APAC
APELSER ARCHAEOLOGICAL CONSULTING
Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 VAT NO.: 4360226270

A REPORT ON THE RESULTS OF A 2ND FIELDSEASON OF ARCHAEOLOGICAL INVESTGATIONS OF A LATE IRON AGE STONE-WALLED SETTLEMENT SITE CALLED MAHULA HILL, IN THE KRUGER NATIONAL PARK

For:

South African National Parks
643 Leyds Street, MUCKLENEUK
Pretoria
0001

REPORT: **APAC018/86**

A.J. Pelser
Professional Member of ASAPA

Field Work conducted: ***August 2018*** Report: ***January 2019***

P.O.BOX 73703
LYNNWOOD RIDGE
0040
Tel: 083 459 3091
Fax: 086 695 7247
Email: apac.heritage@gmail.com

Member: AJ Pelser BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

I HEREBY DECLARE THAT I AM AN INDEPENDENT RESEARCHER AUTHORISED THROUGH A RESEARCH AGREEMENT WITH SANPARKS TO UNDERTAKE THE REQUESTED ARCHAEOLOGICAL RESEARCH WORK

SUMMARY

Anton Pelser (APELSER ARCHAEOLOGICAL CONSULTING cc) was requested in 2016 by staff members of Kruger National Park to undertake the assessment of a number of newly discovered archaeological sites in the KNP. During the February 2016 fieldwork one of the sites assessed was the Mahula Hill Late Iron Age stone-walled settlement, located close to Kwaggaspan in the Biyamiti region of the KNP. The site contained not only stone-walled & terraced later Iron Age remains, but also some San rock-paintings at an associated rock-boulder/shelter site.

Anton Pelser then approached SANPARKS and Kruger National Park regarding an officially sanctioned Archaeological Research Project on the Mahula site. This request was accepted and approved in September 2016. A permit application process for the archaeological research & excavations were undertaken, and the required permit issued by SAHRA (the South African Heritage Resources Agency)[**Cased ID = 11236 & Permit ID = 2570**]. The permit is valid until the 31st of August 2020. The current Research Agreement between SANPARKS & APAC is valid until the end of December 2019.

The 1st season of archaeological excavations was undertaken during a 2 week period in August 2017. The fieldwork included a number of formal excavations on features on the site, as well as the mapping of the site and associated features and excavations.

Subsequent to APAC's fieldwork, the African Conservation Trust (ACT) also conducted detailed mapping and scanning of the Stone-walled site and the rock art at Mahula as part of their research work in the Kruger National Park.

This document represents a report on the 2nd season of fieldwork and related archival work conducted during August 2018. The 2nd season of work consisted mainly of on-site mapping & surveying work and some days spent in the Skukuza Archives and Stevenson-Hamilton Library.

The report forms part of the requirements of the SAHRA permit and also the SANPARKS Research Agreement that specifies a yearly progress report on the work completed.

A 3rd season of fieldwork at Mahula Hill is planned for the second half of 2019.

CONTENTS

A REPORT ON THE RESULTS OF A 2ND FIELDSEASON OF ARCHAEOLOGICAL INVESTGATIONS OF A LATE IRON AGE STONE-WALLED SETTLEMENT SITE CALLED MAHULA HILL, IN THE KRUGER NATIONAL PARK

INTRODUCTION

Anton Pelser (APELSER ARCHAEOLOGICAL CONSULTING cc) was requested in 2016 by staff members of Kruger National Park to undertake the assessment of a number of newly discovered archaeological sites in the KNP. During the February 2016 fieldwork one of the sites assessed was the Mahula Hill Late Iron Age stone-walled settlement, located close to Kwaggaspan in the Biyamiti region of the KNP. The site contained not only stone-walled & terraced later Iron Age remains, but also some San rock-paintings at an associated rock-boulder/shelter site.

Anton Pelser then approached SANPARKS and Kruger National Park regarding an officially sanctioned Archaeological Research Project on the Mahula site. This request was accepted and approved in September 2016. A permit application process for the archaeological research & excavations were undertaken, and the required permit issued by SAHRA (the South African Heritage Resources Agency)[Cased ID = 11236 & Permit ID = 2570]. The permit is valid until the 31st of August 2020. The current Research Agreement between SANPARKS & APAC is valid until the end of December 2019.

The 1st season of archaeological excavations was undertaken during a 2 week period in August 2017. The fieldwork included a number of formal excavations on features on the site, as well as the mapping of the site and associated features and excavations.

Subsequent to APAC's fieldwork, the African Conservation Trust (ACT) also conducted detailed mapping and scanning of the Stone-walled site and the rock art at Mahula as part of their research work in the Kruger National Park.

The 2nd season of work consisted of on-site mapping & surveying work and some days spent in the Skukuza Archives and Stevenson-Hamilton Library. The results of the August 2018 fieldwork & archival research are discussed in this document.

AIMS

The aims of the Archaeological Investigations on the Mahula Hill Iron Age stone-walled site in the KNP are as follows:

(a) Detailed mapping & recording (photographically) of the site and its features (stone-walled enclosures & terraces; possible hut areas; grinding hollows and small shelter containing Rock Art).

The August 2018 fieldwork consisted of the physical mapping of the stone-walled terraces and other features related to the site. This was done with a handheld Garmin GPS. The mapping was done only on the eastern side of the Hill during the field work, with some parts of the north and south also included. Although the mapping focused mainly on the

stone-walled terraces, individual features such as possible middens, scatters of cultural material and upper & lower grinders were also mapped in.

(b) Archaeological excavations on the stone-packed terraces in areas with archaeological deposit (possible middens) and hut locations. Blocks/squares of varying sizes will be measured out in identified areas and standard archaeological techniques and methods and tools will be used in the excavations. The cultural material recovered will also be analyzed & interpreted as part of the archaeological research process. The aims of the excavations will be to recover cultural material and other evidence to help:

- Interpret the site and reconstruct time-frame of settlement, material culture economy, cultural identity of its occupants and settlement layout/organization. All the excavations will also be mapped onto a Site Map that will be produced & updated continuously as the research progresses at the end

- The results of the fieldwork and the analysis of the cultural material will be reported on in a number of Archaeological Research Reports as required by both SANPARKS and SAHRA on an annual basis.

No archaeological excavations were undertaken in 2018, with the resuming of this planned for the 2019 fieldwork.

(c) The proper curation of the material in a recognized institution. In this case (as per permit regulations) the material will be lodged at the Lydenburg Museum.

METHODOLOGY

The methodology comprised the following:

Background Research – This included background research on the archaeology and history of the larger geographical area within which the site is located.

In 2018 archival research was conducted in the Skukuza Archives & Stevenson-Hamilton Library, with the focus being on finding information on Mahula Hill and surrounds that could assist with the continued and future archaeological work on the site.

Photographic - Photographs of the site and area were taken, while all identifiable features, excavations and individual objects were also photographed for recording purposes.

Mapping

During 2017, superficial mapping of the site, stone-walled terracing, other features such as upper and lower grinders and hollows, as well as the excavations, were done using a hand-held Garmin GPS. More detailed mapping and scanning of the Mahula Hill stone-walled site and rock painting site was done by ACT. The results of this undertaking were reported on in the 1st Fieldwork Report (See APAC018/07).

During 2018 more detailed mapping was undertaken with a handheld Garmin GPS.

Archaeological Excavations

Two formal excavations were conducted during 2017: Block 1 (various Squares) was done on an ash/refuse midden deposit close to & under a rock overhang on one of the terraces; and Block 2 was done on top of one of the terraces where a hut was exposed. The Block 2 Hut excavations were not completed during the 2017 season.

No excavations were undertaken during August 2018. More detailed and extensive excavations are planned for 2019.

Analysis, Documentation & Curating of Cultural material

All the cultural material recovered so far have been documented photographically and analyzed accordingly. The material was cleaned and packed in labeled bags and boxes for delivery to the Lydenburg Museum for Curating & Storage.

BACKGROUND

The larger geographical area where the site is located is characterized by granite hills, outcrops and large boulders, such as Shirimantanga & Renosterkoppies. The site is located at such a large granite outcrop and hill called Mahula (at 368m above sea level the highest point in the area) and situated roughly halfway between the Muhlambamadvube and Mahula rivers and their floodplain. The known presence of pottery and a grinding stone underneath one of the large boulders at the site necessitated an assessment in January 2016.

The first section of the site (a large boulder/shelter) contains a fair amount of broken pottery fragments, a lower and upper grinder, burnt bone and tortoise shell pieces and evidence of a fair amount of ashy deposit on the site. Material is found all around the edge of the boulder (at the drip-line eroding out), and cenchris cilliaris (buffelsgras) in the area around the granite Koppie is further evidence of disturbance and human occupation.

The presence of LIA stone walled sites around these hills in the larger area (and in general) is a well-known fact, as is the location of San rock paintings. Rock paintings were identified on the rock face of the large boulder, and it is possible that there might be more in the area of Mahula. The rest of the Mahula Hill site contains substantial stone-walled terracing, stone-walled enclosures and what seem to be overhangs and shelters that were utilized as part of the settlement. There is an extensive amount of archaeological deposit present, with large amounts of both decorated and undecorated pottery, bone and shell found all over the site, as well both loose upper and lower grinders and some "fixed" grinding hollows on flat granite surfaces. These were utilized normally for communal purposes rather than for individual household use like the other movable ones.

It is clear that the site was the location of a fairly substantial LIA settlement for a relatively long time period. The presence of San rock paintings, and also some quartzite & other stone tools and flakes here shows that human presence in and utilization of the area has a much longer history as well. The location of the site around the foot and higher up on the granite Hill is an indication that the site might have been occupied during a time of stress (such as the ***difaqane*** of the early 1800's) when groups would have utilized such defensive positions for

protection, while the fact that Mahula Hill is one of the highest points in the area overlooking the fertile floodplains further on could be an indication that the site was also occupied by a high status chief or headman of the group that lived in the larger area.

A 1903 map by Stevenson-Hamilton reproduced in "Neem uit die Verlede" (Pienaar 1990: 44) indicates that the larger geographical area in which Mahula is situated, was settled by two Sotho-speaking groups namely the Ba-Mabayi and Ba-Hlangane at the time. It is possible that one or both of these groups are associated with the site at some point in time.

Archaeologists utilize pottery & the decoration types/styles on them to provide a relative date of occupation of a site where the pottery is found, as well as a possible cultural identity of the occupants and producers of the pottery. The small sample of decorated pottery from the surface of Mahula, as well as that from the Block 1 & 2 excavations in 2017, can be used, for these purposes. Based on Tom Huffman's research on Iron Age pottery the decorated pieces from the surface contain decorations closely relatable to either the so-called Klingbeil facies of the Urewe Iron Age tradition. Klingbeil is the type-site where this pottery was first encountered and is located close to Lydenburg, while it has also been found at Riverside near Nelspruit. Klingbeil pottery dates to between AD1000 & AD1200 (radiocarbon dates). The most likely candidate for the Mahula surface pottery is the so-called Maguga facies of Urewe, with the decorations on the sets of pottery very similar. Maguga also developed out of Klingbeil according the Huffman. Moreover, a site called SK11 is located very close to the Mahula Hill site in the Kruger Park (located at the well-known Shirimatanga Koppies where the Stevenson-Hamilton Memorial is situated and around 15km north of Mahula). Based on radiocarbon dates for this site Maguga dates to between AD1200 – AD1450.

Preliminarily it can be said that the Mahula Hill site dates to around AD1200 & AD1450, although there could also have been earlier Iron Age occupation at the Hill site. This would place the site's occupation and use somewhere between the later parts of the so-called Middle Iron Age and the earlier parts of the Late Iron Age. Klingbeil, from which Maguga developed, falls within the Middle Iron Age phase.

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

Iron Age people started to settle in southern Africa from around AD 300, with one of the oldest known sites at Broederstroom, dating to AD 470, located south of Hartebeespoort Dam. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age

(EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior Highveld area. The occupation of the region by Iron Age communities did not start much before the 1500s. Due to climatic fluctuations, bringing about colder and drier conditions, people were forced to avoid this area. Following a dry spell that ended just before the turn of the millennium, the climate became better again until about AD 1300. This coincided with the arrival of the ancestors of the present day Sotho-, Tswana- and Nguni-speakers in southern Africa, forcing them to avoid large sections of the interior (Van Schalkwyk 2012: 6-7).

Detailed knowledge of settlement patterns is of great importance in understanding and reconstructing culture-history and life ways. Many Bantu-speaking groups in southern Africa organized their settlements according to the principles of the so-called Central Cattle Pattern (CCP), an ethnographically derived model of spatial organization based on Adam Kuper's 1982 analysis of Nguni and Sotho-Tswana settlements. The thousands of stone-walled settlements in the Northwest Province, southern Gauteng and Free State were built by the close ancestors of people living in South Africa today, making them appealing to Iron Age archaeologists (Mason 1986: 317). Also, there are oral traditions about many of these settlements, and in some case they were vividly recorded by the first European travelers and missionaries, such as Campbell (1822) and Broadbent (1865).

Although there are many different classes and types of settlement identified by researchers, they are all variations on the CCP theme. For a basic background we will utilize Mike Taylor's (1979) three Group system. The first, Group I, dates to the 16th century, and these settlements have simple elliptical boundary walls enclosing groups of smaller enclosures in the center. Sheep or goat enclosures were sometime located on the outer boundary walls. Group II, dating to between AD 1650 and AD 1840, and can be divided into Group II & Group IIb. Group IIa settlements consist of continuous semi-circular boundary walls, or scallops, enclosing huts. In the center are both small and large circular enclosures, used for cattle and smaller livestock. Group IIb has discontinuous semi-circular boundary walls made up of scallops containing huts, as well as centrally located enclosures. Group III is an agglomeration of circular enclosures with the outer limit marked by varying lengths of curved walls and small circular enclosures.

The aim with the mapping of the Mahula Hill site is to determine the settlement layout and to see to which Group it approximately conforms. The details will be discussed in the Mapping section of this report.

The Mahula Hill stone-walled Iron Age site is not typical of the sites mentioned above as it is a mainly a terraced settlement, with living & working spaces created by enclosing walls and natural rocky ridges and contours. To some sense it is similar to sites like Masorini near Phalaborwa in the central region of the KNP. Although at this stage, based on the lack of definitive dateable material available, it is difficult to place Mahula Hill within the larger Iron Age sequence, it is highly likely that it falls between the latter part of the Middle Iron and earlier part of the Late Iron Age using Huffman's criteria.

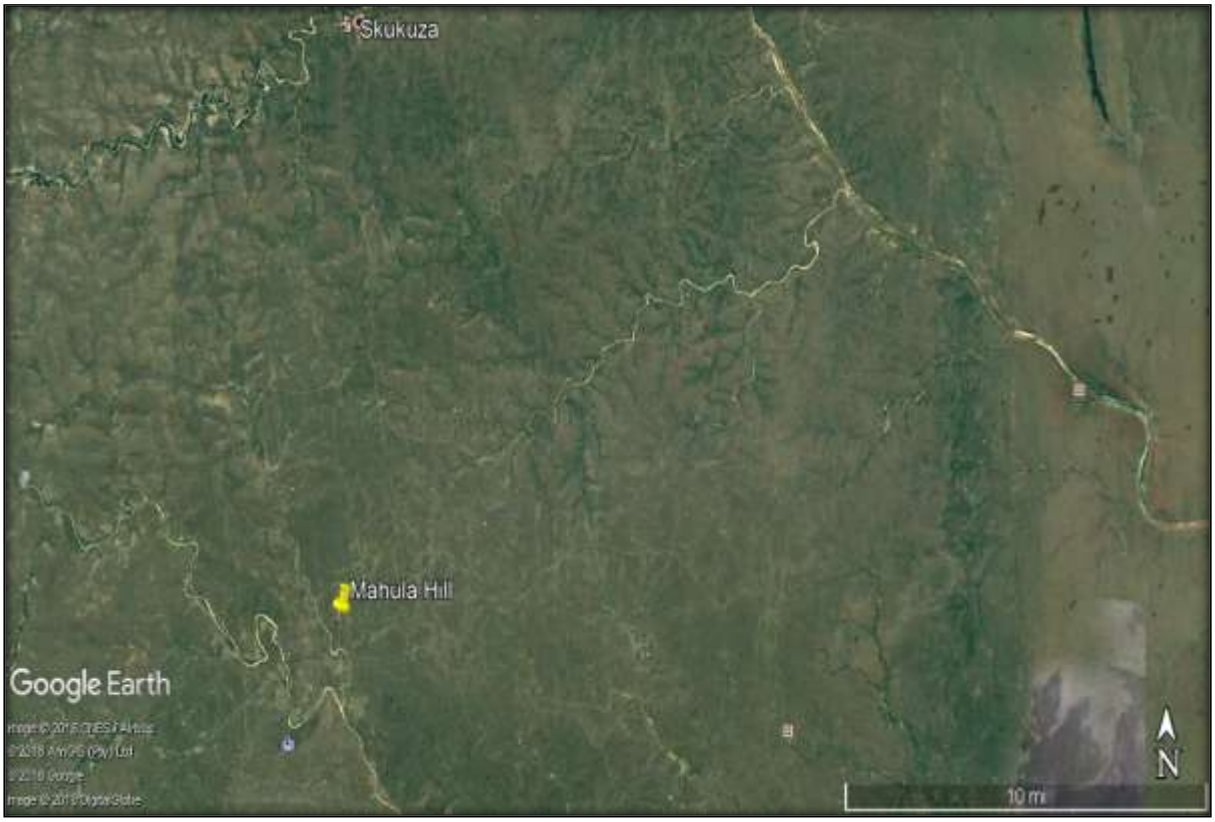

Fig.1: General location of the Mahula Hill site (Google Earth 2018).

Fig.2: Closer view of site location also indicating position of rock boulder with San paintings (Google Earth 2018).

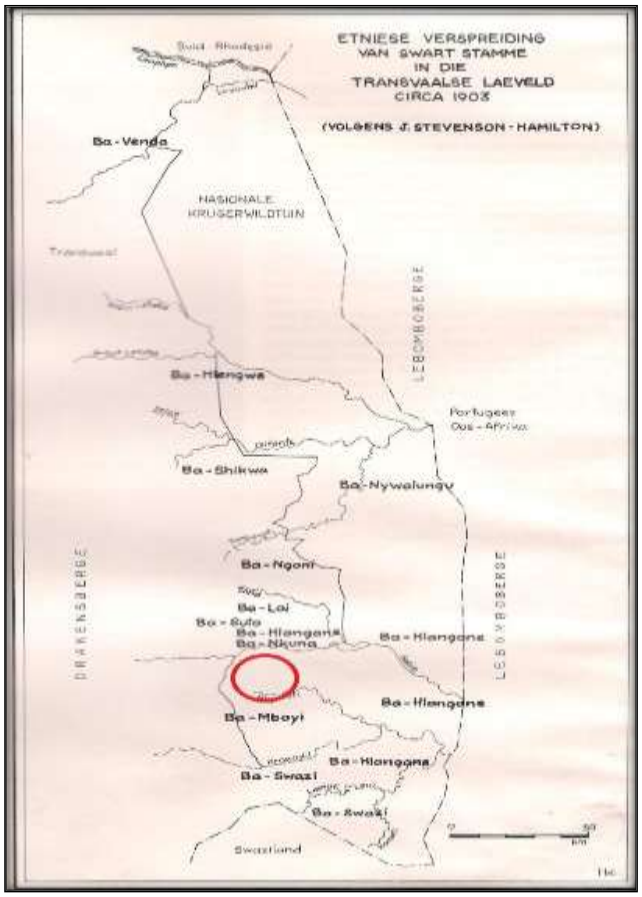

Fig.3: 1903 Map of KNP showing distribution of various groups in the area (adapted from Pienaar 1990 & based on Stevenson-Hamilton map). The approximate location of the Mahula Hill site indicated by the red circle.

Fig.4: Mahula Hill main site.

Fig.5: The large boulder at the foot of Mahula Hill. San rock paintings are located here.

Fig.6: Some of terrace walling at the site.

Fig.7: Some grinding hollows on Mahula Hill.

Fig.8: A lower grinding stone on the Hill site.

Fig.9: The view from the top of Mahula Hill.

Fig.10: The main approach up Mahula Hill.

Fig.11: View of another walled terrace area.

RESULTS OF THE ARCHIVAL RESEARCH

The aims with the archival research were to find information pertaining to Mahula and the general geographical area that the site is situated in. Both old and recent historical (prior to 2016) references to the site and area was looked for, as well as information on any other archaeological evidence related to other known sites (such as Shirimantanga) in the area.

The first source of interest is a letter from Mr. U. de V. Pienaar to a Mr. B.P. Simmons (dated to 1984-08-29) regarding the old Transport Road. In this letter he indicates that the route followed by Carolus Trichardt to Delagoabay in 1845 followed a line just north of Shabeni Hill. It then traversed the headwaters of the Mbyamiti and then went past the present day Kwaggaspan windmill (where there are leadwood trees with old axe marks), past south of Renosterkoppies, skirted the dense Nwatimhiri bush along its southern fringe (to avoid the tsetse flies and predators) and crossed the Lebombos at the Godleni post (Pienaar 1984: 4).

What is of interest from this source is that ostensibly the Mahula Hill settlement would have been located on or very close to at least to this old transport road during historical times. Although this is not based on historical facts, traders on this route could have had contact with the Mahula inhabitants at the time, with the Mahula people playing an important role in the trading activities. The glass trade beads found during the 2017 excavations at Mahula is tentative evidence of this.

The 2nd source of interest dates to 1992 and is on the Placenames in the Kruger National Park (compiled by Mr.J.J. Kloppers Head of Nature Conservation of the KNP at the time). According to this source Mahula is the name of a small granite hill situated between the Muhlambamadvube & Mahula spruite. It is a Swati word meaning "the place where they cut hair". The origin of this meaning is not given. Secondly, Mahula is also the Swati name for the Oorbietjie (Ourebia ourebia). According to Kloppers it is unlikely that these small antelopes would have occurred so far east in the Lowveld. According to the source the previous spellings of Mahula were Mahule, Mahulu, Mahulwe or Maulu. He also indicates

that Mahula is the name of the same-named spruit (a tributary of the Muhlambamadvube) and that its previous spelling was Hulahula.

The other sources found relates to other archaeological investigations on sites in the geographical area close to Mahula. The 1st one dates to 1983 and is a Report on a Fieldtrip to the Kruger National Park between the 5th and 9th of December 1983 by Andre Meyer and the University of Pretoria. According to this report on the 8th of December they had visited a site near Kwaggaspan where a small surface sample of decorated ceramics was retrieved. From there they moved to Renosterkoppies were a small excavation was started, adjoining a trench dug a few years earlier. The pottery of the site was of an unusual character and was tentatively named the Shirimantanga industry by Andre Meyer. The excavation revealed bone and pottery, a dung layer, as well as a hut floor with post hole. Due to a lack of time they decided to close the excavation as the site warranted more extensive exploration at another stage.

The 4th significant source consulted was Dr. Ina Plug's Doctoral Thesis dated to 1988. In this she had examined the faunal remains from some of the sites excavated by Andre Meyer of UP. According to this Meyer (1986) suggested that the pottery found at sites SK4 (a small LSA shelter site at a granite hill between Skukuza and Pretoriuskop) and PR34 (another shelter site on the northeastern slope of Manungu Kop) represented 2 different Iron Age traditions, namely the Lydenburg and Shirimantanga industries. He also indicated that Shirimantanga is little known and occurs in the Kruger National Park close to or on rocky outcrops between the Sabie and Crocodile rivers. Meyer (according to Plug in 1988) furthermore suggested that the Shirimantanga industry belonged to a period post AD1500, but before the arrival of the Swazi people to the region.

ARCHAEOLOGICAL INVESTIGATIONS

No archaeological excavations were conducted during the August 2018 season due to time-constraints, as well as lack of funding. However, more detailed and extensive excavations are envisaged to be undertaken during the 2019 field season.

As part of the archaeological investigation of the Mahula Hill site, the African Conservation Trust (ACT) also undertook some detailed scanning and mapping of the site in August 2017 subsequent to APAC's fieldwork. Their work aimed at scanning the rock art shelter and images situated here and doing infrared enhancing of the rock paintings, while the mapping of Mahula Hill aimed at providing detailed imaging of the hill and its man-made features (terraces and stone walled enclosures). ACT used a Digital Total Station/DTM/Canon E0S5D Mark IV 35mm camera/LIDAR, as well as GIS, to produce images of the hill site & rock art.

Results of 2017 Mapping

The 2017 mapping undertaken by APAC was very superficial, and only aimed at fixing permanent & temporary Base Points on a section of the site from which to measure out excavations and to set up a basic grid system on this section of the site. Some lower and upper grinding stones were also recorded using the handheld GPS.

Detailed mapping was to be done in subsequent seasons in conjunction with using the maps produced by ACT. This mapping work was continued in August 2018 (**See Section on Results of 2018 Mapping below**)

Fig. 12: Aerial view showing the location of the various Base Points on the site (1-9) & the two Blocks measured out for excavations in 2017 (Google Earth 2018).

Fig.13: The positions of the Upper & Lower grinding stones recorded in 2017 (UG & LG) [Google Earth 2018].

The African Conservation Trust work on Mahula during early September 2017 aimed at scanning the rock art on the site, as well as doing detailed scanning and mapping of the Hill site and the features on it. The result of this work was a number of infrared enhanced images of the rock art (which indicated a number of other images on the rock panel not visible by the naked eye), aerial views and 3D scan models of the Mahula Hill site and a Virtual Tour model of Mahula. Some of these images and models are shown here in this report, while a detailed report by ACT will be presented at a later stage. The data captured by ACT will be used in the subsequent field research on Mahula to produce a detailed reconstruction of the site, as well as the layout and organization of the settlement during the Iron Age occupation of Mahula.

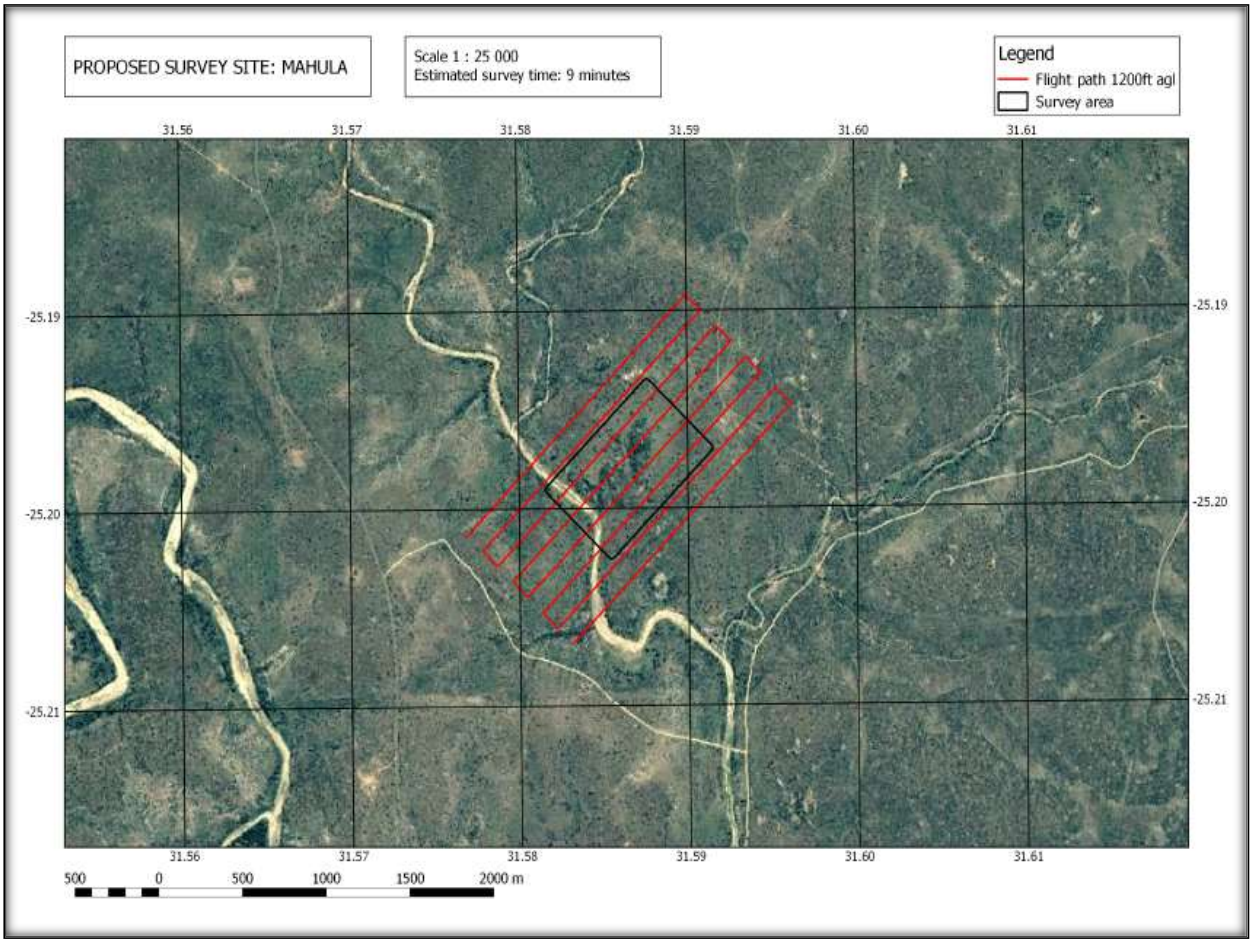

Fig.14: Survey Map (LIDAR) of the Mahula area mapped by ACT (@ACT 2017).

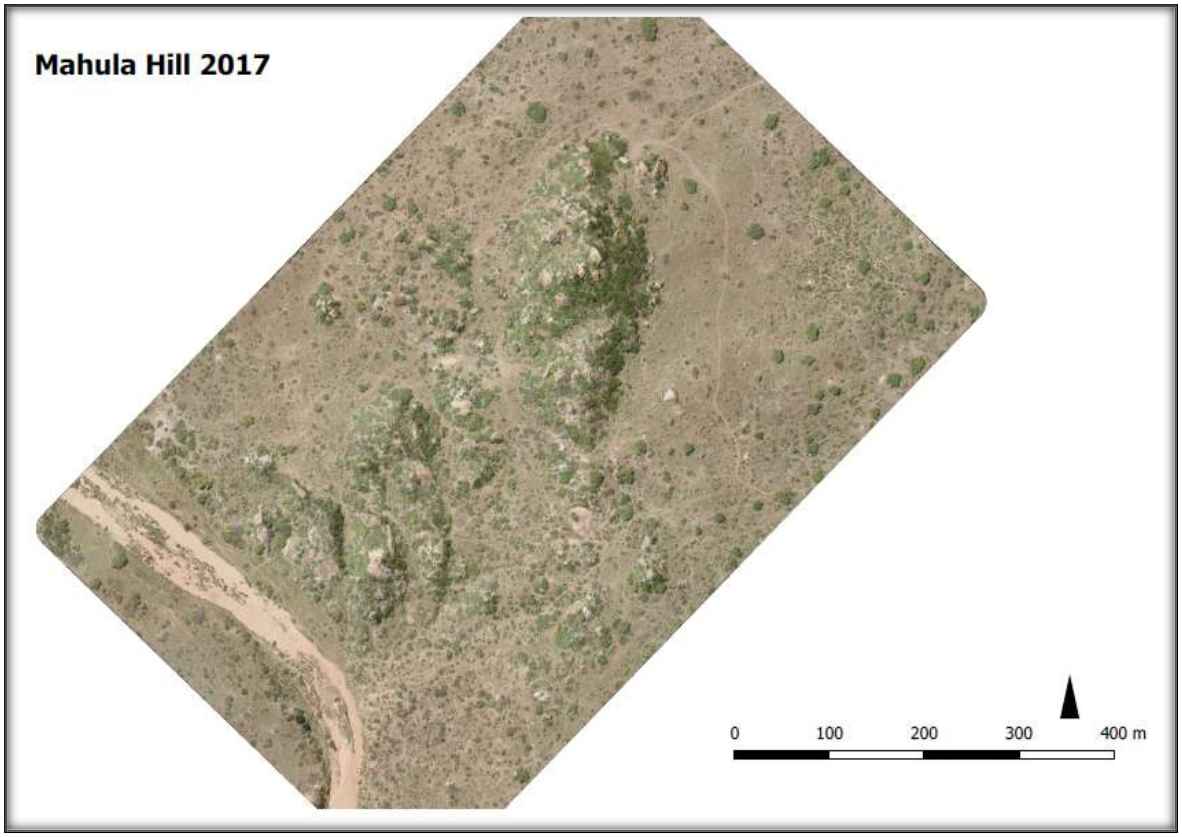

Fig.15: Aerial image of Mahula Hill and surrounds from the LIDAR Survey Map (@ACT 2017).

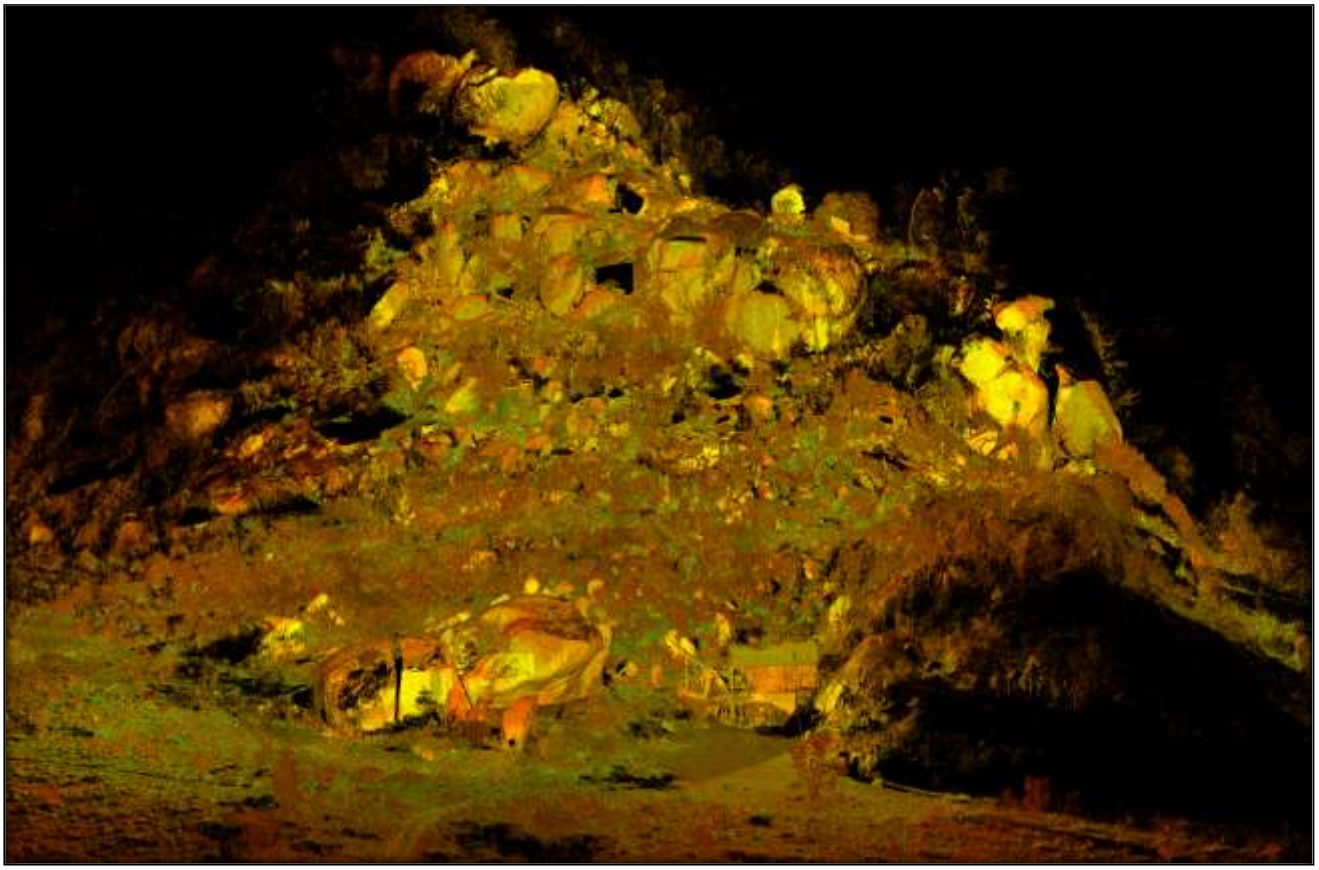

Fig.16: Scan image of Mahula Hill (Front View). The rock art is located at the large boulder at the bottom to the left of the wooden deck (@ACT 2017).

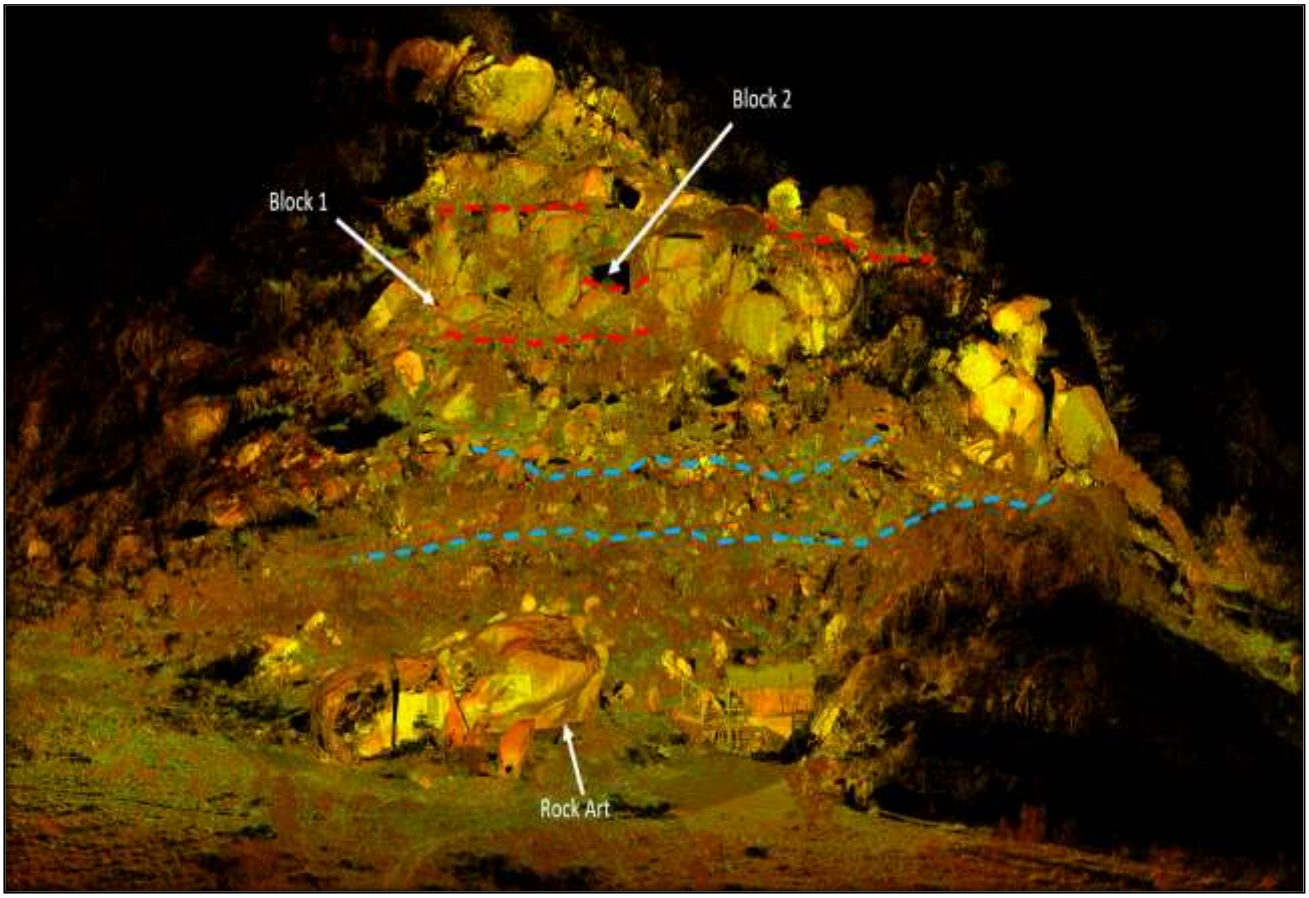

Fig.17: The same scan image as in Fig.16 showing the approximate positions of the two excavations (Block 1 & 2) conducted in 2017, as well as the location of the rock art. Also added here are the approximate location of known terraces (red lines) & possible other/uncertain terraces (blue lines). Adapted from ACT.

Fig.18: Normal photo of rock art panel at Mahula (@ACT 2017).

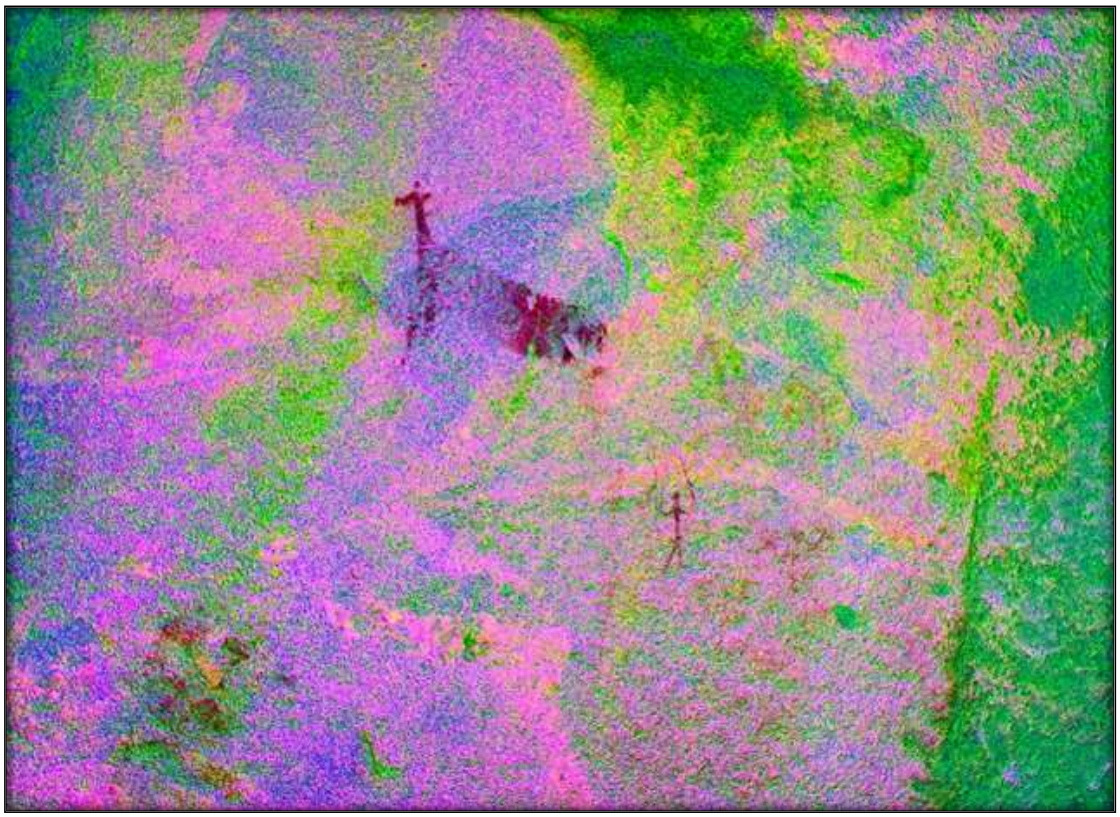

Fig.19: Enhanced/infrared photo of rock art panel. Note the additional human figures on the panel (@ ACT 2017).

Fig.20: Further enhanced photo of rock art panel (@ACT 2017).

Results of the 2018 Mapping

The 2018 mapping included photographically documenting some of the stone-walled terraces, enclosures and other features associated with the Mahula site. This included scatters of cultural material, ash middens and upper & lower grinding stones. Images of other similar hills in and the general area of Mahula were also recorded and are included here. The images that follow are the result of this documentation.

Fig.21: A view of Shirimantanga Hill.

Fig.22: Another view of Shirimantanga.

Fig.23: A view of Renosterkoppies from a distance.

Fig.24: Mahula Hill from a distance.

Fig.25: Another view of Mahula Hill.

Fig.26: The shelter with the San rock paintings in 2018.

Fig.27: Lower grinder at the shelter.

Fig.28: Lower grinders & ashy deposit in the shelter.

Fig.29: Terrace walling.

Fig.30: More terrace walling.

Fig.31: Another terrace.

Fig.32: Section of stone-walled enclosure.

Fig.33: Another section of terrace walling.

Fig.34: Lower grinder.

Fig.35: Pottery and ashy deposit.

Fig.36: Decorate rim sherd.

Fig.37: Possible stone-packed platform.

Fig.38: Possible ash midden.

Fig.39: Another upper grinder.

Fig.40: Another possible ash midden.

Fig.41: A section of well-preserved stone-walling.

Fig.42: One of terraces on the site.

Fig.43: Rock overhang.

Fig.44: Decorated pottery at the overhang.

Fig.45: Another possible ash midden.

Fig.46: Further terracing on the site.

At least 18 stone-walled terraces as well as other features such as smaller enclosures, possible ash middens and scatters of cultural material (including upper and lower grinders) were recorded and mapped during August 2018.

It is important to note that only the eastern part of the site has been mapped in any detail, with small sections of the north-eastern and south-eastern included. The rest of the settlement site will be mapped during the 2019 field season, and will focus on the western side of the hill, most northern and most southern sections.

It is clear from the August 2018 mapping that only about 20 to 25% of Mahula Hill settlement site has been mapped and that there are many stone-walled terraces and other features that have not been recorded as yet. Future archaeological investigations will not only focus on more extensive excavations, but also on completing the mapping of the settlement site. Factors such as dense vegetation made the mapping exercise in 2018 difficult as well, and some of the already recorded features need to be "ground-truthed" in 2019 also, with for

instance entrances onto terraces and into enclosures properly determined while certain sections of walling also need correcting (angles/exact lines fixed). It is also quite possible that more areas with cultural material scatters and ash middens might have been missed due to vegetation cover. These, when found, will also be included in subsequent maps of the site. Future excavations conducted will then be added to the Mahula Hill map as well.

The mapping of the Mahula Hill settlement site is clearly incomplete at this stage, but based on the August 2018 mapping the following can be stated:

(a) The site is fairly extensive, with many more stone-walled terraces and other features present than initially believed

(b) Although most of the remaining walling consists of low sections (less than 0.50m in height), there are some sections with fairly well preserved walling

(c) The construction of the stone-walled terraces is typical dry stone, with a double row of large stones in-filled with smaller stones. The natural topography of the hill were utilized in the construction, with natural rocky ridges used as part of the walling (with gaps between natural rock faces/ridges "completed" with sections of packed stone.

(d) Although the settlement layout/organization can't be determined in detail at this stage it is evident that the hill was utilized fairly extensively on all sides, with terraces on various levels from its foot to close to the hill-top. The terraces could have been used for both residential purposes (huts) as well as for small-scale agricultural purposes (crop growing). The Block 2 excavation on 2017 did uncover the remains of such a hut on Terrace 11. Smaller stone-walled enclosures found on the site could be evidence of the keeping of livestock at some point in time, although this can't be conclusively said at this stage with the archaeozoological analysis of the faunal remains found during the 2017 excavations not yet undertaken. The relatively large number of both upper and lower grinders found scattered all over the site (as shown on the map) is further evidence of agricultural activities (crop growing/production) at the site. Although the terraces could have been used for this purpose, the flat open areas around the hill might have been utilized for this as well.

(e) Based on the preliminary mapping of the site, it can be said that the Mahula Hill settlement would have supported a fairly large number of inhabitants at some point of time. Although difficult to calculate as yet, this could have been a few hundred people.

Finally, it needs to be stated that the archaeological investigations at the Mahula Hill settlement site has to be continued and that the next field season of work will focus on not only more extensive excavations, but also on completing the mapping of the site and its stone-walled terraces and other features. Once this has been completed a more detailed and comprehensive picture of the settlement, its social and material economy, settlement layout and organization can be reconstructed. The role of Mahula in the general & wider geographical landscape during prehistorical and the more recent historical periods will also then be better understood.

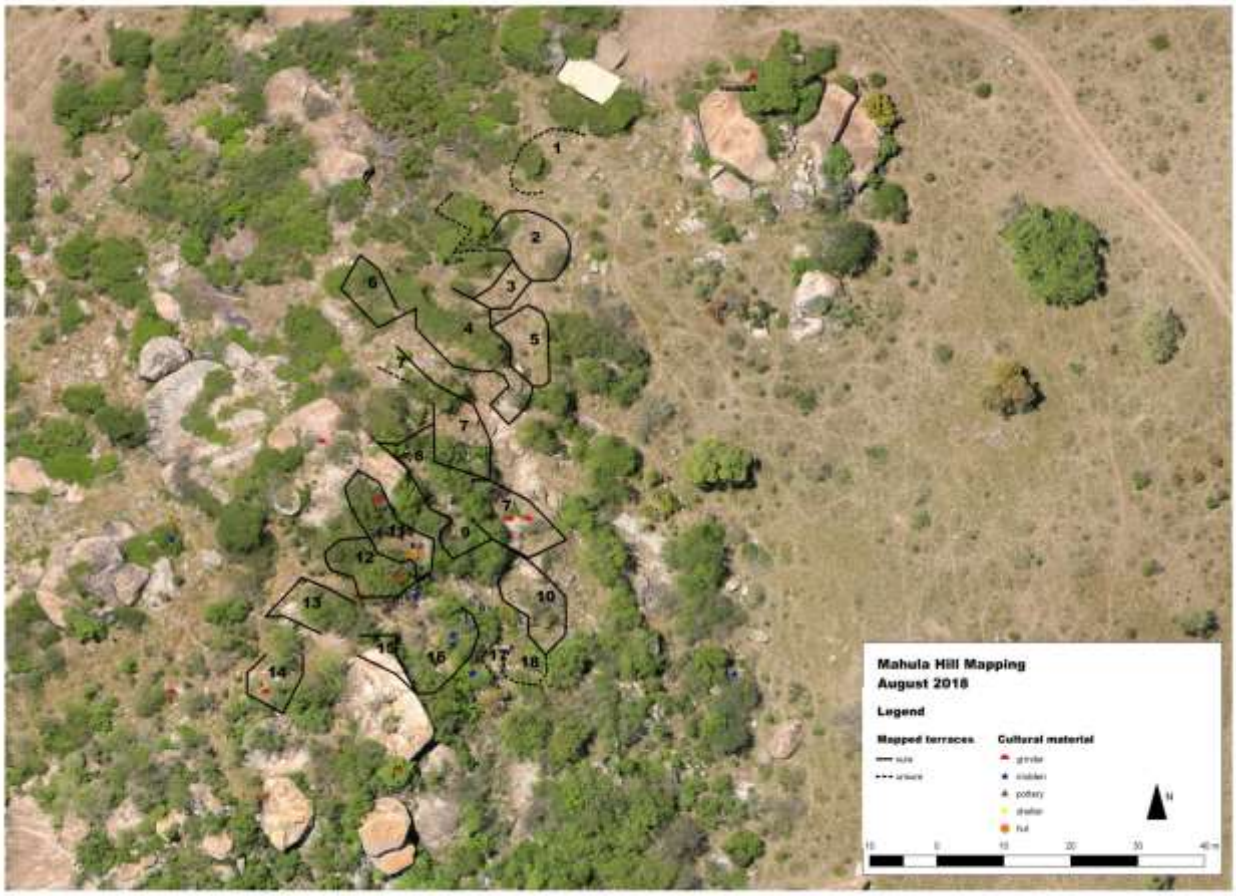

Fig.47: Map of Mahula Hill settlement site based on the August 2018 mapping. The stone-walled terraces, smaller enclosures and other features are shown.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the 1st and 2nd Seasons of Archaeological investigations at the Mahula Hill Iron Age Settlement Site in the Kruger National Park, was conducted successfully. The aims of the Archaeological Investigations on the Mahula Hill Iron Age stone-walled site in the KNP are as follows:

a. Detailed mapping & recording (photographically) of the site and its features (stone-walled enclosures & terraces; possible hut areas; grinding hollows and small shelter containing Rock Art)

b. Archaeological excavations on the stone-packed terraces in areas with archaeological deposit (possible middens) and hut locations. Blocks/squares of varying sizes will be measured out in identified areas and standard archaeological techniques and methods and tools will be used in the excavations. The cultural material recovered will also be analyzed & interpreted as part of the archaeological research process

c. The aims of the excavations are to recover cultural material and other evidence to help:

- Interpret the site and reconstruct time-frame of settlement, material culture economy, cultural identity of its occupants and settlement layout/organization. All the excavations will also be mapped onto a Site Map that will be produced & updated continuously as the research progresses at the end

- The results of the fieldwork and the analysis of the cultural material will be reported on in a number of Archaeological Research Reports as required by both SANPARKS and SAHRA on an annual basis.

c. The proper curation of the material in a recognized institution. In this case (as per permit regulations) the material will be lodged at the Lydenburg Museum.

The first season (2017) of archaeological research on the Mahula Hill site consisted of superficial mapping using a handheld Garmin GPS, during which a number of fixed and temporary Base points/lines were recorded, as well as the location of some upper & lower grinding stones and the location of the two excavation blocks measured out in August 2017.

As part of the fieldwork some surface sampling was also undertaken to collect especially more decorated pottery to help provide a relative date of occupation, as well as the possible cultural identity of the occupants of the settlement site. Formal excavations were in the form of 2 Blocks (Block 1 & 2), with a number of squares in each Block excavated in 2017. Block 1 was close to a small rock overhang on one of the stone-packed terraces containing a relatively rich ashy deposit (ash midden) and Block 2 on another terrace where a hut would have been located.

As part of the archaeological investigation of the Mahula Hill site, the African Conservation Trust (ACT) also undertook some detailed scanning and mapping of the site in August 2017 subsequent to APAC's fieldwork. Their work aimed at scanning the rock art shelter and images situated here and doing infrared enhancing of the rock paintings, while the mapping of Mahula Hill aimed at providing detailed imaging of the hill and its man-made features (terraces and stone walled enclosures). ACT used a Digital Total Station/DTM/Canon E0S5D Mark IV 35mm camera/LIDAR, as well as GIS, to produce images of the hill site & rock art.

The mapping undertaken by APAC in 2017 was very limited and basically aimed at fixing permanent & temporary Base Points on a section of the site from which to measure out excavations and to set up a basic grid system on this section of the site. Some lower and upper grinding stones were also recorded using the handheld GPS. The African Conservation Trust work on Mahula during early September 2017 aimed at scanning the rock art on the site, as well as doing detailed scanning and mapping of the Hill site and the features on it. The result of this work was a number of infrared enhanced images of the rock art (which indicated a number of other images on the rock panel not visible by the naked eye), aerial views and 3D scan models of the Mahula Hill site and a Virtual Tour model of Mahula.

A fairly large amount of material was recovered from the Block 1 and 2 excavations in August 2017, taking into consideration that relatively limited work was possible during the 1st field season. Approximately 6500 objects in total were recovered and include faunal remains & shell, pottery, stone objects, glass and metal beads and others. Although the largest percentage of the sample is represented by unidentifiable bone & shell, undecorated pottery

& stone flakes, there are some identifiable faunal remains, decorated pottery and pottery with rims, worked bone & shell objects and other individual items.

The general surface sampled material consists of 5 pieces of decorated pottery without rims. Four of these are relatively thick-walled and could have been used for storage purposes, while the thin-walled piece could have come from a drinking vessel. The decoration types/styles/motifs include stylus impressions, incised lines and bands/panels of ladder-like & triangle decorations. With no rims present it is not possible to determine the position of the decorations on the various vessels, but it is seemingly below the rim and neck.

Archaeologists utilize pottery & the decoration types/styles on them to provide a relative date of occupation of a site where the pottery is found, as well as a possible cultural identity of the occupants and producers of the pottery. The small sample of decorated pottery from the surface of Mahula, as well as that from the Block 1 & 2 excavations in 2017, can be used, although tenuously at this stage, for these purposes. Based on Tom Huffman's research on Iron Age pottery the decorated pieces from the surface contain decorations closely relatable to either the so-called Klingbeil facies of the Urewe Iron Age tradition. Klingbeil is the type-site where this pottery was first encountered and is located close to Lydenburg, while it has also been found at Riverside near Nelspruit. Klingbeil pottery dates to between AD1000 & AD1200 (radiocarbon dates). The most likely candidate for the Mahula surface pottery is the so-called Maguga facies of Urewe, with the decorations on the sets of pottery very similar. Maguga also developed out of Klingbeil according the Huffman. Moreover, a site called Sk11 is located very close to the Mahula Hill site in the Kruger Park (located at the well-known Shirimatanga Koppies where the Stevenson-Hamilton Memorial is situated and around 15km north of Mahula). Based on radiocarbon dates for this site Maguga dates to between AD1200 – AD1450.

Very preliminarily it can be said that the Mahula Hill site dates to around AD1200 & AD1450, although there could also have been earlier Iron Age occupation at the Hill site. This would place the site's occupation and use somewhere between the later parts of the so-called Middle Iron Age and the earlier parts of the Late Iron Age. Klingbeil, from which Maguga developed, falls within the so-called Middle Iron Age phase.

Analysis of the other cultural material from the 2017 season of excavations gives us some more clues on the Iron Age settlement phase at the site, even though expert analysis of the faunal remains & shell and stone tools have not yet been undertaken. It is clear that a wide range of food (meat) sources were utilized in the diet of the occupants that included both antelopes (Bov.I-III sized), tortoises, possibly rodents, monitor lizards, freshwater mussel and land snails. Whether or not the bovids included both domestic or non-domestic species are not know at this stage and if both hunting and herding played a role is so far also unknown.

Although only 2 glass beads were found this is an indication of a possible link between the site and the Indian Ocean trade network. Possible metal slag is a very small indication of possible metal smelting and working at the site. This aspect will be investigated further in 2018 as well. The high number of quartz material (both unworked chunks and cores and possible flake tools) and other Stone Age-like tools on the site and in the excavations also need to be examined in more detail, especially the high number of these close to and in association with the Hut excavation (Block 2).

With the archaeological excavations at the Mahula Site only having really started, with one field season completed at this stage, the following is recommended regarding the future and continued archaeological research on and at the site:

1. detailed archaeozoological analysis of the faunal remains & shell recovered

2. the recovery of suitable charcoal and burnt bone for radiocarbon dating purposes

3. continued archaeological excavations at the site, including on known midden, areas with concentrations of cultural material & the terraced hut areas

4. continued and detailed mapping & interpretation of settlement layout and organization,

The 2nd season of work consisted of on-site mapping & surveying work and some days spent in the Skukuza Archives and Stevenson-Hamilton Library. The aims with the archival research were to find information pertaining to Mahula and the general geographical area that the site is situated in. Both old and recent historical (prior to 2016) references to the site and area was looked for, as well as information on any other archaeological evidence related to other known sites (such as Shirimantanga) in the area. A number of sources were found, with valuable information on Mahula obtained.

At least 18 stone-walled terraces as well as other features such as smaller enclosures, possible ash middens and scatters of cultural material (including upper and lower grinders) were recorded and mapped during August 2018.

Only about 20 to 25% of Mahula Hill settlement site has been mapped and that there are many stone-walled terraces and other features that have not been recorded as yet. Future archaeological investigations will not only focus on more extensive excavations, but also on completing the mapping of the settlement site. Factors such as dense vegetation made the mapping exercise in 2018 difficult as well, and some of the already recorded features need to be "ground-truthed" in 2019 also, with for instance entrances onto terraces and into enclosures properly determined while certain sections of walling also need correcting (angles/exact lines fixed). It is also quite possible that more areas with cultural material scatters and ash middens might have been missed due to vegetation cover.

Based on the August 2018 mapping the following can however be stated:

(a) The site is fairly extensive, with many more stone-walled terraces and other features present than initially believed

(b) Although most of the remaining walling consists of low sections (less than 0.50m in height), there are some sections with fairly well preserved walling

(c) The construction of the stone-walled terraces is typical dry stone, with a double row of large stones in-filled with smaller stones. The natural topography of the hill were

utilized in the construction, with natural rocky ridges used as part of the walling (with gaps between natural rock faces/ridges "completed" with sections of packed stone.

(d) Although the settlement layout/organization can't be determined in detail at this stage it is evident that the hill was utilized fairly extensively on all sides, with terraces on various levels from its foot to close to the hill-top. The terraces could have been used for both residential purposes (huts) as well as for small-scale agricultural purposes (crop growing). The Block 2 excavation on 2017 did uncover the remains of such a hut on Terrace 11. Smaller stone-walled enclosures found on the site could be evidence of the keeping of livestock at some point in time, although this can't be conclusively said at this stage with the archaeozoological analysis of the faunal remains found during the 2017 excavations not yet undertaken. The relatively large number of both upper and lower grinders found scattered all over the site (as shown on the map) is further evidence of agricultural activities (crop growing/production) at the site. Although the terraces could have been used for this purpose, the flat open areas around the hill might have been utilized for this as well.

(e) Based on the preliminary mapping of the site, it can be said that the Mahula Hill settlement would have supported a fairly large number of inhabitants at some point of time. Although difficult to calculate as yet, this could have been a few hundred people.

Finally, it needs to be stated that the archaeological investigations at the Mahula Hill settlement site has to be continued and that the next field season of work will focus on not only more extensive excavations, but also on completing the mapping of the site and its stone-walled terraces and other features. Once this has been completed a more detailed and comprehensive picture of the settlement, its social and material economy, settlement layout and organization can be reconstructed. The role of Mahula in the general & wider geographical landscape during prehistorical and the more recent historical periods will also then be better understood.

REFERENCES

Aerial views of area and site location; Excavation locations and Site map: Google Earth 2018.

African Conservation Trust (ACT): Mahula Hill Iron Age & Rock Art Site Mapping Data, Maps and Photographs

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike** provinsies. Pretoria: J.L. van Schaik.

Huffman, T. 2007. **Handbook to the Iron Age. The archaeology of pre-colonial farming societies in Southern Africa**. University of KwaZulu-Natal Press: Scottsville.

Kuper, A.1982. **Wives for cattle: bride wealth and marriage in southern Africa**. London: Routledge and Kegan Paul.

Maggs,T.M.O'C. 1976. **Iron Age Communities of the Southern Highveld**. Pietermaritzburg: Occasional Publications of the Natal Museum, No. 2.

Mason, R.J. 1986. **Origins of black people of Johannesburg and the southern western central Transvaal AD 350 – 1880**. Johannesburg: Witwatersrand University Press.

Pienaar, U de V (red). 1990. **Neem uit die Verlede.** (Pretoria: Sigma Pers).

Pelser, A.J. 2018. **A Report on the results of a 1st Field Season of Archaeological Excavations at a Late Iron Age Stone-Walled Settlement Site called Mahula Hill, in the Kruger National Park.** Unpublished Report APELSER ARCHAEOLOGICAL CONSULTING cc APAC018/07. For: South African National Parks. April 2018.

Plug, I. 1988. **Hunters & Herders: an archaeozoological study of some prehistoric communities in the Kruger National Park**. Unpublished Doctoral Thesis. Pretoria: University of Pretoria.

Taylor, M.O.V. 1979. **Late Iron Age settlements on the northern edge of the Vredefort Dome**. Unpublished M.A. Dissertation. Johannesburg: University of the Witwatersrand.

Van Schalkwyk, J.A. 2012. **Heritage impact assessment for the Proposed Fort West Phase 1 1 Development, Pretoria Magisterial District, Gauteng Province**. Unpublished Report 2012/JvS/004. For: Seedcracker Environmental Consulting. January 2012.

Skukuza Archive Sources

1. Box A1 (1976 to 1984): Letter from U.de V. Pienaar to B.P. Simmons 1984-08-29.

2. Box A1/2: Plekname in die Nasionale Kruger Wildtuin. Saamgestel deur J.J. Kloppers – Hoofbestuurder: Natuurbewaring Nasionale Kruger Wildtuin. 1992.10.23

3. Box A1 (1976 To 1984): Report on Fieldtrip to the Kruger National Park 5-9 December 1983 (Andre Meyer).

ACKNOWLEDGEMENTS

I would like to acknowledge to following institutions and individuals for their assistance and support:

1. SanParks and the Kruger National Park for approving the Research Proposal and for providing us with the logistical support to undertake the research at the Mahula Hill site

2. The South African Heritage Resources Agency (SAHRA) for providing us with the required Archaeological Excavation Permit

3. Mr. Philip Acton, our Field Ranger, for his interest and for guarding us on site during the fieldwork

4. Me. Vanessa Strydom of KNP for introducing us to the site in the first place and for her interest in our work. Also for arranging our Field Ranger

5. Me. Samantha Mabuza of KNP/SANPARKS for assisting us during our work at the Skukuza Archives

6. The KNP staff at the Skukuza Archives and Stevenson-Hamilton Library for the help and assistance during our archival research during August 2018

7. Me. Anneleen van de Water for her participation in, assistance with and continued interest in and support of the Archaeological Research on Mahula Hill

8. Mr. J.P.Celliers and the Lydenburg Museum for providing us with the permission to store and curate the archaeological material from Mahula Hill at the Museum