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**A REPORT ON THE PHASE 2 ARCHAEOLOGICAL MITIGATION OF  
2 STONE AGE OPEN-AIR SITES TO BE IMPACTED BY THE  
NWAMITWA DAM DEVELOPMENT PROJECT  
ON THE FARMS LA MOTTE 464LT & RIVERSIDE 514LT  
IN THE LETSITELE AREA NEAR TZANEEN IN THE LIMPOPO PROVINCE**

For:

***C&K Environmental Services (Pty) Ltd  
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**REPORT: APAC016/64**

**Project Reference Number: SZ/CE/Mop/EIA/02**

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## SUMMARY

APelser Archaeological Consulting (APAC) was appointed by C&K Environmental Services (Pty) Ltd, as part of the Construction of Nwamitwa Dam & Associated Infrastructure Development Project, to handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the previous heritage impact assessment (HIA) report submitted by Dr.J. van Schalkwyk (See References for Report details). As part of the current work, and prior to the required fieldwork, APELSER was requested to scrutinize the earlier reports and findings to properly identify and describe not only the grave sites that will be impacted, but also the other cultural heritage (archaeological & historical) sites identified and recorded by Van Schalkwyk.

A total of 26 archaeological and historical sites (including 8 grave sites) were identified and recorded by Van Schalkwyk during earlier work for the proposed dam development in the area. Based on the results of the previous Heritage work in the area and the report submitted it was recommended that the proposed development be allowed to continue, taking into consideration a number of recommendations for mitigation measures put forward. This included the exhumation & relocation of the impacted grave sites, and the more detailed archaeological investigation of some of the Iron Age & Stone Age sites identified.

**This report discusses the results of the archaeological mitigation work conducted on a number of Open-Air Stone Age sites located on La Motte 464LT & Riverside 514LT, situated near Tzaneen in the Letsitele area of the Limpopo Province. A permit for the work was applied for and issued by SAHRA (Case ID #9928 Permit ID #2366). The development work in this area can therefore continue taking into consideration the recommendations put forward at the end of the document. The material collected will be curated by the Lydenburg Museum as per permit requirements.**

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## **1. INTRODUCTION**

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This report discusses the results of the archaeological mitigation work conducted on a number of Open-Air Stone Age sites located on La Motte 464LT & Riverside 514LT, situated near Tzaneen in the Letsitele area of the Limpopo Province. The material collected will be curated by the Lydenburg Museum as per permit requirements.

## **2. OBJECTIVES**

- The photographing, mapping, counting and detailed description of all archaeological features within randomly laid out grid squares (blocks) across the sites
- The sampling of representative specimens within the grid squares (blocks) to be accessioned and curated by the Lydenburg Museum
- To create an adequate map of the sites to be provided to SAHRA.
- To mark the position of all excavations and objects collected on a plan of the site.
- To draft and submit a Final Report on the results of the mitigation and analyses for submission to SAHRA, the Lydenburg Museum and the Client

## **3. METHODOLOGY**

### **3.1. *Survey of literature***

A survey of available literature was undertaken in order to place the study area in an archaeological context. The sources utilized in this regard are indicated in the bibliography.

### **3.2. *Documentation***

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality. Detailed photographic documentation is also done

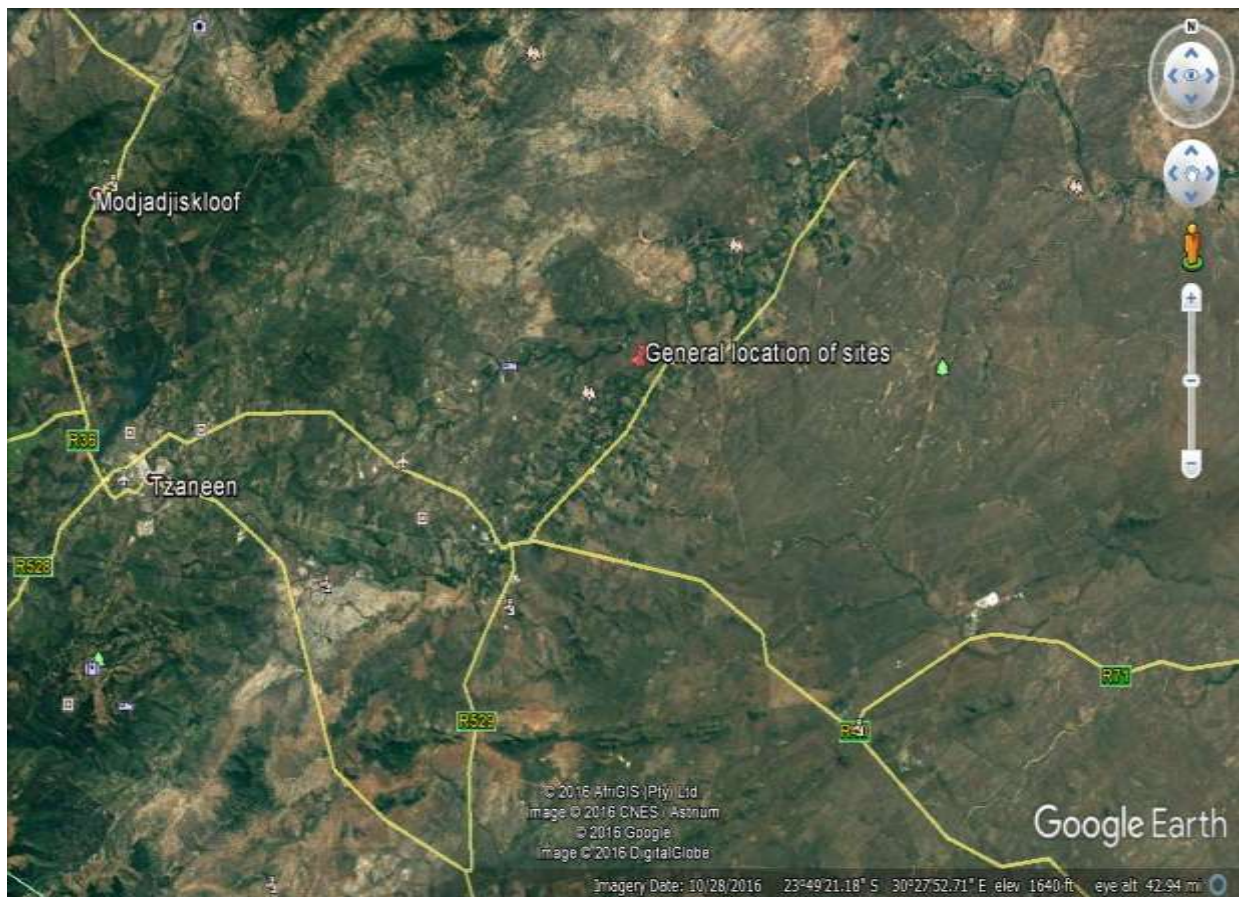
### 3.3. Mapping & Recording

The stone tools (individual and dense scatters) and each grid square/block were mapped and plotted in situ using a handheld GPS. Photographic recording of material in situ was also done. Individual tools were sampled and photographed and bagged for curation at the Lydenburg Museum.

## 4. DESCRIPTION OF THE AREA

The open-air Stone Age sites mitigated as part of the Nwamitwa Dam Project is located on portions of the farms La Motte 464LT & Riverside 514LT, located near Tzaneen in the Letsitele area of the Limpopo Province. The sites are situated in fairly close proximity to the Letaba River and in areas with fairly dense vegetation although sections are open and eroded out. The topography of the area is relatively flat.

**Site 2** is located at **S23.78472 E30.47250** & **Site 4** at **S23.78806 E30.46694**. Both sites were identified and recorded by Van Schalkwyk during previous surveys he did in the area (2009). A third site identified during June 2016 (located in an erosion donga) by Pelsler was also included in the mitigation work conducted during November 2016. This site is located at **S23.77854 E30.48146**.



**Fig.1: General location of Stone Age sites (Google Earth 2016).**





**Fig.2: A closer aerial view of the Stone Age sites that were mitigated (Google Earth 2016).**



**Fig.3: A view of a section of Site 2 in June 2016.**



**Fig.4: A view of the same section in November 2016.  
The effects of the drought are evident.**



**Fig.5: Another section of Site 2.  
A dirt road runs partially through it.**





**Fig.6: A section of Site 2 with denser vegetation.**



**Fig.7: Site 4 is located in an orange grove just across this fence.  
No mitigation work was undertaken on this site.**



**Fig.8: A view of the Donga site.**

## **5. DISCUSSION**

The Stone Age is the period in human history when lithics (or stone) was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is important to note that these dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago  
Middle Stone Age (MSA) less than 300 000 – 20 000 years ago  
Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125). The outline and other information presented here provide a simplified interpretation for the Stone Age sequence. Details may vary from region to region and from site to site. Most of the criteria such as dating, transitional phases, technological phenomena and recursions are currently being researched, so that the information cannot be considered static or final. Contract archaeologists should be able to distinguish at least between the Later, Middle and Earlier Stone Ages, but sometimes finer interpretations might be possible with the criteria provided in the following table (Lombard et.al.: 2012):

Period	Technocomplex or Informal Designation	Broadly associated typo/technological characteristics
<p><b>Later Stone Age</b>            &lt; 40 ka            General characteristics: expect variability between assemblages, a wide range of formal tools, particularly scrapers (microlithic and macrolithic), backed artefacts, evidence of hafted stone and bone tools, borers, bored stones, upper and lower grindstones, grooved stones, ostrich eggshell (OES) beads and other ornaments, undecorated/decorated OES flasks/flask fragments, bone tools (sometimes with decoration), fishing equipment, rock art, and ceramics in the final phase</p>	<p><i>ceramic final Later Stone Age</i>            ~ 100 years to &lt; 2 ka</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Includes grit- or grass-tempered pottery</li> <li><input type="checkbox"/> Ceramics can be coarse, or well-fired and thin-walled; sometimes with lugs, spouts and conical bases; sometimes with decoration; sometimes shaped as bowls</li> <li><input type="checkbox"/> Stone tool assemblages are often microlithic</li> <li><input type="checkbox"/> In some areas they are dominated by long end scrapers and few backed microliths; in others formal tools are absent or rare</li> <li><input type="checkbox"/> Grindstones are common, ground stone artefacts, stone bowls and boat-shaped grinding grooves may occur</li> <li><input type="checkbox"/> Ochre is common</li> <li><input type="checkbox"/> OES is common</li> <li><input type="checkbox"/> Metal objects, glass beads and glass artefacts also occur</li> </ul>
<p><i>final Later Stone Age</i>            ~ 0.1 to 4 ka</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Much variability can be expected</li> <li><input type="checkbox"/> Variants include macrolithic and/or microlithic assemblages</li> <li><input type="checkbox"/> Assemblages are mostly informal</li> <li><input type="checkbox"/> Often characterized by large untrimmed flakes</li> <li><input type="checkbox"/> Sometimes microlithic with scrapers, blades and bladelets, backed tools and adzes</li> <li><input type="checkbox"/> Worked bone is common</li> <li><input type="checkbox"/> OES is common</li> <li><input type="checkbox"/> Ochre is common</li> <li><input type="checkbox"/> Iron objects are rare</li> <li><input type="checkbox"/> Ceramics are absent</li> </ul>	
<p><b>Wilton</b>            ~ 4 to 8 ka</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Fully developed microlithic tradition with numerous formal tools</li> <li><input type="checkbox"/> Highly standardized backed microliths and small convex scrapers OES is common</li> <li><input type="checkbox"/> Ochre is common</li> <li><input type="checkbox"/> Bone, shell and wooden artefacts occur</li> </ul>	
<p><b>Oakhurst</b>            ~ 7 to 12 ka</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Flake-based industry</li> <li><input type="checkbox"/> Characterised by round, end, and D-shaped scrapers and adzes</li> <li><input type="checkbox"/> Wide range of polished bone tools</li> <li><input type="checkbox"/> Few or no microliths</li> </ul>	
<p><b>Robberg</b>            ~ 12 to 18 ka</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Characterized by systematic bladelet (&lt; 26mm)</li> </ul>	

production and the occurrence of *ouils écaillés* or scaled pieces (for definition of *ouils écaillés* see Hayden 1980)

- Significant numbers of unretouched bladelets and bladelet cores
- Few formal tools
- Some sites have significant macrolithic element

### ***early Later Stone Age***

~ 18 to 40 ka

- Characterized by unstandardized, often microlithic, pieces and includes the bipolar technique
- Described at some sites, but not always clear whether assemblages represent a real archaeological phase or a mixture of LSA/MSA artefacts

### **Middle Stone Age**

> 20 to < 300 ka

General characteristics: Levallois or prepared core techniques occur in which triangular flakes with convergent dorsal scars, often with faceted striking platforms, are produced. Discoidal systems and intentional blade production from volumetric cores also occur; formal tools may include unifacially and bifacially retouched points, backed artefacts, scrapers, and denticulates; evidence of hafted tools; occasionally includes marine shell beads, bone points, engraved ochre nodules, engraved OES fragments, and grindstones

### ***final Middle Stone Age***

~ 20 to 40 ka

Characterized by high regional variability that may include, e.g., bifacial tools, bifacially retouched points, hollow-based points

Triangular flake and blade industries (similar to Strathalan and Melikane)

Small bifacial and unifacial points (similar to Sibudu and Rose Cottage Cave)

Sibudu point characteristics: short, stout, lighter in mass compared to points from the Sibudu technocomplex, but heavier than those from the Still Bay

Can be microlithic

Can include bipolar technology

Could include backed geometric shapes such as segments, as well as side scrapers

### ***Sibudu***

~ 45 to 58 ka

Most points are produced using Levallois technique

Most formal retouch aimed at producing unifacial points

Sibudu point (type fossil) characteristics: faceted platform; shape is somewhat elongated with a mean length of 43.9 mm, a mean breadth of 26.8 mm and mean thickness of 8.8 mm (L/B ratio 1.7); their mean mass is 11.8 g (Mohapi submitted)

Some plain butts

Rare bifacially retouched points

Some side scrapers are present

Backed pieces are rare

### ***Howieson's Poort***

~ 58 to 66 ka

Characterized by blade technology

Includes small (< 4 cm) backed tools, e.g., segments, scrapers, trapezes and backed blades

Some denticulated blades

Pointed forms are rare or absent

**Still Bay**

~ 70 to 77 ka

- Characterized by thin (< 10 mm), bifacially worked foliate or lanceolate points with either a semi-circular or wide-angled pointed butt
- Could include blades and finely serrated points

**pre-Still Bay**

~ 72 to 96 ka

- Characteristics currently being determined / studied

**Mossel Bay**

~ 77 to 105 ka

- Characterised by recurrent unipolar Levallois point and blade reduction
- Products have straight profiles; percussion bulbs are prominent and often splintered or ring-cracked
- Formal retouch is infrequent and restricted to sharpening the tip or shaping the butt

**Klasies River**

~ 105 to 130 ka

- Recurrent blade and convergent flake production
- End products are elongated and relatively thin, often with curved profiles
- Platforms are often small with diffused bulbs
- Low frequencies of retouch
- Denticulated pieces

**early Middle Stone Age**

~ 130 to 300 ka

- This phase needs future clarification regarding the designation of cultural material and sequencing
- Includes discoidal and Levallois flake technologies, blades from volumetric cores and a generalized toolkit

**Earlier Stone Age**

> 200 ka

Early stages include simple flakes struck from cobbles, core and pebble tools; later stages include intentionally shaped handaxes, cleavers and picks; final or transitional stages have tools that are smaller than the preceding stages and include large blades

**ESA-MSA transition**

> 200 to 600 ka

- Described at some sites as Fauresmith or Sangoan
- Relationships, descriptions, issues of mixing and ages yet to be clarified
- Fauresmith assemblages have large blades, points, Levallois technology, and the remaining ESA components have small bifaces
- The Sangoan contains small bifaces (< 100 mm), picks, heavy- and light-duty denticulated and notched scrapers
- The Sangoan is less well described than the Fauresmith and seems to be broadly contemporaneous

**Acheulean**

~ 300 ka to 1.5 Ma

- Bifacially worked handaxes and cleavers, large flakes > 10 cm
- Some flakes with deliberate retouch, sometimes classified as scrapers
- Gives impression of being deliberately shaped, but could indicate result of knapping strategy
- Sometimes shows core preparation
- Generally found in disturbed open-air locations



### **Oldowan**

~ 1.5 to 2 Ma

- Cobble, core or flake tools with little retouch and no flaking to predetermined patterns
- Hammerstones, manuports, cores
- Polished bone fragments/tools

Human occupation of the larger geographical region took place since Early Stone Age times. Tools dating to this period are mostly, although not exclusively, found in the vicinity of watercourses. The oldest of these tools are known as choppers, crudely produced from large pebbles found in the river. Later, Homo erectus and early Homo sapiens people made tools shaped on both sides, called bifaces. Biface technology is known as the Acheulean tradition, from St Acheul in France, where bifaces were first identified in the mid-19th century. Biface technology is found over a large area of Africa, some parts of India, Arabia and the Near East, as well as parts of Western Europe. This is one of the longest-lasting technologies the world has known, spanning a period of more than 1.5 million years (Van Schalkwyk 2013: 12).

During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. According to Thackeray (1992) the MSA is a period that still remains somewhat murky, as much of the MSA lies beyond the limits of conventional radiocarbon dating. However, the concept of the MSA remains useful as a means of identifying a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology (Van Schalkwyk 2013: 12).

Open sites were still preferred near watercourses. These people were adept at exploiting the huge herds of animals that passed through the area, on their seasonal migration. As a result, tools belonging to this period also mostly occur in the open or in erosion dongas. Similar to the ESA material, artefacts from these surface collections are viewed not to be in a primary context and have little or no significance. Occupation of the region seems to have declined during the Later Stone Age, as very few sites dating to this period are known from the region (Van Schalkwyk 2013: 12).

That Stone Age people occupied the Letaba River valley and the area of the proposed dam is clear from the occurrence of stone tools dating to the Early, Middle and Late Stone Age. However, all the finds were classified as isolated surface occurrences. Consequently, such finds are judged to have a low significance and they require no mitigation measures. A case in point is the large number of bored stones, dating to the Later Stone Age that was ploughed out near the Letaba River on the farm Riverside of Mr. J. Barnard. Unfortunately, no primary (stratified/sealed) sites are known to exist in the survey area. The closest stratified site, known as Bushman Rock Shelter, is located at Echo Caves north of Ohrigstad. Here, early humans lived, discontinuously, for thousands of years, from the Early Stone Age, through what is known as the Middle Stone Age, and well into the Later Stone Age (Van Schalkwyk 2009: 51).

### ***Results of the Phase 2 Mitigation Work***

Site 4, located within the orange groves was not investigated, as there is a possibility that the site might not be impacted at the end by the planned dam development. Also, as Site 2 and the Donga Site can be seen as representative of the Stone Age heritage of the area, it was

deemed unnecessary. If the area does get flooded by the dam the material will in any case be preserved in situ.

## Site 2

The mitigation on the site was done by the measuring out of 3 random blocks across the site (of varying sizes) and then marking, recording, counting and collecting a representative sample of Stone Age material (tools) from each block for eventual curation in the Lydenburg Museum. From a superficial observation of the material visible across the site it seems as if material dating to all three general periods of the Stone Age (i.e Early, Middle and Later) is present. The cultural material is located in eroded out areas in between river gravels and low rocky (granite) outcrops.

Each block was recorded with a hand-held GPS device, with each stone tool in the block then marked and recorded in position with GPS as well. Each block was also photographed prior to material being marked, recorded and counted, while the sampled material was then also photographed on-site as well before packaging.



**Fig.9: Aerial view of Site 2 showing the approximate extent of the site (area where Stone Age material were visible). BP1 = was a non-permanent Base Point established for the mitigation work, while B1 – B3 is the blocks where recording & sampling was done (Google Earth 2016).**

## Block 1

Block 1 was a 5m x 5m square on an open, eroded area, partially cut by the dirt road that runs through the site. A total of 50 visible Stone Age objects were recovered from Block 1. It is possible that more could still be covered by overlying rocks and soil, but no excavations were undertaken as part of the mitigation work. This gives a density of approximately 2 objects per square meter.

The Stone Age material identified from Block 1 consists mostly of cores, waste-flakes and flake tools, with very little formal tools found, except 1 point, some flake tools and scrapers. As the material were relatively heavily rolled and patinated evidence of edge-wear is difficult to detect. The fact that a section of the block and exposed material is cut through by a dirt road used from time to time by vehicles and cattle also impacted on the material, and it is possible that some “tools” could also be the “result” of these activities.

The stone tools can be tentatively dated to between the Middle and Later Stone Ages, although there is a possibility of some Early Stone Age material in the form of river pebbles with edges removed/flaked typical of the so-called Oldowan and/or Acheul phases of the Stone Age. Most of the tools were on quartzite-type material. A total of **31** objects were sampled for curation at the Lydenburg Museum. It needs to be stated here that expert analysis of the material has not been undertaken on the objects from the Stone Age sites mitigated here.



**Fig.10: View of Block 1 prior to stone tools being marked & recorded.**





**Fig.11: Block 1 with stone tools marked and recorded with green ribboned pegs.**



**Fig.10: Stone tool distribution map Block 1 Site 2. Each red dots represents either a single stone tool/object or a cluster of more than 1 object (Google Earth 2016).**



**Fig.11: The stone tools sampled from Block 1.**



**Fig.12: Possible LSA flakes and scrapers from Block 1.**





**Fig.13: Some of the MSA flakes and tools from Block 1.**



**Fig.14: The possible ESA (Oldowan/Acheul) tools from Block 1.**

## Block 2

This was a 2m x 2m square, measured out in a section of the site that has not been disturbed by any soil or water erosion, located in a fairly rocky area. A total of 35 stone tools were recorded in this block, with very few if any formal tools except a few possible scrapers and flake-tools present. The tools are mostly representative of the MSA, with no LSA material evident. Again, as with Block 1, there are a few possible Oldowan/Acheul ESA pebble tools. The tools are mainly on the coarse-grained quartzite that are found in the area, and seems to have been heavily rolled over time (waterflow?).

The stone tool density for the block calculates to around 8.75 tools per square meter. Twenty-six (26) of the tools were sampled for curation at the Lydenburg Museum.



**Fig.15: Block 2 Site 2 before the recording and marking of the stone tools.**



**Fig.16: Block 2 showing the marked and recorded stone tools.**



**Fig.17: Block 2 Stone tool distribution map (Google Earth 2016).**



**Fig.18: The stone tools from Block 2.**



**Fig.19: Some of the MSA flake-tools & scrapers from Block 2.**





**Fig.20: One of the possible Oldowan/Acheul pebble tools from Block 2.**

### **Block 3**

Block 3 was another 2m x 2m square in an area similar to that of Block 2. A total of 22 stone tools were recorded in the block, providing a stone tool density of approximately 5.5 per square meter in this area. Once again very little formal tools were represented, except for a possible broken point and a backed blade. Most of the material is flakes and flake-tools, including possible scrapers. A broken hammer stone was also found here, while some pebble tools could date to the ESA (Oldowan/Acheul). MSA-type material dominated however, and no LSA tools were identified. The objects are again very worn due to possible rolling (water & other natural agents) over time.





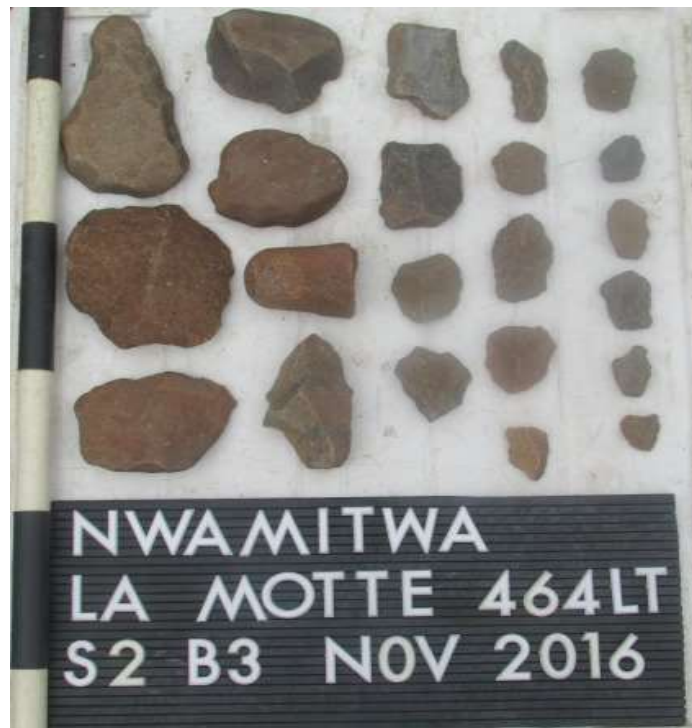
**Fig.21: Block 3 before marking and recording of stone tools.**



**Fig.22: Block 3 with the stone tools marked.**



**Fig.23: Block 3 stone tool distribution map (Google Earth 2016).**



**Fig.24: The Stone Age material from Block 3.**



**Fig.25: Scrapers, blade and possible broken point from Block 3.**



**Fig.26: A core from Block 3.**



**Fig.27: The hammer stone from Block 3.**



**Fig.28: Possible ESA pebble tool.**

### **Donga Site**

This site was identified in June 2016 and contained a fairly large number of stone tools scattered around the edge of and inside the donga. A number of tools were also identified “in situ” in the walls of the donga. It was decided to also collect tools from this site as part of the representative sample for the Stone Age of the area. No in situ material was removed. A total of 21 objects were sampled. As with the other sites there were hardly any formal tools found, with cores, flakes and a possible hammer stone collected. Most of the tools belong to the MSA, with no LSA material recovered. A number of possible ESA pebble tools were also found.





**Fig.29: A view of the Donga Site.**

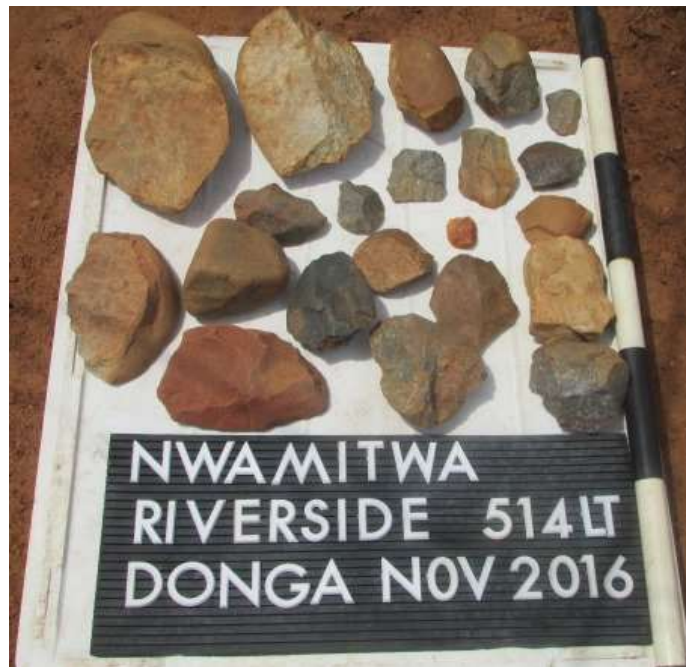


**Fig.30: A closer view of the erosion donga site.**





**Fig.31: Photograph showing stone tools still embedded in the donga wall.**



**Fig.32: The stone tools from the Donga Site.**

Finally, it can be said that the mitigation work on the Stone Age sites on La Motte 464LT & Riverside 514LT, near Tzaneen, was conducted successfully. Site 4, located in an orange grove, was not investigated, with Site 2 & the Donga Site deemed representative of the Stone Age in the area. Three (3) blocks on Site 2 was measured out and the visible stone tools in them marked, recorded and counted to determine stone tool density for each block. A total of 98 tools, dating mostly to the MSA and some possibly to the ESA (Oldowan/Acheul) were found. Very little LSA material was identified. The stone tool density (on average) for Site 2 calculated to approximately 3 per square meter. The density of material across the site is difficult to fix without any amount of doubt, as more tools could be present in certain and less

in other areas. Using this to determine the significance of the site is therefore problematic. It is possible to conclude that Stone Age presence and activity in the area stretches back to as much as 200 000 years ago, although it could be even more. The hunter-gatherers in the area would have had ample raw material at their disposal locally for manufacturing of stone tools, while the close location of rivers such as the Letaba would have provided them with not only drinking water but also with the animals that they hunted. Hammer stones, cores and flakes (and the general absence of formal tools from the sites) seems to indicate that the tools were produced and used on-site and that formal tools might have been removed with them as they moved seasonally across the landscape. This is however, all hypothetical.

We believe that the mitigation measures employed was sufficient enough to minimize the potential impacts of the development on the sites. A representative sample of Stone Age material was identified and collected for curation in the Lydenburg Museum. Also, should the inundation of the area by the proposed new Nwamitwa Dam commence, the sites and Stone Age material located here will be preserved in situ.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

APelser Archaeological Consulting (APAC) was appointed by C&K Environmental Services (Pty) Ltd, as part of the Construction of Nwamitwa Dam & Associated Infrastructure Development Project, to handle all matters pertaining to exhumation and relocation of graves, permits to relocate graves and implement recommendations of the previous heritage impact assessment (HIA) report submitted by Dr.J. van Schalkwyk. As part of the current work, and prior to the required fieldwork, APELSEER was requested to scrutinize the earlier reports and findings to properly identify and describe not only the grave sites that will be impacted, but also the other cultural heritage (archaeological & historical) sites identified and recorded by Van Schalkwyk.

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- The photographing, mapping, counting and detailed description of all archaeological features within randomly laid out grid squares (blocks) across the sites
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- To mark the position of all excavations and objects collected on a plan of the site.
- To draft and submit a Final Report on the results of the mitigation and analyses for submission to SAHRA, the Lydenburg Museum and the Client

To conclude it can be said that the mitigation work on the Stone Age sites on La Motte 464LT & Riverside 514LT, near Tzaneen, was conducted successfully. Site 4, located in an orange grove, was not investigated, with Site 2 & the Donga Site deemed representative of the Stone Age in the area. Three (3) blocks on Site 2 was measured out and the visible stone tools in them marked, recorded and counted to determine stone tool density for each block. A total of 98 tools, dating mostly to the MSA and some possibly to the ESA (Oldowan/Acheul) were found. Very little LSA material was identified. The stone tool density (on average) for Site 2 calculated to approximately 3 per square meter. The density of material across the site is difficult to fix without any amount of doubt, as more tools could be present in certain and less in other areas. Using this to determine the significance of the site is therefore problematic.

It is possible to conclude that Stone Age presence and activity in the area stretches back to as much as 200 000 years ago, although it could be even more. The hunter-gatherers in the area would have had ample raw material at their disposal locally for manufacturing of stone tools, while the close location of rivers such as the Letaba would have provided them with not only drinking water but also with the animals that they hunted. Hammer stones, cores and flakes (and the general absence of formal tools from the sites) seems to indicate that the tools were produced and used on-site and that formal tools might have been removed with them as they moved seasonally across the landscape. This is however, all hypothetical.

We believe that the mitigation measures employed was sufficient enough to minimize the potential impacts of the development on the sites. A representative sample of Stone Age material was identified and collected for curation in the Lydenburg Museum. Also, should the inundation of the area by the proposed new Nwamitwa Dam commence, the sites and Stone Age material located here will be preserved in situ.

**Development work related to and on the Nwamitwa Dam Project in the area can therefore continue.**

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