

# The Qatar-Sudan Archaeological Project – Fourth Cataract. Preliminary Investigation of a Recently Discovered Fort in the ASU BONE Concession near el-Qinifab, Sudan

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In February 2015, a previously undocumented fort was discovered within the Arizona State University (ASU) Bioarchaeology of Nubia Expedition (BONE) concession. Located in the region of el-Qinifab, approximately 580km north of Khartoum and 34km west of Abu Hamed, the ASU concession covers more than 90km<sup>2</sup> with roughly 200 recorded sites to date including Palaeolithic scatters, Mesolithic to Kerma period habitation sites, early Kerma through Christian period cemeteries, historic sites, as well as rock art and rock gongs.

Preliminary evaluation of the fort site and associated quarry, designated Site ASU 15-13, was performed in the 2015 field season. Mapping and test excavations were conducted during the 2016 field season. A potentially linked desert outpost also was recorded in 2016 and designated Site ASU 16-31 (Plate 1). Based on architectural similarities to the nearby late Meroitic/Post-Meroitic forts at Mikaisir on Mograt Island and el-Ar near Shemkhiya, the fort at ASU 15-13 is thought to be contemporaneous. The ASU 15-13 structure was not mentioned by Ahmed (1971), Cailliaud (1826), Jackson (1926), or Crawford (1953; 1961). This work, thus, sheds new light on a probable network of Fourth Cataract forts predating the early Christian period and similar to the system of late Meroitic/Post-Meroitic forts in the Fifth Cataract region.

## Initial Site Assessment

The fort structure was discovered through analysis of declassified 1968 CORONA satellite imagery that shows the area around the present villages of el-Minawiyah and el-Asaliyah prior to planting of date palm groves. All four walls of the 50 x 50m fort were extant at that time (Plate 2). Mature trees, however, obscure the fort from observation while on the river, riverbank, or the nearby track among the groves, and

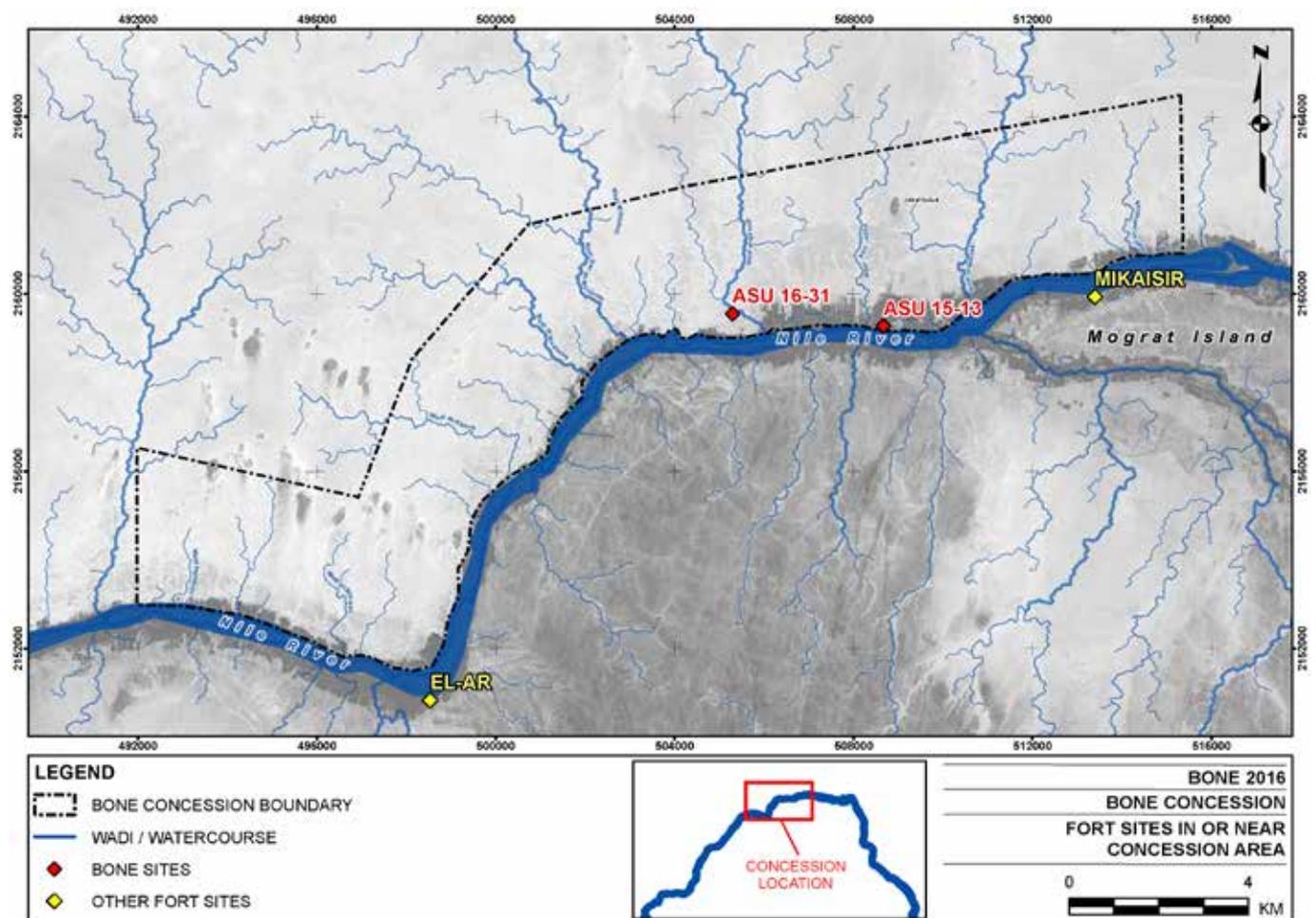


Plate 1. The area of the ASU BONE concession showing the location of the fortress and quarry at Site ASU 15-13 and the desert outpost at Site ASU 16-31. Nearby and roughly contemporaneous forts outside of the BONE concession are also indicated (map: S. Rempel).

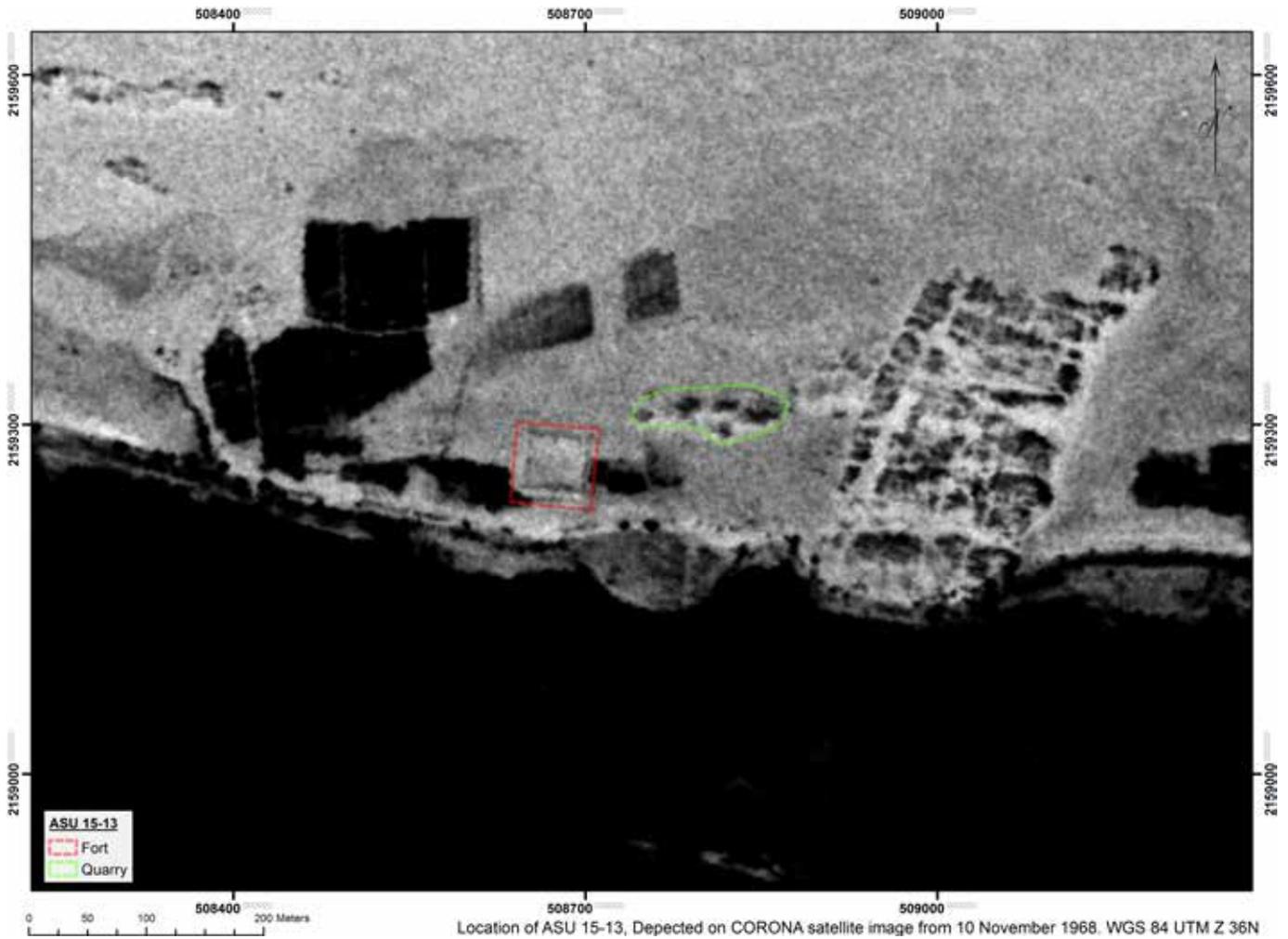


Plate 2. The CORONA satellite image from November 1968 shows the four walls of the fortress and adjacent quarry area prior to planting of date palm groves (map: C. Sevara).

in more recent satellite imagery. The structure is located on a prominence that is elevated approximately 11.5m above the right (north) bank of the Nile, and set back 60m from the current river edge (Plate 3).

After discovery of the structure on the satellite imagery, the area was first visited by team members Christopher Sevara



Plate 3. The fort site from the Nile River, looking north east (photo: B. Baker, March 2016).

and Ahmed el-Ameen on February 17<sup>th</sup>, 2015, to determine whether any evidence of it remained. Three walls of stone construction were still standing, though the south, riverside, wall was no longer present. A son of the landowner was in the area at the time. He indicated that the fort is known locally as *el-Hosh* (the Enclosure) and the adjacent granite outcrop is called *el-Quer* (the Quarry).

A thorough walkover of the site and surface collection of artifacts from the structure area (19° 31' 41.53" N / 33° 4' 57.60" E; UTM coordinates: Zone 36N E508673, N2159276) was conducted on February 22<sup>nd</sup>, 2015. The west wall appeared heavily damaged and lower than the north and east walls. The east wall appeared to be the best preserved with a height up to 2m above present ground surface and it was at least 1m thick across the top. Like late Meroitic–Post-Meroitic forts in the area, observable portions of the walls were constructed of granite slabs arranged in vertical courses. Remnants of possible towers or bastions were evident at the north-east and north-west corners of the enclosure. Stone slabs from the fort appeared to have been reused to line the main irrigation canal and support the sides of several date palm pits.

Surface collection was conducted inside the enclosure, on top of the extant walls, and extended two rows of palm trees beyond each wall and southward to the edge of the prominence on which the fort is situated. Although the surface collection covered an area of 4,600m<sup>2</sup>, few artifacts were found due to the highly disturbed context within the date palm grove. Material collected included ceramics, a hammerstone, and a fragment of a sandstone hand grinder or palette. Ceramics generally were not diagnostic and appeared to represent a broad time span. Portions of the quarry area to the east of the structure were being used for drying and burning palm fronds. Rock cleavage is apparent but no ancient artifacts were found in either the 2015 or 2016 seasons (Plate 4).



Plate 4. An outcrop of granite bedrock east of the fort was used as a quarry for construction of the stone walls (photo: B. Baker, March 2015).

The landowner, Mohamed Omar,<sup>1</sup> was visited by Ahmed el-Ameen, Brenda Baker, Maryann Calleja and Christopher Sevara on February 23<sup>rd</sup>, 2015. Discussion revealed that when Mohamed Omar came to the fort area in 1967, it was ‘empty’ and there were no palm trees. He initially grew peanuts and corn, carrying water up from the river in jerry cans. Mohamed Omar began planting date palms in 1970. He said that the walls of the fort were not high (no more than 2m) and were filled with small stones and that gates no wider than 1m were present in the east and west walls. Although no breaks in the walls are apparent on the 1968 satellite imagery (Plate 2), the resolution of about 6m may not reveal gaps of this size. Mohamed Omar confirmed the presence of tower or bastion structures at the north-east and north-west corners, though he indicated that towers were not present at the south-east and south-west corners. He was asked if there were any artifacts but said no and also responded negatively when asked if there were stones or a floor inside the structure, yet he was agitated by these questions. Mohamed Omar eventually admitted that he dismantled the south wall for the construction of the irrigation canals. When asked if there was anything inside the south wall when he took it down, he said no. Despite his initial reluctance to talk with us, Mohamed

<sup>1</sup> We were unable to ascertain Mohamed Omar’s third (grandfather’s name) with certainty so we do not include it here.

Omar was more forthcoming toward the end of the discussion and indicated that we were welcome to work at the site in the following field season.

### Site Survey and Testing

A formal survey of ASU 15-13 was conducted by Sidney Rempel and Jeffrey Rawson during the early portion of the 2016 field season (January 26<sup>th</sup> to February 2<sup>nd</sup>) to create a site map. The plan of the structure shows the absence of the southern wall, the limited remains of the northern bastions or towers, potential remains of another at the south end of the east wall, and the location of 2016 excavation units (Plate 5). Two test units initially were laid out, one in the interior of the structure to investigate site integrity within it and another along the external east wall to explore the area where a gateway may have been located. Excavation of these initial units led to expansion of test units in both locations with excavated area totalling 11.1m<sup>2</sup>. Test excavation at ASU 15-13 was supervised by Sarah Schellinger between February 3<sup>rd</sup> and 25<sup>th</sup>, 2016, while work proceeded at nearby cemetery sites.

### Interior Excavation Units

Two interior units (2390 and 2575), both measuring 1 x 2m, were excavated to determine the degree of cultural integrity remaining within the enclosure despite the intrusion of the date palm grove. Located in the north-western portion of

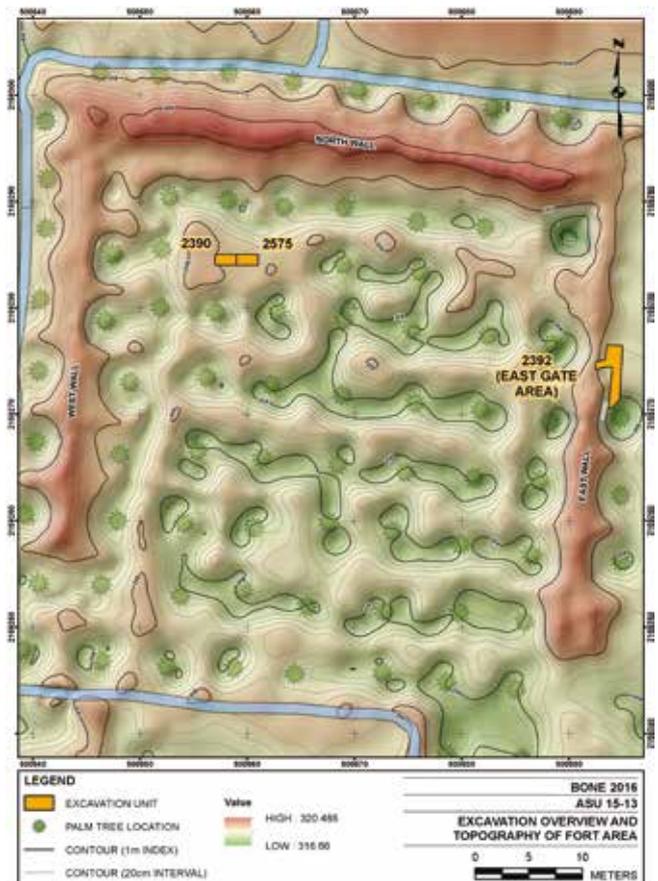


Plate 5. Plan of the ASU 15-13 fort showing the canal, date palms, and 2016 excavation units (map: S. Rempel).



the fort, Unit 2390, was excavated to a depth of 600mm (318.417m asl) before encountering an active termite colony, which effectively ended excavation. Finds within this unit included pottery sherds, animal bone, lithics, and ostrich eggshell fragments.

After determination that the termite colony likely continued to the north, a new trench was opened to the east of Unit 2390 and designated Unit 2575. Fortunately, the termite activity did not extend into this unit, which was excavated to a depth of 1m. At approximately 500mm below the surface, a concentration of faunal bones forming part of a lower limb of a sheep or goat was discovered (Plate 6). It remains



*Plate 6. A concentration of bones from the lower limb of a sheep or goat was found at a depth of approximately 500mm below ground surface in Unit 2575 (photo: B. Baker).*

unclear why these bones were here and whether or not they are ancient. Below the faunal bone concentration, additional pottery sherds, lithics, and ostrich eggshell fragments were discovered. At approximately 500mm below the faunal bone concentration, a sterile layer was encountered, which ended excavation of Unit 2575 at 317.88m asl. Unfortunately, the artifacts found within the interior units did not immediately yield any significant information to support or refute a late Meroitic/Post-Meroitic date. Planned laboratory analyses may provide additional information in the future.

### External East Wall Exploration

One of the primary goals of the 2016 site testing was to locate the east gateway. Initially, a target area along the external portion of the east wall near a constricted segment that seemed to consist of soil was cleared of debris through surface sweeping and removal of loose rocks (Plates 5 and 7). The rocks composing the fort walls are unshaped blocks of granite from the nearby quarry. The stones are stacked vertically without any prepared mortar, although mud may have been used as a binder. After cleaning, the maximum height of the remaining portion of the wall measured approximately 2m above present ground level. The nephew of the landowner stated that when the palm trees were planted the walls were a meter higher than the top of what is currently



*Plate 7. The external east wall area after cleaning and removal of loose rocks. Unit 2393 began at the edge of this palm tree cut, extending from the pink flags to the north in the area of soil fill (photo: B. Baker).*

preserved. A small trowel test at the base of a palm tree cut where the stone wall was well preserved revealed the base of the wall 1m below present ground surface. The wall rests upon soil in this area and stones in the lowest courses are no larger than those in the upper courses (Plate 8). The currently preserved extent of the wall is, therefore, 3m in height with the highest elevation today at approximately 319.5m asl. If the walls were 1m higher c. 1970, maximum wall height was originally at least 4m. The wall also measured approximately 3m in width across the top.



*Plate 8. Small tests at the bottom of a palm tree cut reveal the base of the external east wall resting on the original ground surface (photo: B. Baker).*

An excavation unit (Unit 2392) initially measuring 1 x 3m was laid out along the external side of the east wall extending from the palm tree cut toward the constricted portion of the wall with earthen fill (Plates 5 and 7). At approximately 1m below present ground surface, the lower legs and feet of a human skeleton were discovered unexpectedly (317.707m asl at heel) along the base of the wall. In order to uncover the remainder of the skeleton, the trench was expanded by 2m to the north, creating a trench totalling 5m long. Soil overlying the wall along the trench extension also had to be

pulled back to avoid collapsing onto the skeleton as work progressed. The height of the preserved stonework in this portion of Unit 2392 is 810mm lower (318.69m asl) than the top of the wall and is relatively flat, suggesting that it may be the floor of the eastern gateway that was mentioned by Mohamed Omar (Plates 9 and 10). Due to the presence of the skeleton and time constraints imposed by the need to irrigate the trees along this part of the wall, we were unable to explore this potential entry area fully or completely clean the wall along the area of the skeleton.

Exposure of the skeleton was difficult and time consuming due to the many roots, dampness from irrigation and leakage



Plate 9. Unit 2392 along the external east wall of the fort. The lower height of the wall above the area of the skeleton is a fairly level surface, suggesting the presence of a gateway into the fort. The adult male was buried immediately against the base of the exterior wall. Note that the wall is straight except for a bulge by the lower legs. The drainage line along the east side of the excavation unit did not disturb the burial (photo: S. Rempel).



Plate 10. The skeleton of an adult male against the base of the external east wall of the fort. Note that the right shoulder to hip touch the wall but the right leg is angled slightly away from the wall (photo: B. Baker).

of a drainage pipe running along the east side of the trench at this level, the wall immediately to the west, and presence of some gravel in the soil. Although the skeleton was almost fully articulated, roots ran throughout the ground surrounding the body, through the bones, and had destroyed much of the skull. Fragments of the skull base, however, were still *in situ*. The left patella was displaced and found above the left side of the pelvis. The body was in an extended supine position with head to the north and feet to the south. The right arm and hip abutted the base of the wall (Plate 10). The hands rested atop the thighs. The right hip is flexed so the right leg is angled slightly away from the wall. Although the feet and distal portions of the legs were removed accidentally prior to exposure of the full skeleton, it was evident that the left lower leg crossed over the right. This position is comparable to some late Meroitic burials excavated at a nearby site in the concession (Baker 2014). Examination of the pelvis and other bones indicates the skeleton is that of an adult male. Dampness and roots resulted in poor bone preservation, causing some bones to crumble upon removal. The pelvis and thorax, therefore, were removed in blocks. Elevation at the sacrum was at 317.731m asl, 959mm below the potential floor of the gateway. The placement of the body suggests the possibility that it was laid within a foundation trench that was filled before the fort was occupied; however, we were unable to discern any stratigraphic change in this location (Plate 10).

While this burial resembles those dating to the late Meroitic period, no associated grave goods were found to aid in the dating. One faience ring bead and one ostrich eggshell ring bead were found while cleaning the wall well above the level of the burial and are common types that are not diagnostic. The reason for the body being placed along the base of the wall, apparently under the eastern gateway, is unknown. This burial immediately outside a fort wall appears, so far, to be a unique feature of contemporaneous forts in the region. Burials found in association with roughly contemporaneous forts or town walls elsewhere are thought to postdate the use of these structures. At Banganarti, for example, burials appear on top or inside of the walls after the fortifications were no longer used (Drzewiecki 2014, 906). At Hamadab, a late Meroitic burial dating to the 3<sup>rd</sup> to 4<sup>th</sup> century AD was found near the southern city wall after apparent abandonment of that part of the town because ‘graves were usually not placed in inhabited settlement areas during Meroitic times’ (Wolf *et al.* 2014, 722, pl. 3). While the Hamadab individual is extended on its back like that at ASU 15-13, this burial is not right next to or at the base of the wall and also has a considerable number of ceramic vessels and a copper-alloy bowl accompanying it. The location of the ASU 15-13 burial against the base of the wall at the potential gateway and without any grave goods is quite different. Additionally, digging a burial pit immediately against the wall after the fort was in use or abandoned would have required more effort to avoid dislodging stones or removing them than digging into silt a short distance from the wall, as seen elsewhere. Although



the right shoulder to hip of this individual touched the wall, the right leg is angled at the hip, which prevented it from touching the wall where it bows outward near the middle of the lower leg (Plates 9 and 10). Because the wall is straight to both the north and south of this bulge, it is unlikely that facing stones were removed from the wall if a grave had been dug along it. If a radiocarbon date can be obtained from the skeleton, it may clarify the temporal relationship of the burial and wall construction.

The fort at ASU 15-13 is provisionally dated from the late Meroitic to Post-Meroitic periods based on architectural similarities with the fort of that date at Mikaisir on the north side of Mogrart Island (Rees *et al.* 2015), approximately 8km to the north east, and Post-Meroitic el-Ar (Żurawski 2010), located on the left bank near Shemkhiya, about 20km downstream (Plate 1). While the ASU 15-13 fort is square, measuring approximately 50m by 50m based on the 1968 satellite imagery, the el-Ar and Mikaisir forts are slightly larger. Mikaisir measures approximately 61 x 56m (Rees *et al.* 2015, 180). All three forts, however, have similar plans and share vertical stone coursing and rubble wall fill. The width of walls is identical at el-Ar (2.7-3m; Żurawski 2010, 204) and Mikaisir (up to 3m; Rees *et al.* 2015, 180) and as estimated at el-Hosh (ASU 15-13). These forts also have two gateways, as reported by Mohamed Omar for el-Hosh; however, both Mikaisir and el-Ar have riverside entries. Because the south, riverside wall of el-Hosh no longer exists, we can only question local residents to determine if there was an entry that faced the river. Crawford (1961, 17, 30, 36-38, figs 8, 11, pls IXa and XXIb) notes similar square to rectangular plans and vertical masonry construction at the Gandeisi and Jebel Nakharu forts near the Fifth Cataract and the desert fort at Fura Wells, all of which he dates to the Meroitic period. Dry-stone vertical masonry is also evident at the later New Kingdom to Napatan (*c.* 1250-400 BC) fort of Gala Abu Ahmed in the lower Wadi Howar, although this fort has far thicker walls and also has some horizontal coursing (Jesse 2013, 24; 2014, 545-546). Many medieval Nubian forts in the area, including some of the Christian period and later forts on Mogrart Island (Rees *et al.* 2015) and elsewhere in the Fourth Cataract region (Żurawski 2014) are constructed with a combination of stone and mud brick or *jalous*. This construction technique is still used by the Sudanese (Kidd 1982). Our initial excavation, however, showed no evidence that mud brick or *jalous* were used in the construction of the ASU 15-13 fort.

### Desert Outposts and Rock Art

A potentially contemporaneous desert outpost, possibly a caravanserai or way station, was registered as Site ASU 16-31 during the 2016 field season (19° 31' 50.69" N/33° 3' 1.63" E; UTM Coordinates Zone 36N, E505293, N2159556). This site is 3.4km west-north west of ASU 15-13 (Plate 1). It includes two enclosures located on either side of a *khor* (tributary *wadi*) immediately south of Wadi Q'aoud (Plate 11). According to

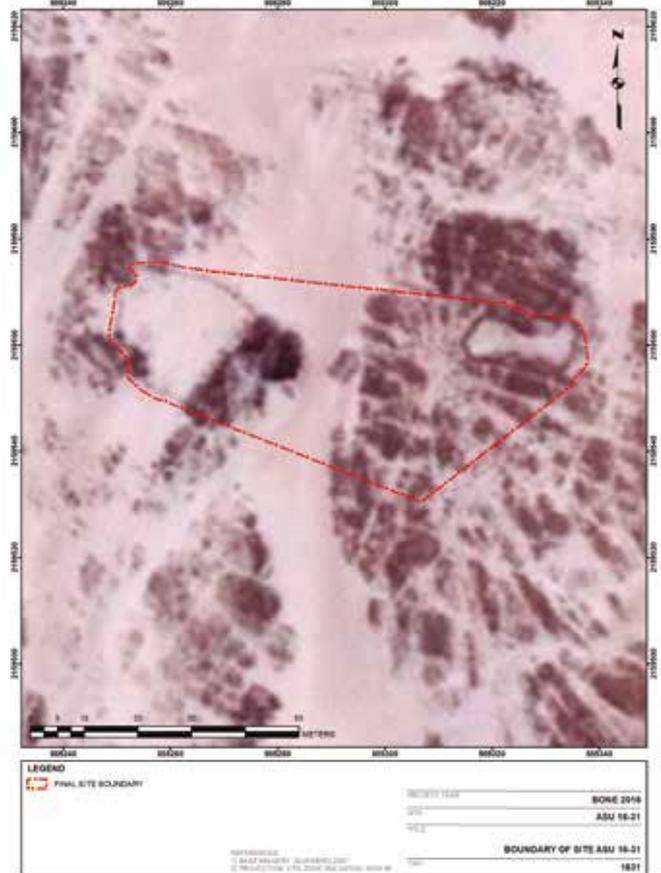


Plate 11. Satellite view (from 2007 Quickbird imagery) showing the structures comprising Site ASU 16-31 on either side of a khor. Wadi Q'aoud is immediately to the north (map: S. Rempel).

local residents, this *wadi* was a major travel route used for driving camels to markets in Egypt in the recent past. The eastern enclosure (Structure A) is located on a bedrock ridge with a sweeping view in all directions (Plate 12). The walls of this structure, laid on bedrock, are vertically stacked as at ASU 15-13, suggesting these structures may be contemporaneous. The enclosure is approximately 25m by 15m and walls are preserved up to 1m in height. A gap in the north wall may



Plate 12. Overview of Structure A (eastern enclosure) looking south-east. The well-preserved section of the south wall shows vertical coursing of stone slabs built atop bedrock (photo: B. Baker, March 2016).

have formed the entry into the interior of the structure. The enclosure on the west side of the *kebor* (Structure B) is easily observed from Structure A. Structure B encloses an area approximately 25.5m by 16m and incorporates bedrock outcrops to form parts of the walls. Where constructed on top of bedrock on its east and west side or across sand, stones are piled rather than stacked in clear courses (Plate 13). Visible portions of constructed walls are preserved up to 860mm high. The large bedrock outcrop forming the



Plate 13. Stacked stones forming part of the west wall of Structure B (western enclosure) at ASU 16-31, looking west-south west (photo: B. Baker, March 2016).

north-east end of the enclosure contains rock art panels on its north and east sides and a Kerma period crevice grave excavated on its west side in 2008 that were documented as Site UCSB 08-01 (Plate 14).

In the *wadis* near the Fifth Cataract forts at Abu Sideir and Abu Mereikh, rock art is a prominent feature (Drzewiecki and Stepnik 2014). The Fifth Cataract examples include scenes of cows, camels, anthropomorphs, and occasionally wild animals such as giraffes and ostriches. At Abu Sideir, there are more depictions of cows, whether a single one or a herd, which suggests that these drawings were done by pastoralists. At Abu Mereikh, more examples of camels and anthropomorphs are present. The drawings at Abu Mereikh appear to be representations of battle or ritual rather than pastoral practices. The warrior images at Abu Mereikh may have documented events or served as a warning to viewers (Drzewiecki and Stepnik 2014, 106). The wide temporal distribution of the drawings could indicate that the exit of the wadi near Abu Sideir served as a destination for groups of herdsmen as at the wadi juncture by ASU 16-31. To date, there are no examples of warrior or ritualistic drawings within the BONE concession, though representations of bovids are plentiful (Kleinitz *et al.* 2015, 106). Desert forts and enclosures occasionally have been suggested to have functioned as possible caravanserais. Examples include the fort of el-Kab (UH-34-2) west of Dongola with sub-rectangular enclosures similar in size to those comprising ASU 16-31 (Tahir 2013, 127-129; Smith 2003, 160) and a small enclosure with vertical

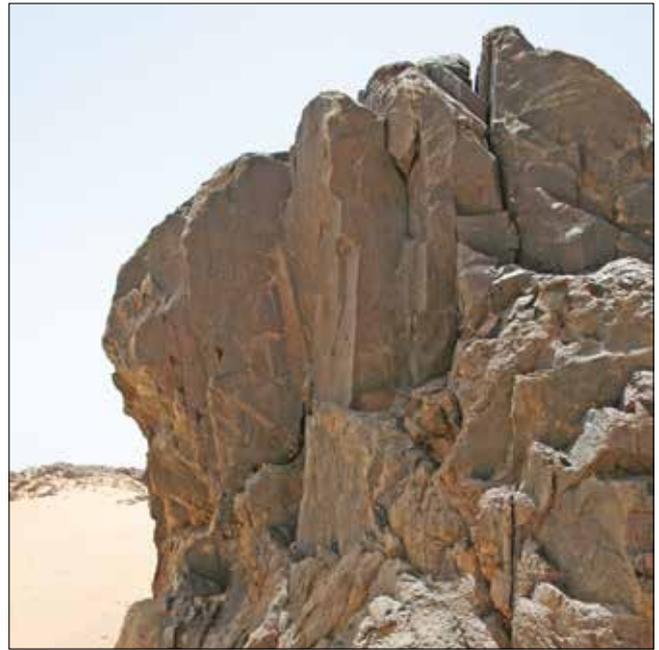


Plate 14. Rock art of bovids (documented as Site UCSB 08-01) on the bedrock outcrop forming the north-east corner of Structure B at Site ASU 16-31 (photo: B. Baker, March 2008).

stone coursing approximately 100km to the south-south east of the el-Ar fort (Zurawski 2014, 139). Due to the potential economic and socio-political value, Wadi Q'aoud and the *kebor* at Site ASU 16-31 may have been under more frequent observation from the nearby forts. Structure A at ASU 16-31 also could have been used to observe and/or control the entrance to a certain portion of the landscape and monitor the area on the opposite side of the Nile.

## Conclusions

Analysis of material excavated in the 2016 field season is ongoing and may help confirm the provisional dating of the ASU 15-13 fort. During discussion with the landowner in the 2016 field season, he indicated that towers originally were present at all four corners of the fort, contrary to the information provided in 2015. Future conversations with Mohamed Omar may be more fruitful in determining the extent of artifacts initially found at the site or presence of features that are no longer observable. Further fieldwork is planned to investigate the ASU 15-13 fort more thoroughly. We also plan to explore the desert outpost at ASU 16-31 in order to determine its function and confirm whether both structures are contemporaneous with the fort.

The documentation of a new fort on the right (north) bank of the Fourth Cataract region that bears substantial similarity to those at el-Ar and Mikaisir suggests the existence of a network that predates the system of early Christian period forts in this region. The Fourth Cataract forts that date to the late Meroitic and Post-Meroitic periods do not conform to the same model as those of the Christian period built in either the Fourth Cataract region (Zurawski 2014) or by lo-



cal rulers in the Dongola reach (Drzewiecki 2013, 156). The Fourth Cataract forts are smaller in size and more regular in construction than the later forts in this area and also show similarities in construction and plan to forts upriver at Gandiesi and Jebel Nakharu. The forts at el-Ar and Mikaisir indicate a model of power that was more organized than on a regional level (Drzewiecki 2013, 157); therefore, it is likely that ASU 15-13 also fits into this model. The Post-Meroitic period was a time when central authority had been subject to change or weakened and gradually disintegrated. Possibly at this time, local Nubian rulers controlled sections of the Nile, causing regionalization and the rise of unstable chiefdoms (Drzewiecki 2013, 154). According to Classical sources, the left, or east, bank was occupied by Libyans (Strabo) or Nubae (Ptolemy; Welsby 1996, 59; Drzewiecki 2013, 154). Based on the course of the Nile as it flows downstream, the area occupied by the Libyans or Nubae would be on the south bank, on the opposite side of the Nile from ASU 15-13 and the BONE concession. Yet forts of similar size and construction are now found on both banks and on the north side of Mograt Island, suggesting unified control over this area. Godlewski (2014, 156-157) surmises that the forts erected in the 5<sup>th</sup> or early 6<sup>th</sup> century in the Fourth Cataract region were part of a 'new territorial organization' in which local elites exerted greater economic control and that they 'were an important urbanising element in the organization of the new kingdom' of Makuria. Continuing work on this newly recorded fort and desert site will contribute to a better understanding of the social and political dynamics in the Fourth Cataract region during the late Meroitic and Post-Meroitic periods.

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