e.g. site 2-T-64).

Camps, settlements and cemeteries of the Kerma culture were recorded at both riverbanks. Of particular interest are stone structures in the Attab West district associated with 18th Dynasty pottery (see below) and site 2-T-36A in Ginis East. The latter is by now largely overbuilt by

modern houses. Nevertheless, the ceramics from the surface confirm the dating and interpretation of the site by Vila.

Large Kerma tumulus cemeteries are located at Kosha East and Ferka East (Fig. 3) and were already noted by Kirwan (1939, 19, 27). Most of these tombs have been plundered and some are by now completely destroyed (see, e.g., 2-T-1 and 2-T-9).



Fig. 3: Part of destroyed Kerma cemetery 3-G-19 at Ferka East. Photo: J. Budka.

New Kingdom sites are also quite numerous and comprise both settlement and funerary sites, being distributed at both riverbanks. The settlements include both stone and mud brick structures as well as combinations of these two materials. Other than site GiE 001 (2-T-36B, see report on magnetometry), most domestic sites are located at the left bank, forming a cluster in the districts of Attab and Ginis, thus in the neighbourhood of Amara West.

Tombs are attested as dome/cleft tombs (Fig. 4; all of which were plundered and are therefore of partly uncertain date, but see similar rock crevices burials of the 18th Dynasty around Faras West, Nordström 2016, 157) and tumuli/unclear stone structures with subterranean chambers.

The most spectacular Pharaonic burial is 3-P-50 which was excavated by Vila and can be dated to the Ramesside Period (Vila 1977a, 145-159). This unusual tomb type finds a new parallel at Amara West with tomb G244, a burial monument with a Nubian-style tumulus as superstructure and an Egyptian-style substructure (Binder 2017, 599-606).

For the Late New Kingdom, the 20th Dynasty and the Pre-Napatan era some plundered tumuli/cemeteries at Attab East can be noted (2-T-48, 2-T-48 and 2-S-2). This dating is confirmed by means of ceramics from the destroyed chambers and represents a correction to Vila's assumption of these burial mounds as 'Pharaonic' tombs.



Fig. 4: Plundered rock cervice grave at Attab East, probably of New Kingdom date (2-T-46). Photo: J. Budka.

Of special interest is the habitation site 3-P-15 at Kosha West, because it shows a continuation from late Ramesside times well into the ninth and maybe even the eight century BC according to the surface ceramics (Fig. 5).



Fig. 5: Settlement site 3-P-15 at Kosha West, Ramesside to Napatan. Photo: J. Budka.

Napatan sites within the MUAFS concession have rich potential since they were previously not noted by Vila. Especially striking are stone walls and huts which constitute three very large settlement sites on the left bank in the district of Ginis (2-T-53, 2-T-57 and 2-T-69, see Fig. 6), located in ‘Sand Hills along River’ (as noted on a map of 1886, see Woodward et al. 2017, 228-229, Fig. 1) between tamarisks and acacia trees and still largely covered by sand. These sites were dated by Vila to the New Kingdom, misinterpreting wheel-made ceramics.



Fig. 6: Dry-stone architecture at Napatan site 2-T-57, Ginis West. Photo: J. Budka.

A gold extraction site at Ginis East with both Ramesside and Napatan remains, 3-P-34, is also very noteworthy (again wrongly attributed to the New Kingdom, Vila 1977a, 94). This site with numerous artefact concentrations and deposits of crushed quartz on the surface represents an important new addition to New Kingdom gold working activities in the Batn el-Hagar region (see Klemm and Klemm 2013) and their continuation in later times.

Meroitic burial grounds have been noted by Kirwan and Vila (sometimes re-used in post-Meroitic and Christian times), but are by now very much affected by destruction. The only cemetery re-located in the first MUAFS season is site 2-T-17 (Vila 1977a, 53-54) which is located directly at the modern asphalt road to Wadi Halfa and has been completely plundered. Post-Meroitic sites in the MUAFS concession are numerous and represent very large tumulus cemeteries, including the elite tombs at Ferka (3-G-1, some of which have a diameter of more than 12m, Fig. 7) and Kosha which bear resemblances to the Qustul and Ballana tombs (see Kirwan 1939). However, at present most of the post-Meroitic cemeteries are partly or severely plundered.

The MUAFS concession with prominent Medieval remains at Attab East, Kosha East and West, Mograkka East and Ferka East lies within the realm of the Kingdom of Nobadia. As was already noted, Christian sites represent both the majority within the sites recorded by Vila and the selection re-located by us in 2018/2019. These sites are distributed throughout the

concession and comprise stone huts, medium-sized and large settlements, mudbrick churches (Fig. 8), cemeteries and rock art.



Fig. 7: Elite post-Meroitic tumulus at Ferka East, 3-G-1. Photo: J. Budka.



Fig. 8: The church at Mograkka East, 3-L-22. Photo: J. Budka.

Islamic sites are partly difficult to date and comprise a small amount of cemeteries, stones huts and stone structures (e.g. sites 3-P-30 and 2-T-60). Further Christian and Islamic sites still wait to be recorded in detail on the islands (see, e.g., a walled fort on Firkinarti, dated by Kirwan 1939, Pl. II as “Byzantine and Medieval” ; by Vila 1976a, 3-L-25, 90-94 as X-Group, Christian and Post-Medieval).

Rock art is restricted to certain areas with fitting geology in the Attab to Ferka region like Mograkka. The rock art comprises examples from Neolithic times until Christian/Islamic times. Some rock art stations can be dated because of their association with other sites and parallels, e.g. post-Meroitic cattle pictures (3-P-5).

4. Meso- and Neolithic evidence in the MUAFS concession area (G. D’Ercole)

The presence of prehistoric occupation in the Attab to Ferka region was first reported by André Vila in the 1970s, who preliminarily surveyed and documented numerous sites, including settlements and camps attributed to the Mesolithic, Neolithic and Early Nubian periods. In the course of our first field season, we were able to identify and re-locate many of these sites and to attribute them respectively to the Khartoum Variant and Abkan cultural horizons based on the occurrence of diagnostic pottery. Also, we marked new find locations and exported a reference collection of ceramic and lithic artefacts for further documentation and laboratory analysis.

Most of the Khartoum Variant and Abkan sites are currently located on the west bank of the Nile, mainly between the districts of Attab and Ginis West. Though, it is worth noting that at the time of the Early Holocene this trait of the river valley was shifted to the west of the Nile’s present course, therefore numerous sites were located on the right bank of the earlier incision (Garcea et al. 2016, 4).

The prehistoric sites are situated at approx. between 200m and 1500m from the current Nile and most of them are distant on average 500m. They are mainly set on gravel bars or on alluvial terraces along the ancient Nile bank or next to the banks of now desiccated river arms (*widian*). Also, they can be placed on slight elevation on top of gentle hills or slopes, being often delimited by quartz and schist outcrops.

All the occupations are indicated by concentrations of eco- and cultural artefacts which reach the maximum density in correspondence with the centre of the site. Interesting, especially the Khartoum Variant sites appeared characterized by very large concentrations of artefacts, including grindstones and millstones as well as numerous ceramic sherds, lithic tools and debitage. Remains of stone structures referring to features as possible huts and/or ancient hearths have been also identified. Further, the occurrence, on some of the sites, of eroded faunal remains on the surface suggests the possibility that they might have preserved *in situ* archaeological deposits. All in all, based on the spatial distribution of the artefacts, most of the sites appear to have an extension of many meters and a continuity is occasionally observed between one site and the next, with some interruptions in between. This trait was already recorded by Vila (see e.g., sites 2-S-55 and 2-T-64 in Attab West) and it might represent a distinctive characteristic of the prehistoric occupations of this area, whereas it was not otherwise observed in the insular context of Sai.

Another aspect that is worth noting is the frequent compresence within the same site of both Khartoum Variant and Abkan ceramics. From a chronological perspective, this evidence is of crucial importance as it might indicate an overlap between the two cultural horizons with the possibility of a phase of cohabitation of Khartoum Variant and Abkan people. A similar scenario was observed at site 8-B-76 on Sai Island. This site, including Khartoum Variant and

Abkan materials, was occupied, at first by Khartoum Variant groups of hunter-fisher-gatherers and, at a later time by Abkan pastoral groups who settled at the same site as the Khartoum Variant people, although their occupation was closer to the river and characterized by a different subsistence economy, as well as by a completely new ceramic tradition (Garcea et al. 2016; see also D'Ercole 2017, 156).

The changes observed in the ceramic assemblages at the shift between the Khartoum Variant and the Abkan period were also recognized in the assemblages of the sites located the new concession area. Some preliminary remarks on the stylistic and macro-technological traits of this pottery are provided below.

The Khartoum Variant pottery is mainly decorated with the rocker stamp technique showing zig-zags motifs of dots and/or dashes arranged in zonal patterns on the vessel surface. Only a few sherds showed different decorations such as the typical dotted wavy line motif or simple impressions. None of these ceramics seem to be decorated with a double pronged instrument by means of the alternately pivoting stamp technique. This might indicate a chronological tendency and suggests that most of these sites belong to a "later" Khartoum Variant phase. However, it is needed to consider that this material comes exclusively from the surface.

The examined Abkan potsherds are made from sandy and very porous pastes, light brown to dark grey or greyish brown in colour. Differently from the Khartoum Variant pottery, which is exclusively mineral tempered, these fabrics commonly contain organic inclusions of herbivore dung and/or vegetal remains. Surfaces are burnished and black-topped wares are common. Most of the Abkan sherds, are not decorated or showed decorations only on (milled and notched impressions) and below (straight rocker stamp impressions) the rim. Some of the sherds showed also characteristic ripple marks (ripple ware) produced by burnishing the surfaces which were previously decorated with the rocker stamp technique.

All in all, the preliminary visual analysis of the prehistoric ceramic material from the sites between Attab and Ferka suggests the existence in the region of two well distinct traditions that stylistically and technologically can be assimilated to the Khartoum Variant and Abkan cultural horizons. Also, this material shows many traits in common with the Mesolithic and Neolithic of the region of El Barga/Kerma (Honegger 2014), as well as with the Early Neolithic and Neolithic cultures of the Egyptian Western Desert (Gatto 2002).

Economically, the Khartoum Variant and Abkan phases correspond respectively to the Mesolithic and Neolithic horizons, being the first characterized by a hunting-fishing and gathering economy and the latter by a productive pastoral economy. However, a critical review of the definitions used for indicating these early Holocene cultures would be necessary. Currently, many different terms and labels are used in different ways (and meaning different things) depending on the geographical context and/or on the archaeological team working in the area. The study of the new evidence in the region between Attab and Ferka appears particularly promising in this perspective, both for the unique geographical location of the sites, on the both the Nile riverbanks, and for their large extension and the exceptional overlapping of Khartoum Variant and Abkan ceramics. Also, this area already provided one of the earliest evidences for pottery making in northern Sudan with a date ranging from 10,400 to 10,700 cal BP (mid-ninth millennium BC), coming from the Arkinian site 2-R-66, in the nearby Amara West district (Garcea et al. 2016).

5. Magnetometry and aerial photography

Geophysical survey (M. Scheiblecker)

At four sites in the area of Ginis East (GiE001 to GiE004, Fig. 9) a magnetometer survey with the handheld Gradiometer Foerster Ferex 4.032 in quadro-sensor configuration accompanied by selective magnetic susceptibility measurements was conducted by Marion Scheiblecker. The results at the two domestic sites GiE001 and GiE004 will be highlighted in the following; for details see the separate report on the magnetometry.



Fig. 9: Aerial photographs providing further details around the sites GiE 001-004, investigated by magnetometry. Orthophotos laying on a Bing Satellite image. Map and data: C. Geiger.

At GiE001 (2-T-36B), magnetometry revealed two different types of settlement architecture (Figs. 10 and 11). In the northeast a rectangular layout up to 25 x 20m is visible, possibly a building of Egyptian type datable to the New Kingdom, while especially in the southern part circular features are attended by posts and linear features. The latter features are indicating houses or huts, silos/cellars and open spaces between the huts limited by fences or walls and probably used not only for living/working but also for livestock holding. These round buildings and fences are typical of Kerma architecture but seem to date also to the New Kingdom according to the surface pottery. Magnetisable mudbrick/brick or ditches as well as posts can cause positive magnetic anomalies, for example, walls made of mudbrick or foundation trenches for constructing the huts/buildings (Fassbinder 2017, 505).

The main area of GiE004 (2-T-5; southwestern part of the magnetogram, Figs. 12 and 13) is still visible on the surface as a little elevation enclosed by different wadi systems. A Kerma settlement system – comparable to the southern part of GiE001, but definitely older according to the surface ceramics – with rounded huts and additionally walls can be clearly identified in this almost untouched area; whereas the attached southern part consisting of Kerma graves is

recently destroyed. Rectangular as well as circular features are visible in the northern part of the investigated area showing negative magnetic anomalies (Fassbinder 2017, 505-507). They could be caused by mudbrick with less magnetisable content than in the southern part, where the magnetic anomalies show high positive values indicating different building materials and/or sources. The borders of the wadi systems are clearly visible in the magnetogram; an excavation could proof if there was a kind of fortification along the wadi.

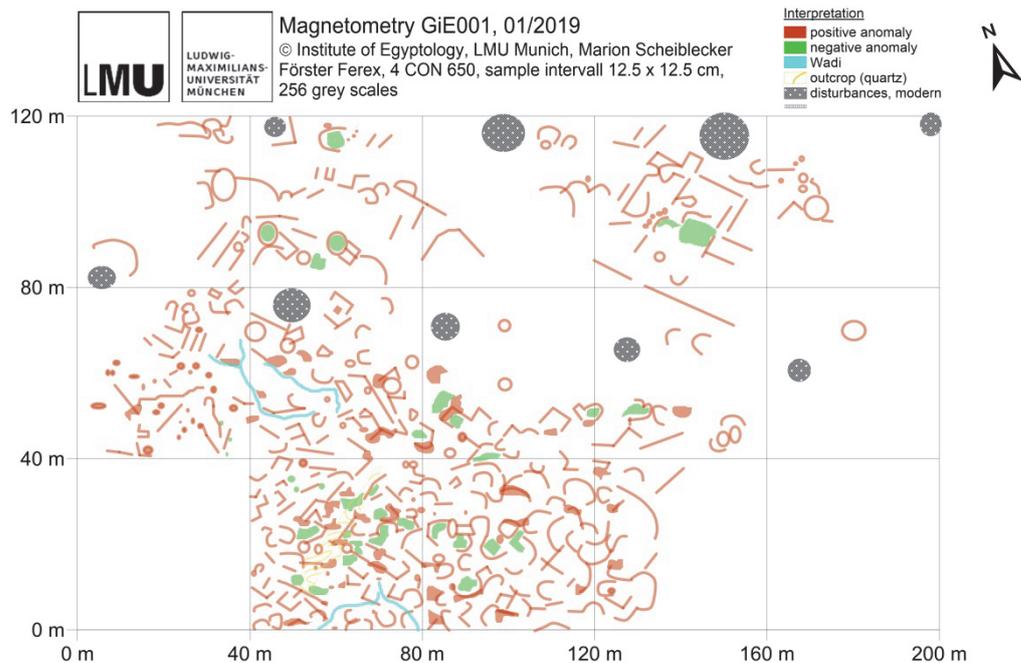
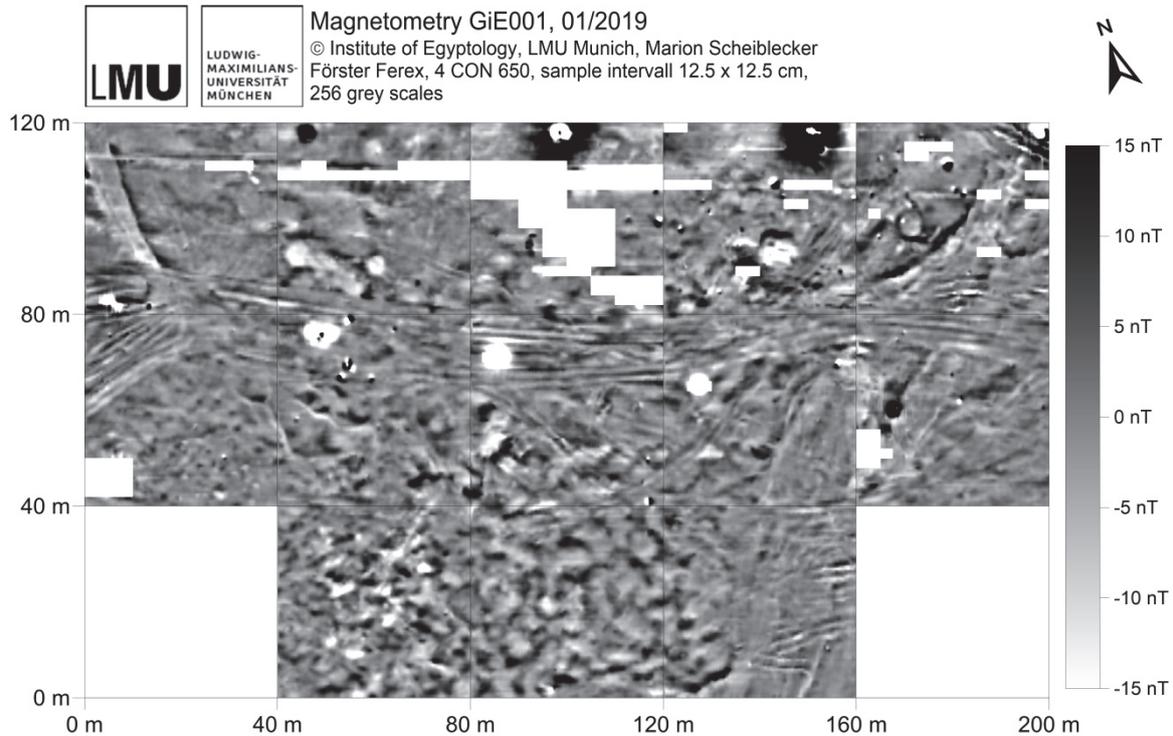




Fig. 12: MUAFS/GiE 004. Magnetometer measurement of the survey area (160 × 120m). M. Scheiblecker, © MUAFS.

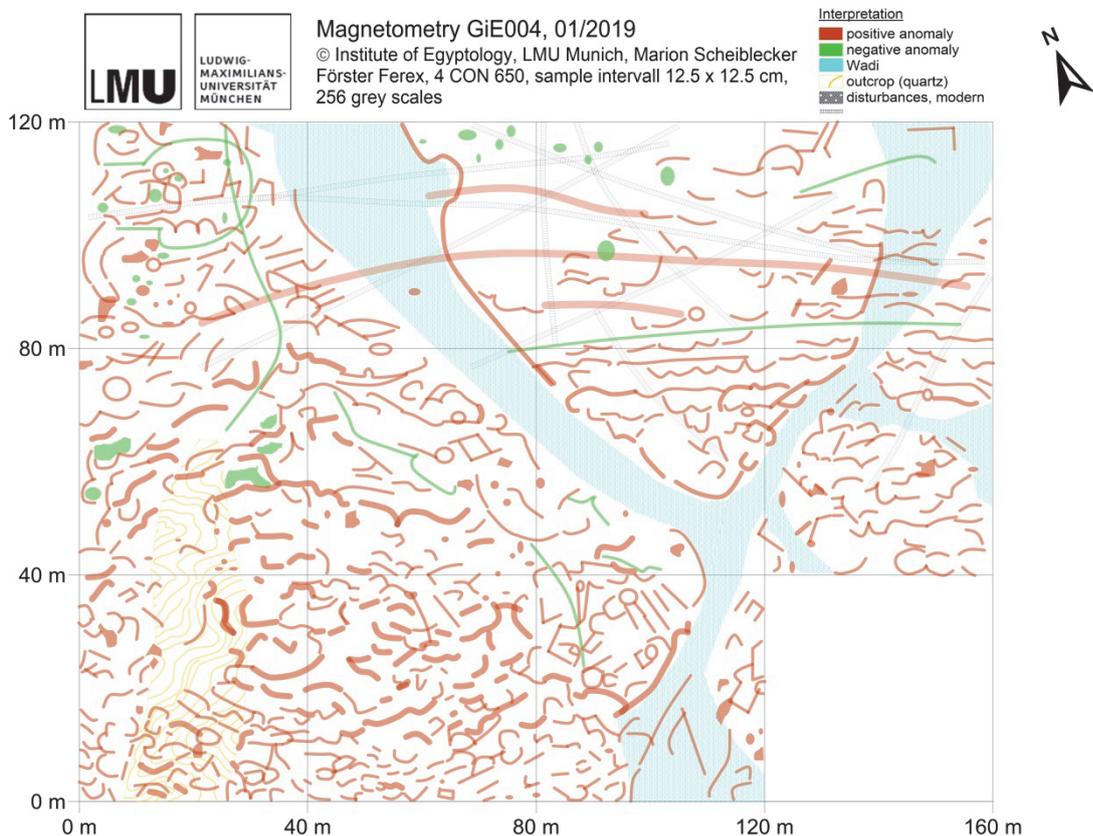


Fig. 13: MUAFS/GiE 004. Interpretation of the magnetogram (Fig. 12). M. Scheiblecker, © MUAFS.

Aerial photography (C. Geiger)

During the two weeks of MUAFS' field work intensive attempts were made to document as much of the survey area by aerial photography, in the most detailed possible way. For this purpose a remote controlled drone DJI Phantom 4 Pro was used (responsible: Cajetan Geiger). Main difficulties were encountered by heavy winds with high velocities during the entire season and the complete lack of any reliable geodetical reference points, as well as the simply huge dimensions of the concession area. In a first step a net of geodetical main survey points was created using a Leica Viva GNSS by logging and rectifying the measured positions. This grid was densified using a Leica TCRP 1203 Total Station to get Ground Control Points in a resolution feasible for the drone photography. The area was divided into grids and the flight routes were predefined for the single flights.

From the photos recorded by the drone, orthophotos were calculated using Agisoft Photoscan Pro. The surveyed Ground Control Points together with natural appearing features of good visibility on satellite imagery (e.g. radio antennas, edges of buildings etc.) were used for georeferencing the drone orthophotos.

As the entire MUAFS concession area was too large to be completely covered reasonably detailed in the short time of the first season, the focus was set on the areas investigated by magnetometry. The resulting data are important for the further planning and preparation of future excavations. The covered areas for which aerial photographs exist so far are illustrated in Fig. 14 and comprise primarily Attab East and Ginis East.

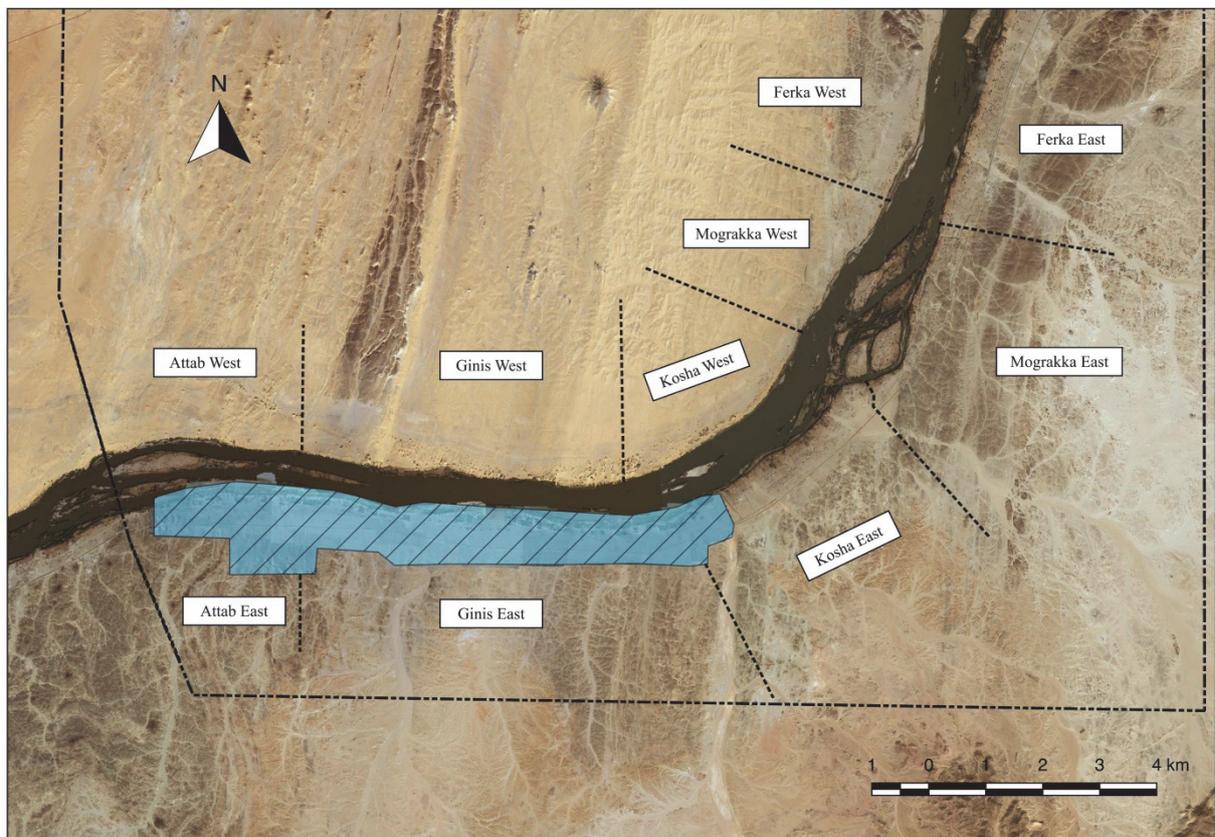


Fig. 14: Map showing the total covered area by aerial photography within the borders of the MUAFS concession area. Map and data: C. Geiger, © MUAFS.

6. Summary and prospects of future work (J. Budka)

Already the first season of the MUAFS project illustrated the rich potential of the area for the new approach focusing on cultural encounters and ‘peripheral’ sites in a border region over several millennia, from Khartoum Variant/Abkan and Pre-Kerma times onwards. Several so-called New Kingdom sites could be fine-dated by us to the 18th Dynasty respectively the Ramesside Period. Completely new information is the existence of large Napatan settlement sites using dry-stone architecture in the Ginis West district.

The MUAFS project intends to fill the considerable gap of investigations at sites in the periphery of major settlements in the Nile Valley and of so-called rural sites. We will study cultural encounters in a peripheral borderscape which is situated close to the Dal Cataract and the natural frontier of the rocky outcrop of the Batn el-Hagar. Within our *long durée* approach, the focus of the next years will be on Kerma and New Kingdom sites. The distribution of these sites within the concession area already poses several questions which need to be addressed by means of excavations and detailed data analysis.

Important future working steps comprise a continuation of the survey on the left bank of the Nile, in the northern part of the concession as well as in the hinterland and on the islands. Excavations at sites with promising results from the geophysical survey in 2019 will be conducted in the near future. And last, but definitely not least, there is the urgent necessity of cultural heritage measurements and the protection of sites and monuments in the area between Attab and Ferka.

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