

**The Archaeological Surveys and Excavations of the
Zulti North Mining Lease**

For Richards Bay Minerals

2016 Annual Report

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**Umlando: Archaeological Tourism and Resource
Management**

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Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

INTRODUCTION

Umlando is contracted by Richards Bay Minerals (Pty) Ltd to undertake archaeological surveys and excavations in the Zulti North mining lease. The mining lease is located north of Richards Bay, KwaZulu-Natal and occurs along the eastern seaboard. (Fig.'s 1 - 2).The program consists of bi-monthly surveys, while excavations occur when needed. The archaeological program has been in progress at RBM Zulti North for since 1995.

A total of 8 new sites were recorded in 2016, while several sites were continuously monitored and sampled, and one site was excavated. It appears that MPE still continues towards archaeologically sensitive areas and MPC remains in an area that has been partially mined by dry mining. MPD and MPA did not progress far in terms of distance in 2016.

There have been at total of 447 archaeological sites recorded in the Zulti North mining lease since 1995. This number excludes large sites that have been subdivided. Most of these sites date to the Late Iron Age and Historical Period, while a few date to the Early Iron Age. Three San hunter-gatherer sites have been recorded and/or excavated. These sites are rare in the dune system as they tend to be ephemeral or assumed to be Iron Age sites.

The excavation results have yielded an increase in general sample size of faunal remains, shellfish species data, such as mean sizes and density. These have relevance to contemporary research. The excavation also continued to yield results that are different to previously excavated sites. The importance in the excavations is that there is a very tight sequence over the last 1700 years in the dune system. That is, the sites will eventually give a near continual coverage of the last 1700 years in the dunes. It is rare to cover a long continual period in a well defined area.

FIG. 1: LOCATION OF THE ZULTI NORTH MINING LEASE

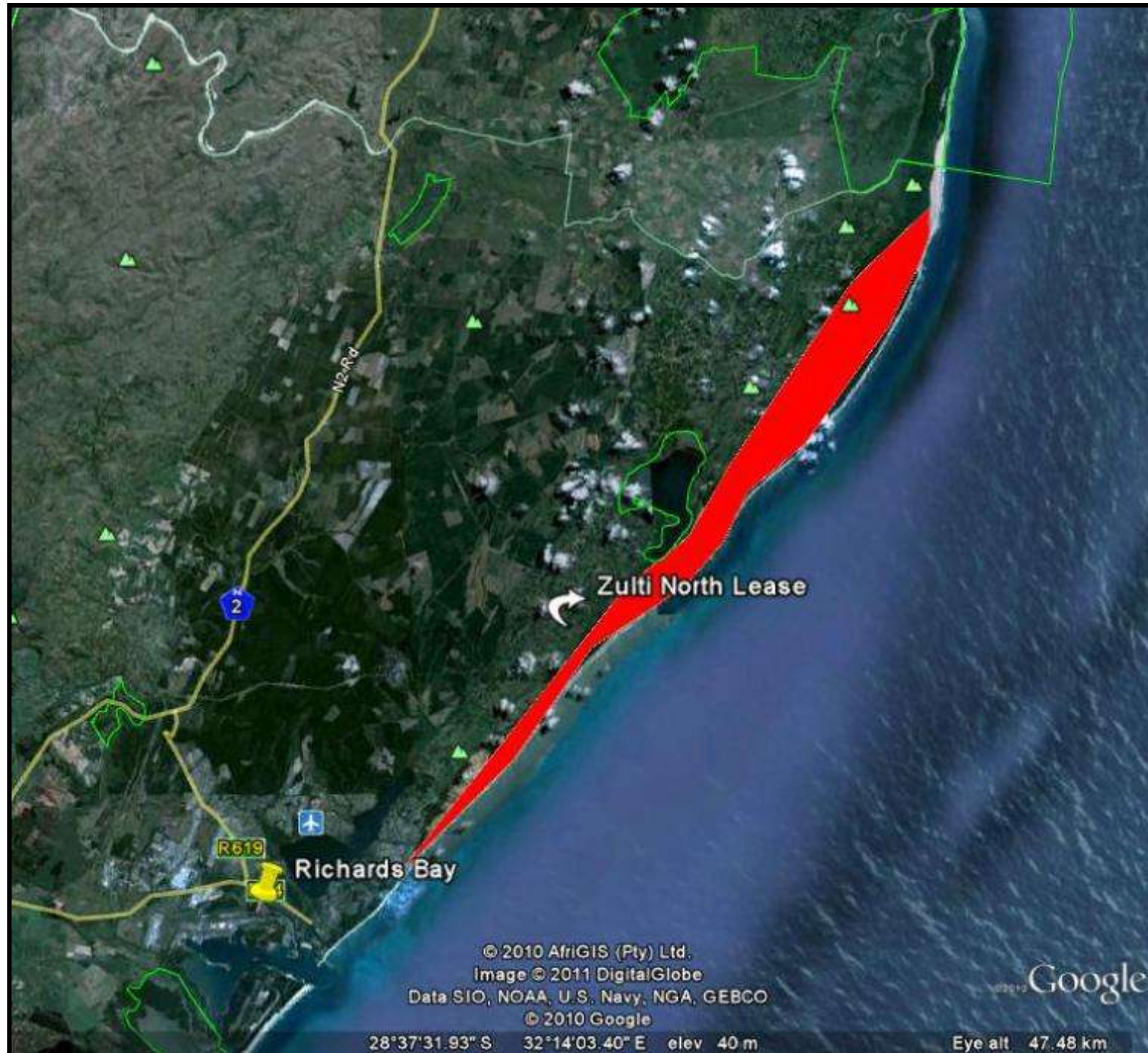
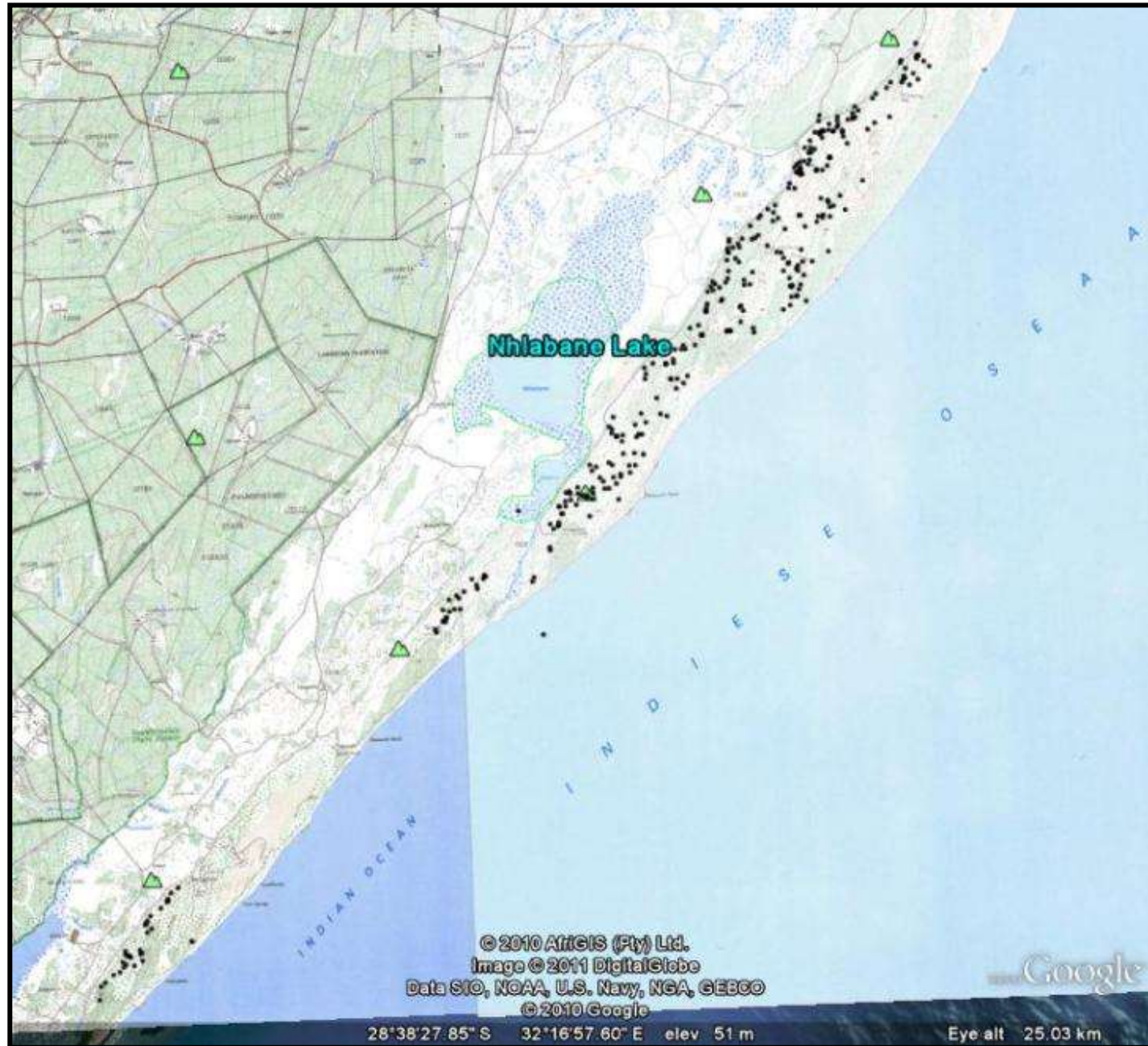


FIG. 2: LOCATION OF RECORDED ARCHAEOLOGICAL SITES IN THE MINING LEASE



METHOD

All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts, especially pottery. Sites of medium significance have diagnostic artefacts and these are sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features. We attempt to recover as many artefacts from these sites by means of systematic sampling, as opposed to sampling diagnostic artefacts only.

Defining significance

Archaeological sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. State of preservation of:

- 1.1. Organic remains:
 - 1.1.1. Faunal
 - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
 - 1.5.1. Ash Features
 - 1.5.2. Graves
 - 1.5.3. Middens
 - 1.5.4. Cattle byres
 - 1.5.5. Bedding and ash complexes

2. Spatial arrangements:

- 2.1. Internal housing arrangements

2.2. Intra-site settlement patterns

2.3. Inter-site settlement patterns

3. Features of the site:

3.1. Are there any unusual, unique or rare artefacts or images at the site?

3.2. Is it a type site?

3.2.1. Does the site have a very good example of a specific time period, feature, or artefact?

4. Research:

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

5. Inter- and intra-site variability

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

6. Archaeological Experience:

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

7. Educational:

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

The more a site can fulfil the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. These test-pit excavations may require further excavations if the site is of significance. Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

RESULTS

SURVEYS

Often sites are covered by vegetation during a survey and thus their extents are estimated. We continue to monitor the site until it is mined and update the records accordingly. Some sites are not photographed as the dense vegetation does not allow for any representation. All diagnostic pottery, unique finds, well preserved faunal remains, and occasionally shell, is sampled from each site regardless of its significance. The sampling strategy allows for most sites to be represented since dune mining will destroy the entire site. It is also for this reason that sites with intact middens and/or deposit are targeted for excavations, since few of these remain intact after bush clearance.

Most sites are photographed, except those that have been widely dispersed and the general shape of the hill has been changed.

MINING POND A

No new sites recorded.

MINING POND C

No new sites recorded.

MINING POND D

MPD 104

MPD 104 is located on the second dune cordon from the ocean. It consists of an exposed and scattered *P. perna* midden and an undecorated shoulder rim potsherd on the surface.

The site is of low significance and no further mitigation is required. The site will be monitored.

MINING POND E

MPE 167

MPE 167 is located at the top of the first dune cordon from the ocean. It consists of an extensive surface scatter of artefacts, approximately 30m x 40m in side (fig. 3).

The artefacts include:

- upper grinding stones
- lower grinding stones on white beach sandstone (fig. 4)
- Shell : oysters, brown mussels, 3 x limpet species
- thin-walled pottery with a brown burnish
- Historical glass fragments (no mould seam) and thus predating late 19th century, and
- Coral.

The site is of medium significance and was sampled. The site will be monitored.

FIG. 3: MPE 167



FIG. 4: MPE 167, LOWER GRINDING STONE WITH SHELL RESIDUE



MPE 168

MPE 168 is located on a single, small dune on the first dune cordon from the ocean. It consists of a single, dispersed shell midden of *P. perna*, oyster and limpets. Both upper grinding stones and a broken lower grinding stone (white beach sandstone) were noted. No bone or pottery was visible.

The site is of low significance and will be monitored for as long as it remains possible.

FIG. 5: MPE 168



MPE 169

MPE 169 is located near the base of the last dune cordon before the red dunes. The area is relatively flat. The site currently consists of a single *P. perna* midden and a surface scatter of undecorated pottery. It extends into the adjacent forest.

The site is of currently of low significance and no further mitigation is required. The site will be monitored. The site, and the general area, appears to have archaeological potential as it is in a similar area as MPE159.

FIG. 6: MPE 169



MPE 170

MPE 170 is located at the top of a single, small dune within the third dune cordon from the ocean. It consists of a several, dispersed shell middens of *P. perna*, oyster and limpets and a surface scatter of undecorated pottery and bovid bone.

The site was monitored and revisited on several occasions. By the end of December, several middens had been exposed, as well as a substantial amount of pottery, grinding stones and faunal remains. This changes the sites significance.

The site is of high significance and will be monitored and excavated in 2017.

FIG. 7: MPE 170 FROM THE BOTTOM (EAST) LOOKING UP



FIG. 8: MPE 170 FROM THE SOUTHEAST



MPE 171

MPE 171 is located on the first dune cordon from the ocean. It consists of:

- a surface scatter of EIA and LIA pottery
- two near whole pots
- two broken lower grinding stones
- surface shell, and
- quartzite flakes.

The site is of low significance and no further mitigation is required. The site will be monitored.

MPE 172

MPE 172 is located at the top of a single dune within the first dune cordon from the ocean. It consists of at least two, dispersed shell middens of *P. perna*, oyster and limpets and a surface scatter of undecorated pottery and bovid bone.

The site is of low-medium significance and will be monitored for as long as it remains possible.

FIG. 9: MPE 172



RED DUNES

The Red Dunes occurs on the hinterland side of the main dune system. It is named as such due to the reddish colour of the sand, something noted on the 1942 1:50 000 topographical maps. We have kept the name for historical prosperity.

RD 031

RD 031 is located in the Red Dune system, directly next to the P232 district road to Maphelane. It consists of marine shell on the surface, along with bovid bone, pottery and vintage Dutch stoneware.

The Dutch stoneware is the fragmented remains of a cake plate with a geometric flower motif. The maker's mark at the base identifies it as a piece made in Maastricht, Holland by P. Regout. Petrus Regout manufactured stoneware under the Sphinx logo from 1836- 1899 (www.forummestreechonline.nl).

The site is of low-medium significance and will be monitored.

FIG. 10: RD 031



FIG. 11: PETRUS REGOUT STONEWARE



FIG. 12: MAKER'S MARK, PETRUS REGOUT STONEWARE



AMS

AMS refers to the Dry Mining activity areas. These occur in different areas of the dune system during the year.

No new sites recorded as the dry mining is currently excavating layers to deep for heritage remains.

EXCAVATIONS

We normally excavate in the mornings, and then undertake sorting and data basing in the afternoon. This is especially important in summer months when the heat and humidity can impact on company health and safety policies.

This is a brief summary of the excavated finds and is not meant to be a full analysis, as that is beyond the scope of work of this project.

MPE159

MPE 159 is located at the base of the last dune cordon from the ocean. The site appears to be a complete settlement where two shell middens and possible house floors have been excavated. The middens consist of a lower one that was excavated in November 2014 (MPE 159), and another that was partially exposed by bush clearance and excavated in November 2015 (MPE 159b). The middens are ~20m apart. There are two human bone fragments in the vicinity of the lower midden which makes the site of high significance. The middens are very well preserved, and the 2014 and 2015 excavations yielded a lot of material. Two middens were noted in the road cutting and these became the 2015 excavations, which then continued in 2016. The site was cleared by bush clearance 1 month before excavations, and an upper 1m – 2m of sand removed.

Initial excavations started in September 2016 and continued intermittently throughout October, November and December. The October/ November excavations were slightly hampered by a Malachite Kingfisher that had made a nesting burrow in

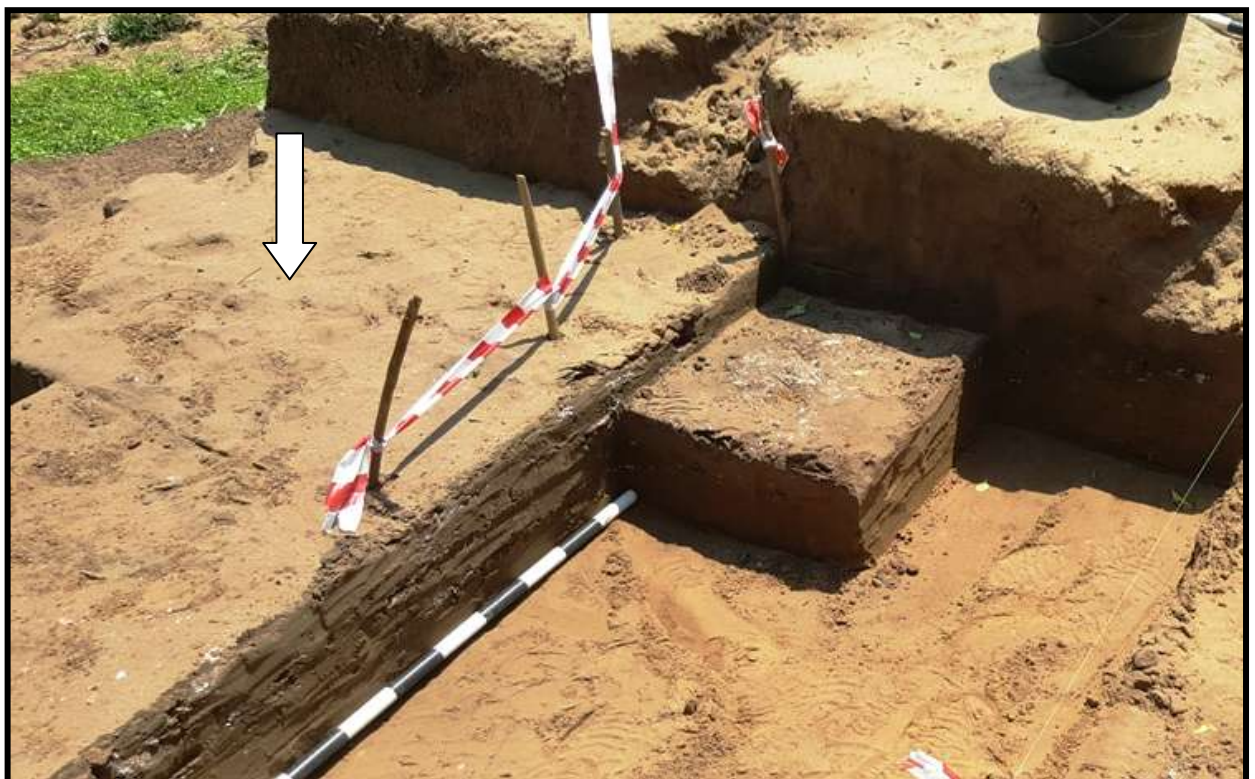
our sections (fig. 13). We researched their nesting habits so as not to disturb the process. Most burrows consist of a tunnel inclining upwards into the sandbank towards a 9cm wide nest cavity, approximately 0.25m-1.2m from the entrance (Hockey *et al* 2005). To be on the safe side we demarcated a 1.5m area around the tunnel entrance. This area was not excavated to provide them with enough time to hatch and raise chicks (fig. 14).

The two excavated sites show the difference between two households probably of the same period, and of the same family.

FIG. 13: MALACHITE KINGFISHER & BURROW ENTRANCE



FIG. 14: DEMARCATED MALACHITE NESTING BURROW AREA



Excavations & Stratigraphy:

The site was divided into 17 2m x 2m squares along a 34m baseline, with the squares to the East of the baseline forming the A-line and the squares to the West of the baseline forming the B-line (fig. 15 – 16). The A C-line was also included for the shell middens in the road cutting. The squares were excavated from the outer edges first, working our way towards the obvious shell middens located roughly in the centre. The middens were exposed by removing the overburden (fig. 17). The shell middens were excavated stratigraphically; while the areas around it were excavated in 10cm spits (fig.'s 17 - 20). The second midden appears to be separate from the main midden; however this could have been a result of root and/or bulldozer activities. They were excavated separately, but combined in the analysis.

Rows A and B were excavated in 2m x 2m squares with 1m x 1m quadrants. Squares A9 – A17 were excavated. The C row or shell middens, were excavated in 1m x 1m squares and 50cm x 50cm quadrants

During the 2016 excavations 4 middens were removed, some partially to be excavated further during the 2017 excavations. The soil above the middens had mostly been removed by bush clearance activity. The middens were located in Squares B14, B13 and C14. The middens did extend slightly into the western squares; however they had mostly petered out and were not worthwhile excavating. .The middens were compacted and fragmentary on the edges. This is a partially a result of the bush clearance and the basin shape of the midden: a few animal burrows also occurred in the midden.

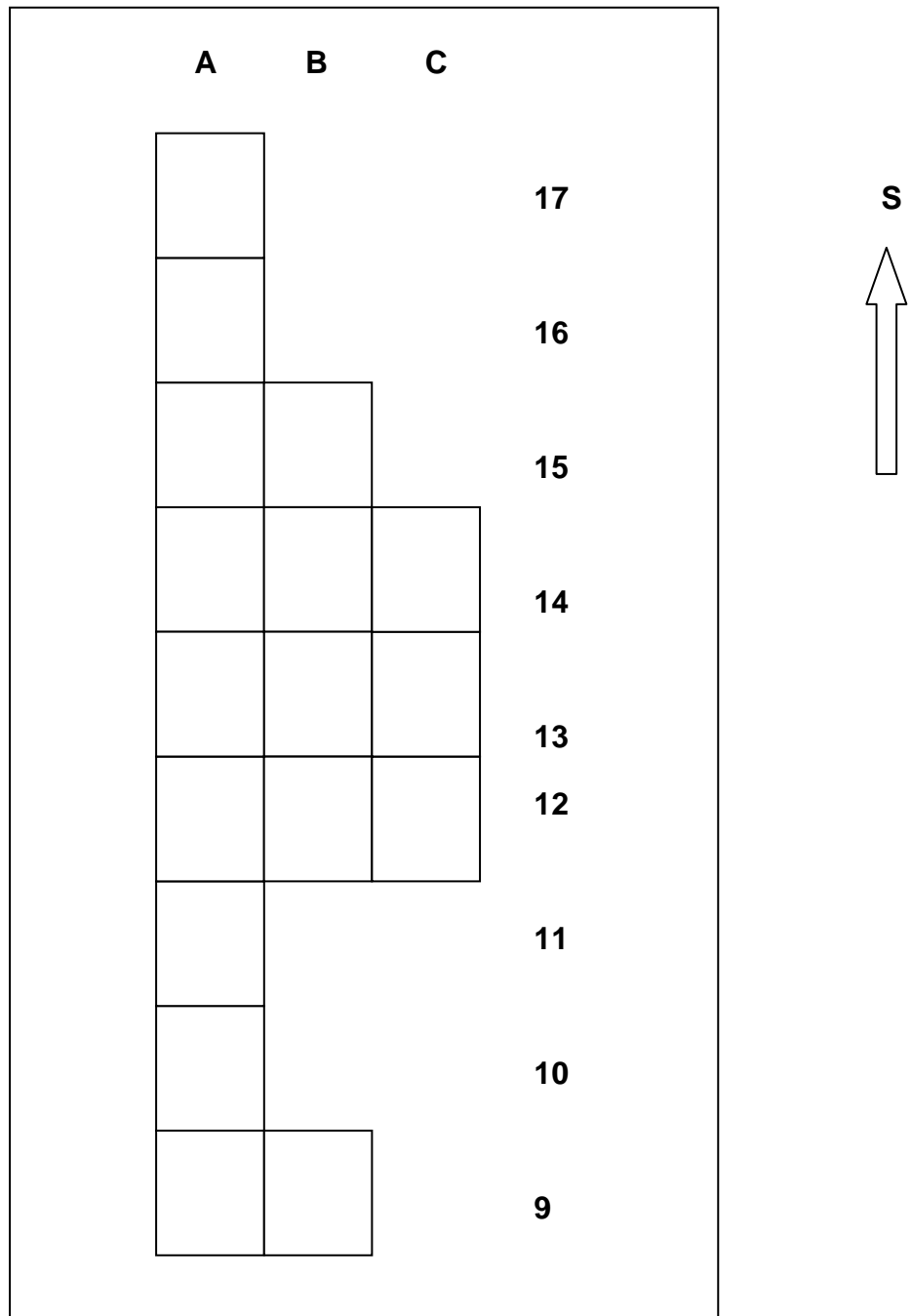
Originally Lens 1 was thought to be the same as Lens 2. They are in fact different lenses. Lens 1 lies below Lens 2 and is a dense shell layer, 15cm thick in the centre where it forms a basin shape. Lens 1 slopes slightly towards the west. Lens 2 lies on top of Lens 1. It slopes radically towards the west and gets thicker towards the north and east. This is the area of the Malachite Kingfisher burrow, so it will only be excavated in 2017. Lens 3 and Lens 1A appeared in the squares to the north of Lens 1 and Lens 2. Lens 1A is at the same level as Lens 1 and may be part of the same midden, but that will be determined during the 2017 excavation. Lens 3 occurs much deeper than the other middens and if the current depth and angle continues in 2017, Lens 3 could possibly lie beneath Lens 1, making it the oldest

lens of the site. The squares to the south of the middens were excavated to 50 – 90cm below the surface. The western row (Line C) was significantly deeper than the two rows (Lines A and B) to the east, possibly because of the westward slope of the dune.

FIG. 15: GENERAL VIEW OF THE 2016 EXCAVATION AREA



FIG. 16: MPE 159 SITE MAP



To MPE 159

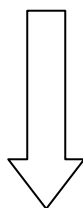


FIG. 17: EXPOSING LENS 2



FIG. 18: WEST SECTION SHOWING LENS 2, LENS 1, LENS 3 AND LENS 1A



FIG. 19: WEST SECTION SHOWING LENS 2 AND LENS 1



FIG. 20: PARTIAL WEST SECTION



Results:

Fig. 21 (and Table 1) shows the total artefacts and ecofacts as a percentage of total weight. These are also compared with MPE159b excavations. The middens at MPE159 are substantially larger than the midden at MPE159b, and thus some of the results are slightly skewed. MPE159b has 73 x 15l buckets (or 1095cm³) and this is for the middens only, and excludes the A excavations. MPE159 had 63 x 15l buckets (946.245cm³). The MPE159b shell middens are less compacted.

FIG. 21: ARTEFACTS & ECOFACTS AS PERCENTAGE OF TOTAL WEIGHT

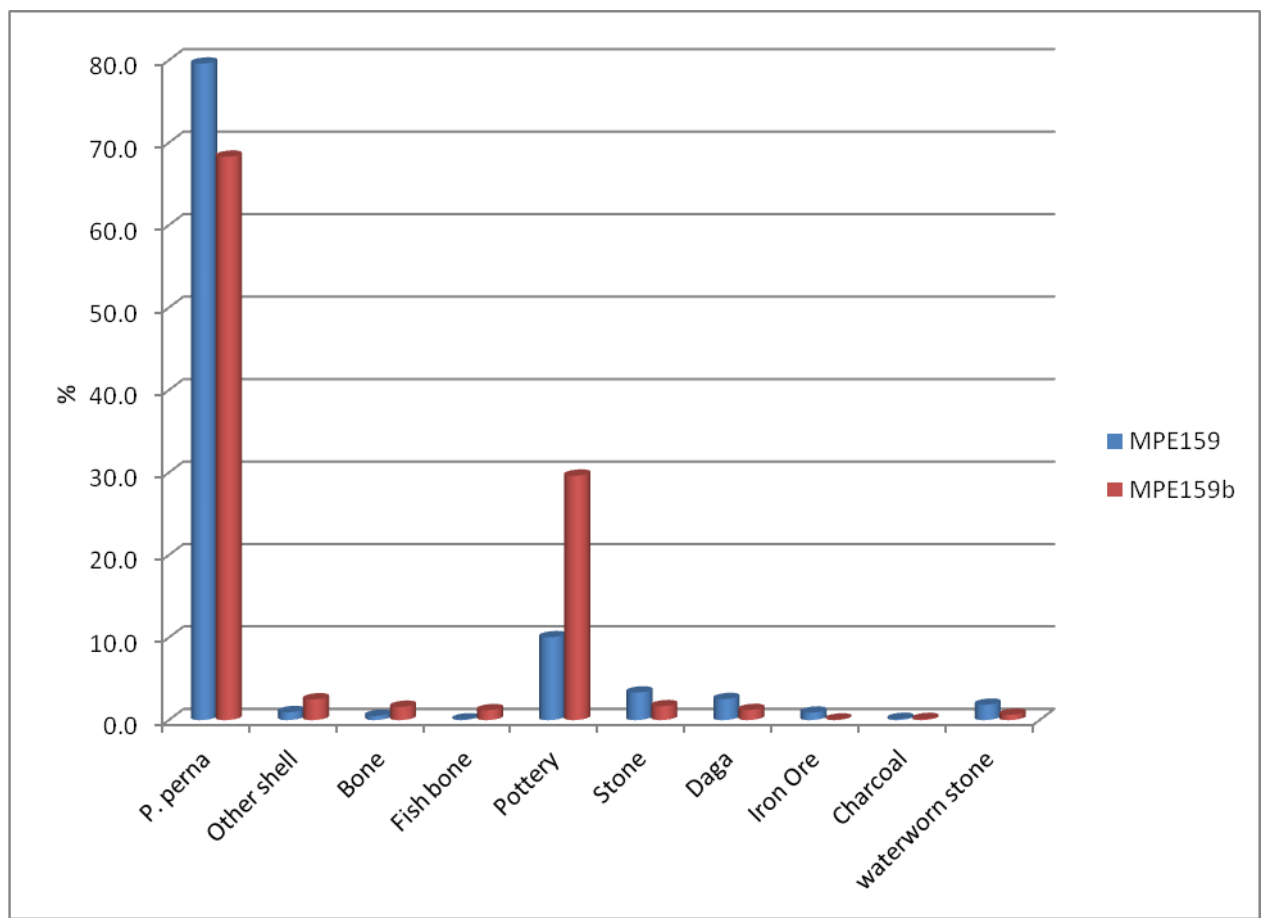


TABLE 1: SUMMARY OF EXCAVATED MATERIAL

	Lens		MEP159	MPE159b	Total:
	Buckets	(n)	63.083	73	136.083
Bone	Bovid	(grams)	791	1361.5	2152.5
	Otolith	(n)	3	6	9
	Fish bone	(grams)	123	1018	1141
	Daga	(grams)	4007	2069	6076
	Charcoal	(grams)	235	286.5	521.5
	Iron ore	(grams)	1414	438	1852
Stone	Smoothed Stone	(grams)	185	83	268
		Frequency	27	4	31
	Water worn stone	(grams)	2932	1727	4659
	Upper G/Stone	(grams)	1676	376	2052
		(n)	10	5	15
	Lower G/Stone	(grams)	3400	1048	4448
(n)		8	9	17	
	Nassa. beads	(n)	73	17	90
	Coral	(n)	8	0	8
Shell	Worked shell	(n)	2	2	4
	Other Shell	(grams)	1351	560	1911
	S. capensis	(grams)	160	1571	1731
	P. perna	Left (n)	705	2788	3493
		Right (n)	615	3085	3700
		(grams)	125036	57925	182961
	Pottery	(grams)	15785	25126	40911
	Slag	(grams)	0	112	112
	Total	Weight	148274	94397	242671

FIG. 22: EXCAVATIONS OF SHELL MIDDEN & THE A-B LINE AT MPE 159



FIG. 23: MPE 159 MAIN EXCAVATIONS 'A LINE' SQ. A10



Faunal Remains

There are some faunal remains in the middens. Most of the bone comes from a few bovid fragments. The bovid remains tend to be associated with the middens or on the edge of the midden. Sq. A9 had a layer of pottery and bovid remains (fig. 24). One bovid long bone has extensive cut marks on it (fig. 25).

There is a sharp increase in the amount of fish in the MPE 159 middens compared to the MPE 159b middens, as well as when compared to other excavations. Six otoliths were recovered from the excavations. These varied in size, in conjunction with the vertebra, there appears to be at least one large fish (fig. 25). This could be from 1 – 2 large fish that were thrown away onto this midden. This is the highest fish sample from a site so far excavated.

A few rodent bones were excavated from the middens. These faunal remains are post depositional.

FIG. 24: POTTERY AND BOVID BONE FROM SQ A9 AND B9, MPE 159



FIG. 25: CUT MARKS ON BOVID LONG BONE



FIG. 26: FISHBONE FROM LENS 2



Charcoal

A small amount of charcoal was excavated. Most of the charcoal came from the shell midden. One quadrant has enough charcoal for radiocarbon dating. Only the charcoal from the middens can be reliably associated with the site.

Stone

The stone from the site consists mainly of water worn stone and smoothed stones. The water worn stone comes mainly from the shell middens. These are related to the stones that are caught in the byssus threads as the mussel grows. Only four smoothed stones were excavated. These are stones that have been used to polish daga floors or pottery. The lower grinding stones were mostly fragments, while the upper grinding stones were mostly whole.

Small finds

There are a 17 *Nassarius krausiaris* shells from the midden. These shells are often used as beads.

Most of the daga fragments came from the shell midden. These tend to be small fragments. More daga occurs on the surface of the unexcavated squares.

The iron ore occurs mostly as one large chunk in Square B9.2. Smaller fragments were noted in the shell midden.

Pottery

Very little diagnostic pottery was found at the site. The only decorated sherd has 5+ rows of triangular impressions (fig. 27). The decorated sherds suggest that they belong to the Group 5 and 6 classes of decorated pottery. This would date the sherds anywhere from 1250 ACE – 1500 ACE. A single Early Iron Age decorated sherd occurred in the midden. This sherd was probably picked up from one of the many EIA sites in the area, and then dropped at the site.

Two pot lids were excavated near two different middens.

FIG. 27: DECORATED POTTERY



Shell

The most common shell is *P. perna*, or the brown mussel, and it appears to be the staple food, as in all shell middens. Other types of edible shellfish include limpets (specifically *Siphonaria capensis*), oyster, and whelk. A single *Patella concolor* was excavated from Lens 2. Other shell species that were probably not eaten include chitons, barnacle and key-hole limpets.

The middens were less compacted than at MPE159; and appeared to have more intact shells (fig. 28)

Only 47 *P. perna* shells were measured, and they had an average length of 5.3cm. This is slightly larger than the mussels from the MPE159b excavations (Table 2, Fig. 29). There is, however, a wider range of sizes in MPE159b

There is a substantial increase in the amount of *Siphonaria capensis* at MPE159, and these formed most of the 'other shell' category. These limpets occurred in a specific area of the midden and appear to be a single dumping episode (fig. 30, Table 3).

Both shell species indicate that shellfish gathering targeted all sizes. That is there was no selective gathering/harvesting for larger samples. Of interest is the significant difference in *S. capensis* between the two houses, as well as the fish remains (fig. 31).

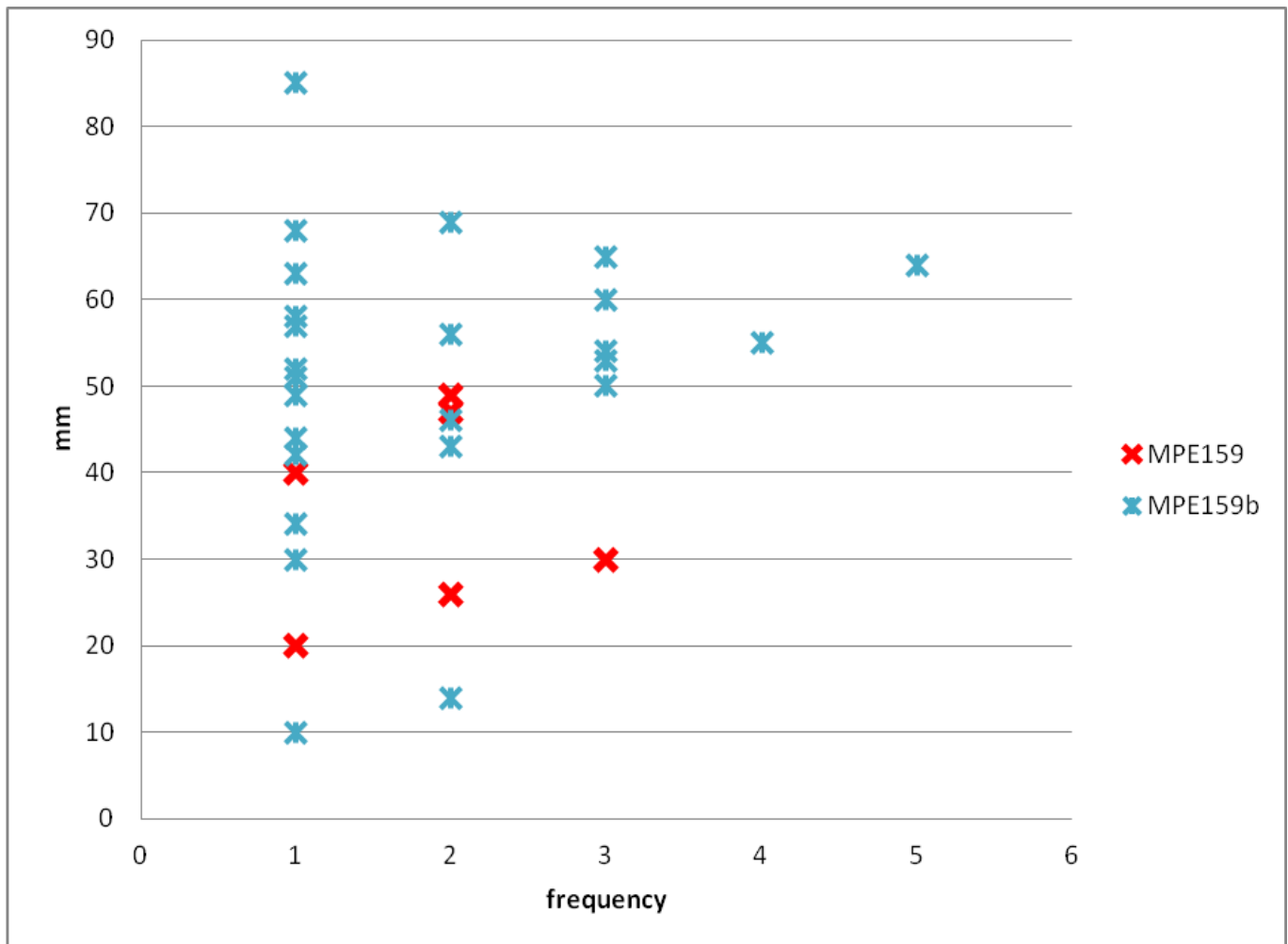
FIG. 28: COMPACTED SELL LENSES



Table 2: *Perna perna* Measurements at MPE159

	MPE159			MPE159b		
	Left	Right	Total	Left	Right	Total
average	34.4	41.5	37.6	53	53	53
median	30	47	40	55	53	55
max	49	49	49	65	85	85
min	20	30	20	14	10	10
STD	12.9	4.7	11.1	13.4	15.1	14.2
Deviation						
Total	5	4	9	18	29	47
Juveniles	182			10		
Juvenile	<10					
Length	cm					

FIG. 29: *P. PERNA* LENGTHS AT MPE159 AND MPE159B¹



¹ Graph excludes juveniles

FIG. 30: SIPHONARIA CAPENSIS MEASUREMENTS AT MPE159

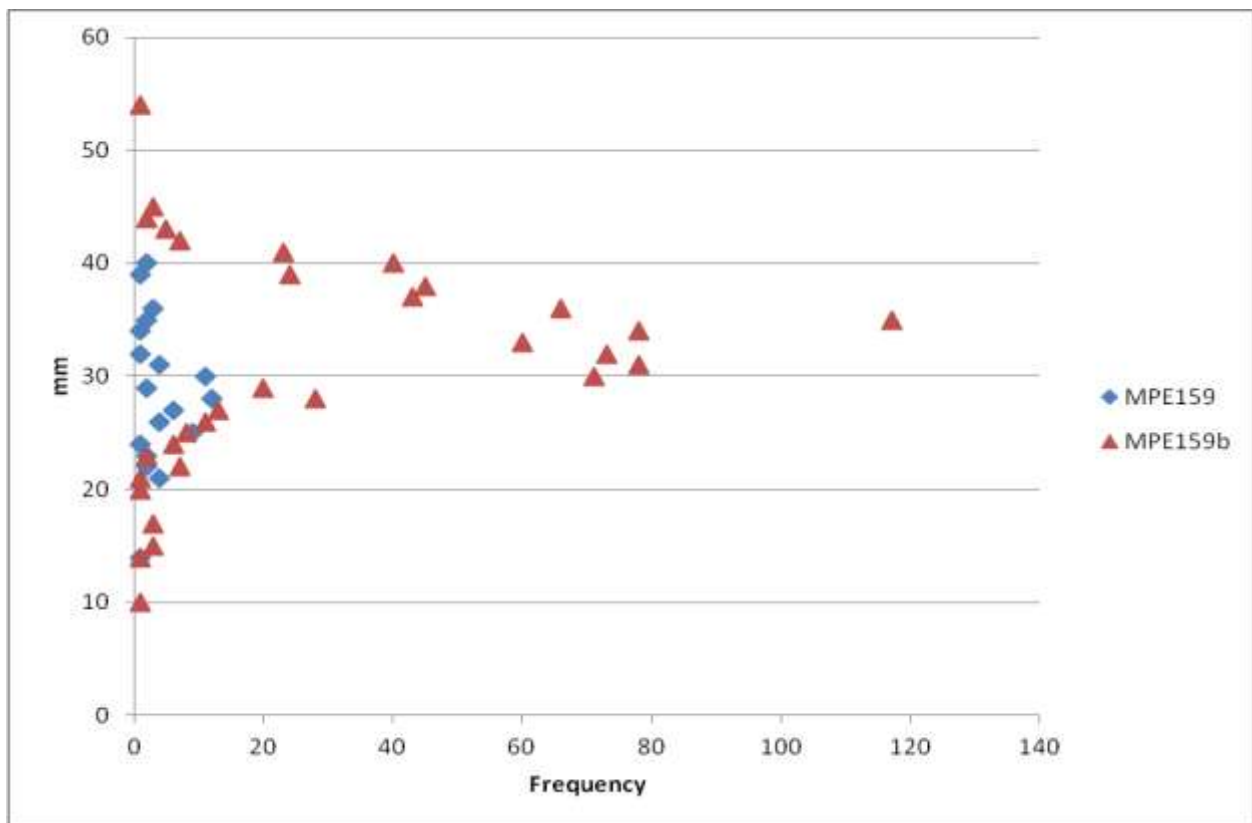
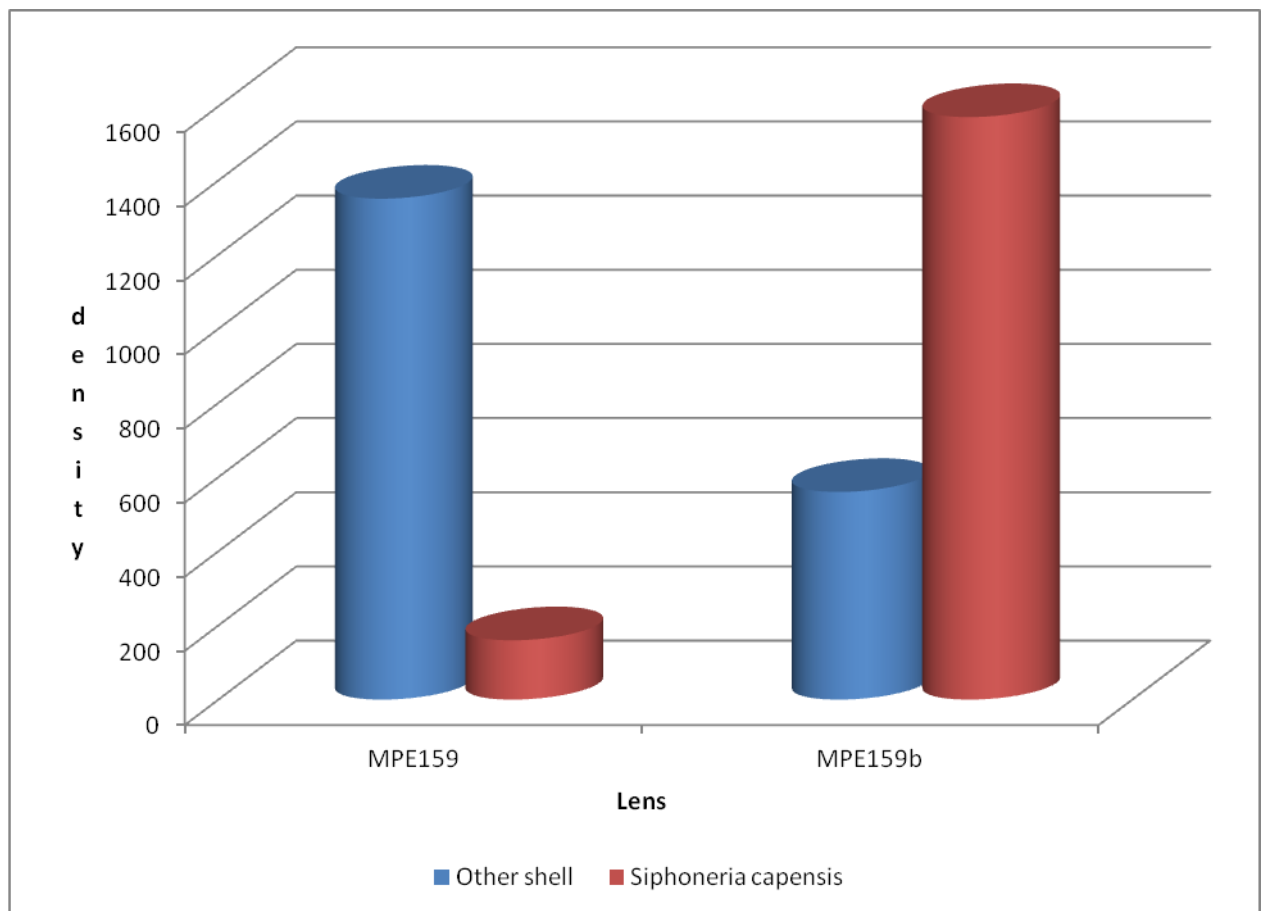


TABLE 3: SIPHONARIA CAPENSIS MEASUREMENTS

	2014	2015
Average	28.7	31.27
Std deviation	6.7	10.5
Median	28.5	32
Max	40	54
Min	14	10
F	68	1604
not measurable		328

FIG. 31: SHELL DENSITIES MPE 159 AND MPE 159B



The shell middens represent a change in the general midden patterns we have noted in other excavations. More of the site will be excavated in 2017 where we intend to expose another shell midden, as well as the living area. One of the more obvious differences is in the high number of *Siphonaria capensis* and fish, which puts this site apart from other excavated sites. The living area of individual houses beside the shell middens also has well preserved material and *in situ* remains.

Future excavations will complete the middens at MPE159b and the Squares 1 – 8 will also be excavated.

CONCLUSION

A total of 8 archaeological sites were recorded in 2016, and one site was excavated. Many of the sites from 2015 were also monitored during the year and sampled when necessary. The sites dated from the Late Stone Age to the early 20th century and form part of an increased sample size of archaeological sites in the mining lease. Early Iron Age sites appear to have decreased in occurrences, while there is an increase in Late Iron Age and Historical Period sites. This is, however, due to the location of the mining operations that are currently concentrating on taller dunes, which were favoured by the latter settlements. There should be an increase in Early Iron Age sites once MPE extends along the lower areas north of Sokhulu Reservoir.

The current heritage mitigation is still uncovering new finds, and increasing data to the general heritage of the area. The shell middens at MPE159 that had a marked change in shell species are examples. The low numbers of recorded sites in 2016 is mostly due to fewer areas being cleared for mining, not due to a decrease in potential finds.

Shell middens, and their surrounding areas, are always targeted as these yield better preserved artefacts and human remains. The increase in faunal remains assemblages is important for the eventual reconstruction of the animal species over time in this area. Smaller mammal and bird remains would also be informative, as would be the smaller shell species that are palaeo-environmental indicators. The coral fragments, limpets and even the *P. perna* have potential for scientific research if the isotopes are analysed, e.g. in sea temperature changes over time. The *P. perna* size measurements have use through not only indicating human harvesting patterns through time, but also the impact this may have made on the shellfish populations. This in turn would have relevance for more recent impact studies undertaken brown mussel exploitation KwaZulu-Natal and further afield. Some of the research (e.g. Proudfoot et al, 2006) suggests that there is a significant change in species size over time due to human exploitation. The archaeology tends to suggest that the opposite. It is important that the shell middens along the eastern seaboard are systematically sampled and excavated as these have relevance to contemporary research (see research undertaken by the Oceanographic Research Institute (<http://www.seaworld.org.za/research/>) as one example. The sampling and

excavations of these middens is also important in that dune mining removes the entire midden during operations, and thus the material is lost forever.

We expect an increase in 18th – 20th century human remains in the area around Sokhulu Reservoir, as the recorded sites suggest this area was more recently occupied.

MPE 159 has been marked for continued excavation in 2017.

REFERENCES

Hockey PAR, Dean WRJ and Ryan PG (eds) 2005. Roberts- Birds of Southern Africa, VIII ed.

Oceanographic Research Institute 2014. <http://www.seaworld.org.za/research/>

Proudfoot, L., Kaehler, S. McGarry, D. , Uppink, P. Aereboe, M and Morris, K. 2006 Exploitation status of infralittoral abalone (*Haliotis midae*) and alikreukel (*Turbo sarmaticus*) in the southern section of the Eastern Cape coast. *South Africa. South African Journal of Science* **102** 162 - 168

APPENDIX A
SITE RECORD FORMS

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA			
Historical	Historical Period:	x	Recent Past (last 60 yrs):					

Recorder's Site No.: **MPD 104**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 33.447' E: 32 21.471' Alt: 96m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION



MPD 104 is located on the second dune cordon from the ocean. It consists of an exposed and scattered *P. Perna* midden and an undecorated shoulder rim potsherd on the surface.

SITE DESCRIPTION:

Type of Site: Open.

Merits conservation: No. The site is of low significance and no further mitigation is required. The site will be monitored.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/10/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of an exposed and scattered *P. Perna* midden and an undecorated shoulder rim potsherd on the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA			
Historical	Historical Period:	X	Recent Past (last 60 yrs):	X				

Recorder's Site No.: **MPE 167**

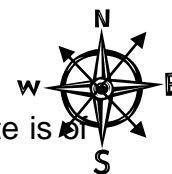
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.54023' E: 32.37659' Alt: 108m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION



MPE 167 is located at the top of the first dune cordon from the ocean. The site is of medium significance and was sampled. The site will be monitored.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: The site is of medium significance and was sampled. It will be monitored for as long as it remains possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures

Yes Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 02/02/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of an extensive (30mx40m) surface scatter of artefacts, incl. upper grinding stones, lower grinding stones on white beach sandstone, oysters, *P. perna*, 3x different *Patella* spp., thin-walled pottery with a brown burnish, historical glass fragments (no mould seam) and coral.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA	X		
Historical	Historical Period:	?	Recent Past (last 60 yrs):					

Recorder's Site No.: **MPE 168**

Official Name:

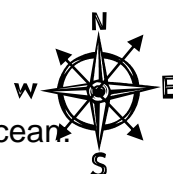
Local Name:

Map Sheet:

GPS reading: S: 28.53542' E: 32.37637' Alt: 85m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 168 is located on a single, small dune on the first dune cordon from the ocean.



SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is of low significance, but will be monitored for as long as it remains possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 12/04/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a single, dispersed shellmidden of *P. Perna*, oyster and limpets. As well as upper grinding stones and a broken lower grinding stone (white beach sandstone) on the surface. No bone or pottery was visible.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA			
Historical	Historical Period:	X	Recent Past (last 60 yrs):					

Recorder's Site No.: **MPE 169**

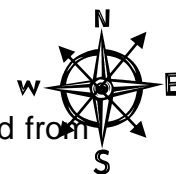
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28' 31.038 E: 32'22.862 Alt: 44m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION



MPE 169 is located in a flat area between two dune cordons on the back road from MPD to MPE.

The site is of low significance and no further mitigation is required. The site will be monitored.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: No. The site is of low significance and no further mitigation is required. The site will be monitored.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 23/08/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a single *P. perna* midden and a surface scatter of undecorated pottery.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA			
Historical	Historical Period:	X	Recent Past (last 60 yrs):					

Recorder's Site No.: **MPE 170**

Official Name:

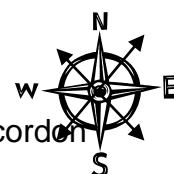
Local Name:

Map Sheet:

GPS reading: S: 28' 31.977 E: 32' 22.626 Alt: 130m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 170 is located at the top of a single, small dune within the first dune cordon from the ocean.



SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is of low/ medium significance and will be monitored for as long as it remains possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 23/08/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a several, dispersed shell middens of *P. perna*, oyster and limpets and a surface scatter of undecorated pottery and bovid bone.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:	x	LIA		IIA			
Historical	Historical Period:		Recent Past (last 60 yrs):					

Recorder's Site No.: **MPE 171**

Official Name:

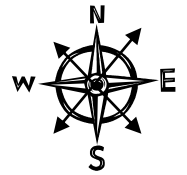
Local Name:

Map Sheet:

GPS reading: S: 28 32.119'E: 32 22.673 Alt: 97m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 171 is located on the first dune cordon from the ocean.



SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: No. The site is of low significance and no further mitigation is required. The site will be monitored.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures

Yes Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 02/11/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a surface scatter of EIA and LIA pottery, 2x whole pots, 2x broken LGS's, some surface shell and quartzite flakes.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA x			
Historical	Historical Period:		Recent Past (last 60 yrs):					

Recorder's Site No.: **MPE 172**

Official Name:

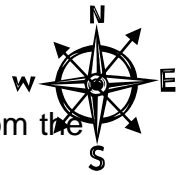
Local Name:

Map Sheet:

GPS reading: S: 28 32.246'E: 32 22.677' Alt: 98m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 172 is located at the top of a single dune within the first dune cordon from the ocean



SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: Yes.

Threats: Yes. The site is of low/ medium significance and will be monitored for as long as it remains possible.

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 02/11/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of at least two, dispersed shell middens of *P. perna*, oyster and limpets and a surface scatter of undecorated pottery and bovid bone.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age	ESA:		MSA		LSA		ISA	
Rock Art	Paintings		Engravings		Other			
Iron Age	EIA:		LIA		IIA			
Historical	Historical Period:		Recent Past (last 60 yrs):					

Recorder's Site No.: **RD 031**

Official Name:

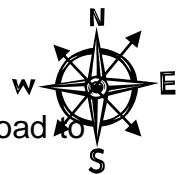
Local Name:

Map Sheet:

GPS reading: S: 28 31.727'E: 32 21.381' Alt: 20m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD 031 is located in the Red Dune system, directly next to the P232 district road to Maphelane.



SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: Yes. The site is of low/ medium significance and will be monitored for as long as it remains possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures Yes Tracings: Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 02/11/2016

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of marine shell on the surface, along with bovid bone, pottery and vintage Dutch stoneware.

The Dutch stoneware is the fragmented remains of a cake plate with a geometric flower motif.

The maker's mark at the base identifies it as a piece made in Maastricht, Holland by P.Regout.

Petrus Regout manufactured stoneware under the Sphinx logo from 1836- 1899. (www.forummestreechonline.nl)