

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

For Richards Bay Minerals

2014 Annual Report

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Management**

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Table of Contents

INTRODUCTION	4
METHOD	7
Defining significance	7
RESULTS	9
SURVEYS	9
MINING POND A	9
MINING POND C	9
MINING POND D	9
MINING POND E	9
RED DUNES	17
EXCAVATIONS	31
MPE110	31
MPE 158	42
MPE 159	49
CONCLUSION	60
REFERENCES	61
APPENDIX A	62
SITE RECORD FORMS	62
UMLANDO ARCHAEOLOGICAL SITE RECORD FORM.....	63

Table of Figures and Tables

Fig. 1: Location Of The Zulti North Mining Lease	5
Fig. 2: Location Of Recorded Archaeological Sites In The Mining Lease	6
Fig. 3: The Midden At MPE 158	11
Fig. 4: The Surveyor Pole, With Reference, Near The MPE 158 Midden	11
Fig. 5: Lower Midden (Midden 2) At MPE 159	12
Fig. 6: Upper Midden (Midden 1) At MPE 159	13
Fig. 7: MPE 160.....	14
Fig. 8: MPE 161	15
Fig. 9: MPE 162.....	16
Fig. 10: RD 017.....	18
Fig. 11: The Exposed Midden At RD018	19
Fig. 12: The Dispersed Midden At RD 019	20
Fig. 13: RD020.....	21
Fig. 14: RD022.....	22
Fig. 15: RD 026.....	24
Fig. 16: RD 027.....	25
Fig. 17: RD 028.....	25
Fig. 18: AMS 28	27
Fig. 19: AMS 29	28
Fig. 20: AMS 30	29
Fig. 21: AMS 31	30
Fig. 22: Re-Demarcated Site At MPE 110 After Topsoil Clearance	31

Fig. 23: MPE 110 Site Map	33
Fig. 24: Main Excavations At MPE 110	34
Fig. 25: Sections At MPE 110	35
Fig. 26: Finds As A Percentage Of Total Weight.....	36
Table 1: Summary Of Excavation Results From MPE110.....	37
Fig. 27: Shell Adornments	39
Table 2: <i>Perna perna</i> Measurements	40
Table 3: Sizes Of <i>Siphonaria Capensis</i>	41
Fig 28: Pottery Decorations At MPE110	42
Fig. 29: Exposed Midden At MPE158.....	43
Fig.30: MPE 158 Site Map	44
Fig. 31: Excavations And Sections At MPE 158.....	45
Fig. 32: Finds As A Percentage Of Total Weight.....	46
Table 4: Summary Of Excavation Results From MPE158.....	47
Table 5: <i>Perna perna</i> Measurements	49
Fig. 33: General View Of The Excavation	50
Fig.34: MPE 159 Site Map	51
Fig. 35: Excavations And Sections At MPE 159.....	53
Fig. 36: Finds As A Percentage Of Total Weight.....	54
Table 6: Summary Of Excavation Results From MPE159	55
Fig. 37: Daga Concentration In Square 8.....	58
Table 7: <i>Perna perna</i> Measurements	59
Left.....	59
Right.....	59
Total.....	59
Average	59
34.4.....	59
41.5.....	59
37.5.....	59
Median	59
30.....	59
47.....	59
40.....	59
Max	59
49.....	59
49.....	59
49.....	59
Min.....	59
20.....	59
30.....	59
20.....	59
F	59
5.....	59
4.....	59
9.....	59
Juveniles.....	59
182.....	59
Table 8: <i>Siphonaria capensis</i> Measurements	59

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 surveys consist of bi-monthly surveys, while excavations occur when needed. The archaeological program has been in progress at RBM Zulti North for 20 years.

A total of 27 new sites were recorded, several sites were continuously monitored and sampled, and 3 sites were excavated. As in 2013 it appears that the mining ponds, especially MPE, continue towards archaeologically sensitive areas.

There have been a total of 523 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. 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, and these have relevance to contemporary research. The excavations still yield results that are different to previously excavated sites.

Fig. 1: Location Of The Zulti North Mining Lease

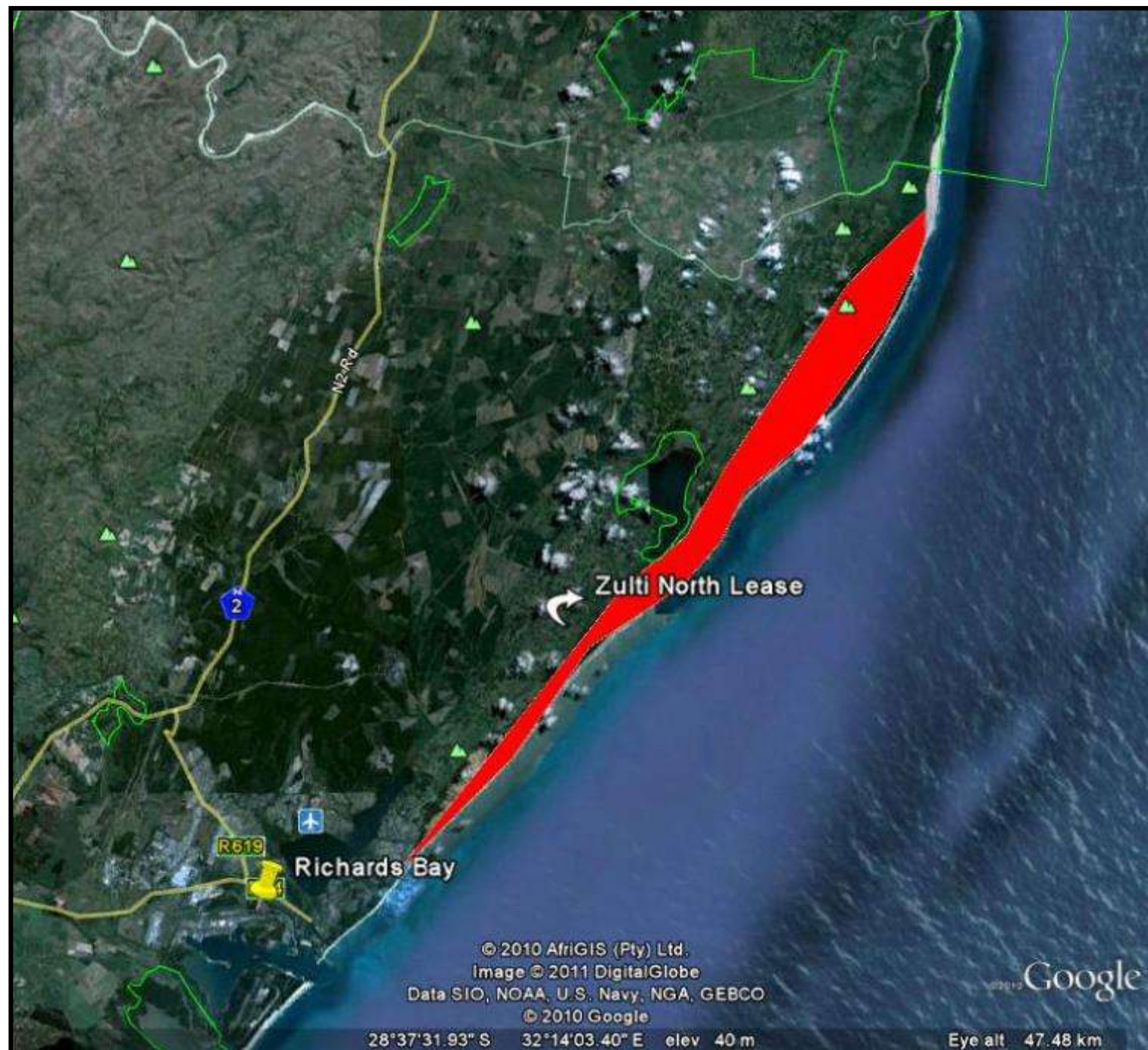


Fig. 2: Location Of Recorded Archaeological Sites In The Mining Lease



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

It is often not possible to give the full extent of a site from the survey. Either the site is scattered due to bulldozer activity or it is under dense vegetation. For the latter 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 a most sites to be represented since dune mining will destroy the 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.

MINING POND A

No new sites recorded. MPA was mining an area that has already had the upper layers removed by dry mining activity.

MINING POND C

No new sites recorded.

MINING POND D

No new sites recorded.

MINING POND E

MPE 156

MPE 156 is located on the first dune cordon from the ocean. The site consists of a dispersed shell midden that was exposed and extended by bush- clearance. There is some undecorated pottery on the surface.

The site is of low significance and no further mitigation is required, however, we will monitor it for as long as possible.

MPE 157

MPE 157 is located on a small hill in a valley between the first and second dune cordons, and near MPE 158. It consists of a surface scatter of undecorated pottery (including undecorated rims and lips), bovid bone and brown mussel.

The site is of low significance and no further mitigation is required. We will, however, monitor the site.

MPE 158

MPE 158 is located on the edge of the red dune system, on the ocean side. It consists of an intact *P. perna* midden that was exposed by bush clearance and drilling activity. The midden is located about 1m below the surface with approximately 3m of midden visible. The bulldozer just clipped the edge of the midden; however, it is a very dense midden and should have been reported as per RBM's SOP 5. The numbered surveyor pole was in fact placed near the exposed midden, so it is unlikely that it was not noted.

The midden is very well preserved, and is of medium significance. We have excavated this site and discuss it below.

Fig. 3: The Midden At MPE 158



Fig. 4: The Surveyor Pole, With Reference, Near The MPE 158 Midden



MPE 159

MPE 159 is located on the second dune cordon from the ocean. It consists of two *P. perna* middens, one that is intact, that was exposed by bush clearance. The site was reported as per RBM's SOP 5 and this enabled us to do an immediate site-visit and demarcate the area.

There are a few possible human bones in the vicinity of the lower midden. This makes the site of high significance. The higher midden is very well preserved, and is of medium significance. We have excavated this site and discuss the findings below.

Fig. 5: Lower Midden (Midden 2) At MPE 159



Fig. 6: Upper Midden (Midden 1) At MPE 159



MPE 160

MPE 160 is located on the divide between the Red Dunes and the main dune system, on the ocean side. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1820/AA/1. This enabled us to assess the site within the day.

The site consists of a surface scatter of undecorated pottery (incl. rims), upper grinding stones and *P. perna*. There is no evidence of a midden, although the shell fragments indicate that there is one in the vicinity, most likely in the adjacent, uncleared forest.

The site is of low significance and no further mitigation is required, however, it was sampled and will be monitored for as long as possible.

Fig. 7: MPE 160



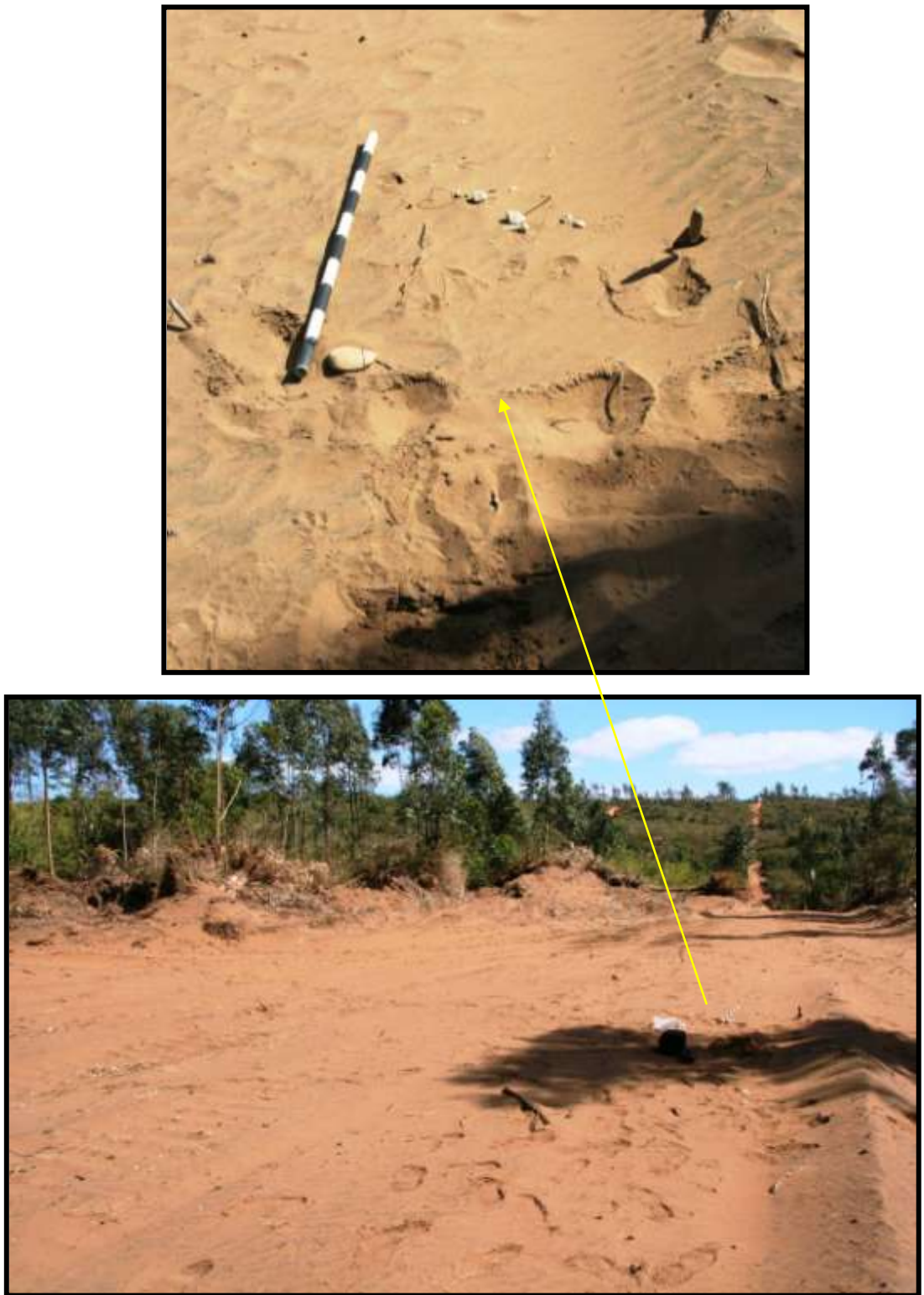
MPE 161

MPE 161 is located on the divide between the Red Dunes and the normal dune system, to the east. As per RBM SOP we were informed by RBM Ecology that the Exploration team had exposed a site near surveyor pole nr. 1840/BB/1. This enabled us to assess the site within the day.

The site consists of a dispersed *P. perna* midden, upper grinding stones, bovid bone, decorated pottery (Group 7) and human remains. The human remains were mostly dispersed by bush clearance activity and only the lower limbs were still *in situ*. We removed what was left as SK 1, and collected human bones from the surface. The few skeletal remains were highly disturbed.

The site is of high significance due to the human remains and apart from having removed the remains and sampling the site, it will also be monitored for as long as possible.

Fig. 8: MPE 161



MPE 162

MPE 162 is located at the base of the first dune cordon from the ocean, inland side. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1840/AA/1. This enabled us to assess the site within the day.

The site consists of an ephemeral surface scatter of undecorated pottery and *P. perna* fragments.

It is of low significance and no further mitigation is required, however, it was sampled and will be monitored for as long as possible.

Fig. 9: MPE 162



MPE 163

MPE 163 is located on the first dune cordon from the ocean. The site consists of a surface scatter of *P. perna*, oyster, upper grinding stones, bovid bone and undecorated pottery.

It is of low significance and no further mitigation is required, however, it will be monitored for as long as possible.

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 015

RD015 is located on the district road to Maphelane side of the red dune system. The site consists of a single shell midden exposed by drilling operations. There is likelihood for the remains of a household in the adjacent uncleared bush.

The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

RD 016

RD016 is located on the district road to Maphelane side of the red dune system. The site was exposed by bush clearance and/or drilling activity. It consists of an ephemeral surface scatter of *P. perna*, pottery and a single upper grinding stone. The pottery is undecorated.

The site is currently of low significance and no further mitigation is required; however, we will monitor it for as long as possible. The site probably dates to the early 20th century and thus human remains may occur below the surface.

RD 017

RD 017 is located on the district road to Maphelane side of the red dune system, in the vicinity of RD 016, but more eastwards towards the ocean. The site was exposed by road cutting and consists of a scatter of *P. perna* and a single potsherd (fig. 10).

The site is of low significance and no further mitigation is required. However, it will be monitored for as long as possible. The site probably dates to the early 20th century and thus human remains may occur below the surface.

Fig. 10: RD 017



RD 018

RD 018 is located on the ocean-side of the red dune system. It consists of a single, dispersed *P. perna* midden and a bone fragment. The site was exposed by bush clearance and drilling activity (Fig. 11). It is a small, but obvious midden and it should have been reported as per RBM's SOP 5.

The site is of low significance and no further mitigation is required. It will be monitored for as long as possible. The site probably dates to the early 20th century and thus human remains may occur below the surface.

Fig. 11: The Exposed Midden At RD018



RD 019

RD 019 is located on the ocean-side of the red dune system. It consists of a single, dispersed *P. perna* midden and an undecorated potsherd (Fig. 12). It is an obvious midden and should have been reported as per RBM's SOP 5.

The site is of low significance and no further mitigation is required. However, it will be monitored for as long as possible. The site probably dates to the early 20th century and thus human remains may occur below the surface.

Fig. 12: The Dispersed Midden At RD 019



RD020

RD020 is located in the Red Dune system, close to Sokhulu Reservoir. The site was exposed by bush clearance and consists of a single *P. perna* midden, upper grinding stones, bovid bone and shell-impressed pottery (Tsonga-speaking, Group 7).

The site is of medium significance and it will be monitored for as long as possible. Test-pit excavations may occur.

Fig. 13: RD020



RD021

RD021 is located in the Red Dune system, close to Sokhulu Reservoir. The site consists of a single *P. perna* midden and undecorated surface pottery.

It is of low significance and no further mitigation is required, however, it will be monitored for as long as possible.

RD022

RD022 is located in the Red Dune system, close to Sokhulu Reservoir. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1780/DD. This enabled us to assess the site within the day.

The site consists of a single, dispersed *P. perna* midden, upper grinding stones, bone fragments and pottery. The midden itself is partially still intact in the roadside section and three potsherds have *intsumpa*.

The site is of medium significance, was sampled and will be monitored for as long as possible.

Fig. 14: RD022



RD023

RD023 is located in the Red Dune system, close to Sokhulu Reservoir. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1820/DD/1. This enabled us to assess the site within the day.

The site consists of a single, dispersed *P. perna* midden and undecorated pottery on the surface.

It is of low significance and no further mitigation is required. However, it will be monitored for as long as possible.

RD 024

RD024 is located in the red dune system, close to the Maphelane district road. The site consists of a 30m x 30m surface scatter of *P. perna* and undecorated pottery.

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

RD 025

RD025 is located in the red dune system, close to the Maphelane district road. The site consists of a 30m x 30m surface scatter of *p.perna* and, undecorated pottery and upper grinding stones.

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

RD 026

RD026 is located in the red dune system, close to the Maphelane district road. The site consists of a 30m x 40m surface scatter of undecorated pottery and bone fragments. The bone may be of human origin which means that although the site itself is of low significance, the possible burial is of high significance.

We will monitor the site in case more human remains are exposed.

Fig. 15: RD 026



RD 027

RD027 is located in the red dune system, close to the Maphelane district road. The site consists of a single *P. perna* midden and a surface scatter of *P. perna* and oyster. The site dates to the last 20th century.

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

Fig. 16: RD 027



RD 028

RD028 is located in the red dune system, close to the Maphelane district road. The site consists of an extensive scatter of decorated pottery, *P. perna*; fire cracked stone, iron ore and bone. As this is a possible smelting site, it is of medium significance and has been sampled. We will continue to monitor it for as long as possible.

Fig. 17: RD 028



AMS

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

AMS 27

AMS 27 is located on the first dune cordon from the ocean. We were called in to collect human remains that were noted in the sieves at AMS Dry Mining Plant 3. Subsequent to the first call out, two more individuals were found in the sieves. These remains are always of partial skeletons and the exact location of the burial is not possible to determine. We surveyed the remaining dune in front of AMS 27 to determine a possible age of the skeletons.

There are some surface shell in the area, upper grinding stones, lower grinding stones and undecorated pottery sherds. An Msuluzi pot was found at the base of the dune. The human remains appear to be recent in age and probably date to the early 20th century. However no settlement is visible in this location on the 1937 aerial photographs.

The human remains the area is of high significance and will be monitored for as long as possible.

AMS 28

AMS 28 is located at the top of the first large dune cordon from the ocean. The site consists of a mixture of surface scatters of asbestos, modern brick, large WBS lower grinding stones, glass, upper grinding stones, and large chunks of coral, shell and a human cranial fragment.

The site is of high significance due to the cranial fragment, was sampled and will be monitored for as long as possible.

Fig. 18: AMS 28



AMS 29

AMS 29 is located at the top of the first large dune cordon from the ocean. The site consists of two large shell middens, 5-10cm below the surface.

The complete lack of pottery and the occurrence of stone tools indicate that it is a Stone Age site and as such it is of high significance and will be excavated in the near future.

We will also continue to monitor the site for as long as possible.

Fig. 19: AMS 29



AMS 30

AMS 30 is located on the first large dune cordon from the ocean. The site consists of a large shell midden that is probably related to AMS 29. There is a complete absence of pottery and small lower grinding stones suggesting that it is a Late Stone Age site.

It is of medium significance and will be excavated.

Fig. 20: AMS 30



AMS 31

AMS 31 is located behind the first dune cordon from the ocean. The site consists of a surface scatter of *P. perna*, *Nassa* beads, small bovid bone and teeth, fishbone and teeth, upper grinding stones, Stone Age flakes and cores.

The site is of medium significance and has been sampled. It will be monitored for as long as possible.

Fig. 21: AMS 31



EXCAVATIONS

We set aside 28 days a year to undertake excavations in the dunes. This is based on 18 years experience working within the Zulti North mining lease. We normally excavate in the mornings, and then undertake sorting in the afternoon. This is especially important in summer months where the heat and humidity can impact on company health and safety policies.

MPE110

MPE110 has been previously recorded and sampled by a small excavation in 2012. We had an excavator remove the top soil above the midden, in the same manner as at MPE139. The excavator left 0.5m of deposit above the midden and exposed the beginnings of a possible hut floor and/or general living area (fig. 22). The site was cleared in December 2013, and after letting the sand settle and the wind expose more of the site, we started excavation in April 2014.

Fig. 22: Re-Demarcated Site At MPE 110 After Topsoil Clearance



The excavations exposed two shell middens, and a cultural horizon that varied between 20cm and 50cm in thickness. While we did find daga floor fragments, we could not locate isolated house floors. Similarly we noted fragments of human bone, but could not locate the burial(s). Since most of the site probably post-dates 1850s, well preserved human remains should have occurred.

We requested that the area between MPE 110 and the previously excavated site, MPE 148, be cleared of vegetation. The two sites are probably related in time and we expected to find more of the site once this area was exposed. Heavy rains and wind sometimes uncover artefacts that were previously covered. The area was cleared in August 2013 and we have been monitoring it since. Up to date we have found several more human bone fragments, but the exact location of the burial(s) still eludes us.

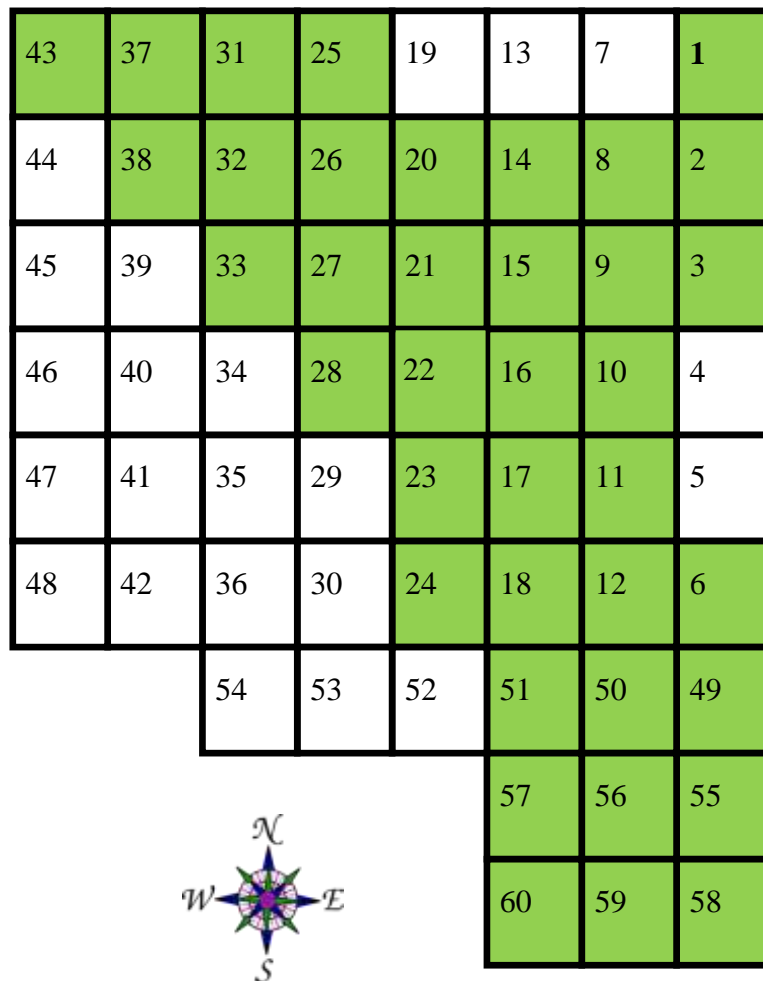
Method

MPE 110 is part of a complex of sites along the top of the first high dune from Sokhulu Reservoir. The site was divided into 60, 1mx1m squares (Fig. 23 - 24) around the two middens that was identified in 2010 and partially exposed in 2013. The squares were excavated from the outer edges first, working our way towards the obvious shell middens located roughly in the centre. In this way we would excavate a transect of the site and should expose various features, and thus obtain some form of spatial patterning.

The shell middens were concentrated around Squares 2, 3, 8, 9 and 6, 12, 50, 59. We were hoping to excavate the daga floors and human burials to the west of the middens. Two bulk samples were taken: one from each main shell midden and all of the contents were curated. Non-bulk samples were sorted and only the shell material was discarded. These were sorted according to basic categories as seen in Table 1. Only the MNI from bulk samples were counted.

Wind netting was erected around the excavations, and it partially helped. However on very windy days some of the squares were filled with Aeolian sand.

Fig. 23: MPE 110 Site Map



Stratigraphy

The site went to a maximum depth of 80cm in some of the squares without shell middens. The tendency was for the main cultural horizon to occur at ~30cm – 40cm below the existing surface. Fig. 25 shows some of these sections.

The shell middens were well defined. The shell was less compacted than at other middens and this could be a result of pre-excavation disturbance. The cultural horizon outside of the shell middens was a dark brown to black humic layer below the surface vegetation.

Fig. 24: Main Excavations At MPE 110



Fig. 25: Sections At MPE 110



The excavated site had two main shell middens each with one shell lens. The lenses followed the normal pattern of being 3m – 4m in diameter, and thickest in the centre. These often formed a bowl shape. The site appears to be a single occupation horizon.

Results:

Table 1 summarises the results from the excavation. Figure 26 shows these results as a percentage of each category to the total artefact and ecofact weights from the excavation. *P. perna* is the most dominant category in the excavations. The density of the deposit does not include the excavated squares without shell middens.

Fig. 26: Finds As A Percentage Of Total Weight.

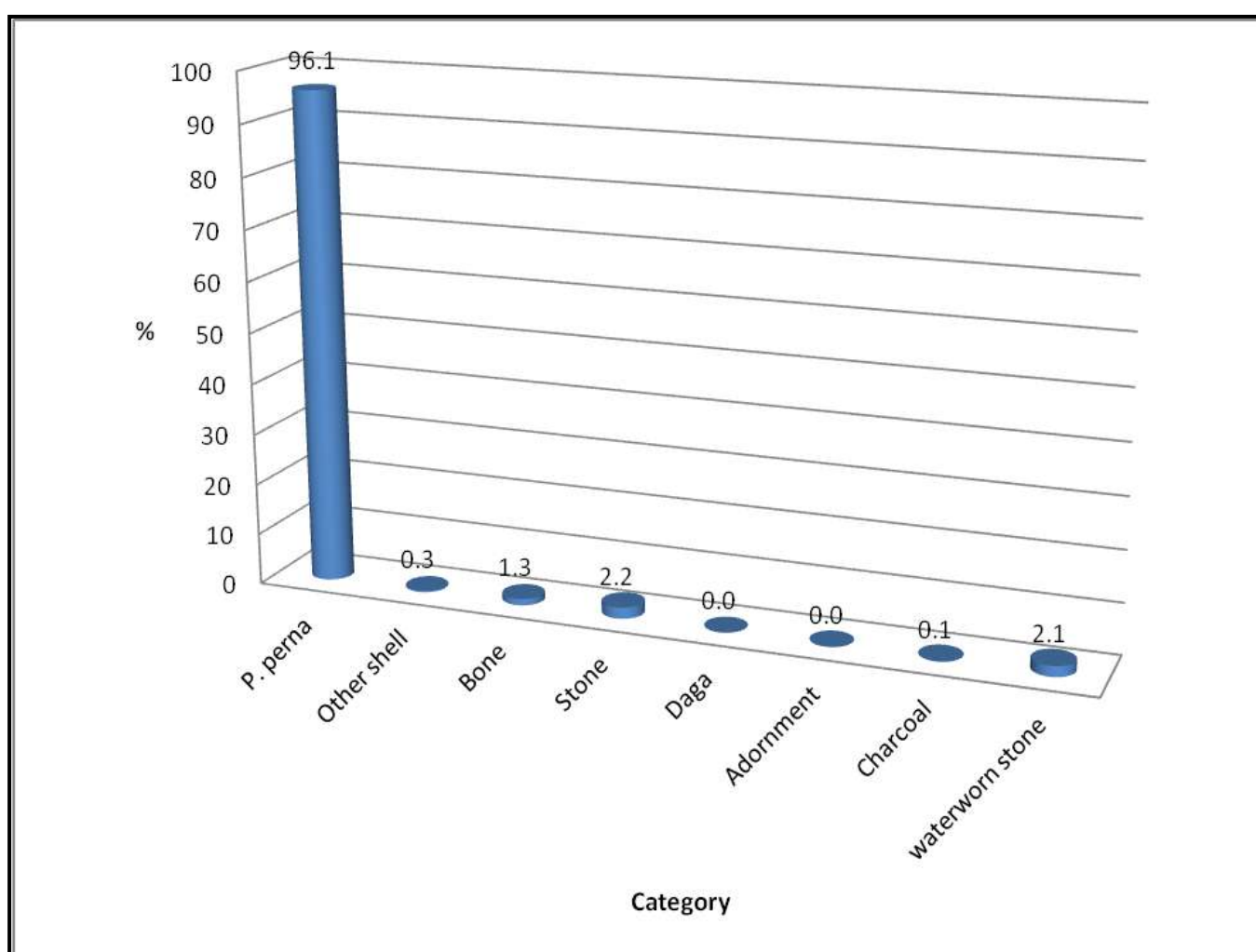


Table 1: Summary Of Excavation Results From MPE110

Category		Grams/frequency	total
Buckets			42.717 ¹
Faunal	Bovid	g	1052.5
	Otolith	f	0
	Fish	g	52
Daga			6
Pottery		g	3703
Stone	Manuport	f	1
	Smoothed	g	56
	Stone	f	3
	water worn stone	g	1825
	Upper G/Stone	g	756
		f	4
	Lower G/stone	g	1142
		f	17
Adornments	Nassa beads	f	4
	Shell Pendant	f	2
Coral	Coral	f	5
Charcoal	Charcoal	g	60.5
Iron fragment	Iron fragment	g	4284
Shell	Other Shell	g	252.5
	<i>P. perna</i> Left	f	1258
	<i>P. perna</i> Right	f	1251
	<i>P. perna</i> total	g	84510
Total weight		grams	87930

¹ Buckets from shell middens. 1 bucket = 15 litres = 640.755dm³

General Deposit

640.755dm³ of shell midden deposit was excavated. This excludes the ~25 squares where there was no shell midden and each square. These squares varied between 500dm³ to 800 dm³ in volume each.

Faunal Remains

The excavated faunal remains tended to be fragmentary. Most of these remains came from the shell middens. The faunal remains are dominated by antelope and domestic bovid remains. The fish remains consisted mainly of vertebra and vertebrae spines. No otoliths or fish teeth were recorded.

Two small caches of faunal remains were excavated near the middens.

Charcoal

Charcoal is one of the more important finds as this can be used for radiocarbon dating (with faunal remains). Only 60.5 grams of charcoal were excavated and these came from the shell middens. There is not enough charcoal from a single feature for a reliable date.

Stone

The stone from the sites consists mainly of water worn stone and grinding stones. Water worn stones are the stones that are removed with the *P. perna* during harvesting.

Lower grinding stones tend to be the biggest form of stone. Only fragments of lower grinding stones were excavated. These tend to be on white beach sandstone (a.k.a. Pleistocene beach deposits). The upper grinding stones are from quartzite pebbles. While few of these occurred in the deposit, many were noted on the surface around the site. Some of the upper grinding stones have been used as hammer stones and/or pestles. These could also have been used to soften the meat from shellfish.

Smoothed stones are smaller than upper grinding stones and would have been used for smoothing daga floors.

A single manuport was excavated. The manuport is a cryptocrystalline silicate, and in this case a nugget of banded agate.

Small finds

The most commonly occurring adornment is the *Nassa* bead. The bead is probably from the *Nassarius kraussianus*; however the colour has leached making an initial identification difficult. These beads would have been used as necklaces. Two shell pendants were recorded. These were made from oyster and *P. perna* (fig. 27). Both holes were conical in shape indicating the wear patterns from twine/string. The *P. perna* had been slightly smoothed to create a flat surface. See fig.26 bottom for a comparison between the smooth (left) and normal (right) shape.

Fig. 27: Shell Adornments



A small circular piece iron was excavated. It is too rusted to identify, but appears to be a ring.

Shell

The most common shell is *Perna perna*, or the common brown mussel, and it appears to be the staple food, as in all shell middens. Other types of edible shellfish include oyster, whelk, and limpets. Other shell species that were probably not eaten include lichen, barnacle, key-hole limpets,

The bulk shell samples consist of 30% of the shell material. Only the left/right hinges from the bulk samples were counted, while all complete shell were measured. The bulk samples yielded a maximum of 1258 mussels. These mussels varied in size however not many were measurable as they tend to break in the deposit (only 1.3% of the counted mussels were measurable). Table 2 summarises the size of the mussels. These are average sizes for mussels from the middens in the area. The number of juveniles is normal in comparison to other sites. These limited results indicate that *P. perna* was harvested in bunches, and not selectively for larger sizes.

Table 2: *Perna perna* Measurements

	Lef t	Rig ht	Combin ed
Average	51.9	65.8	58.9
Median	45	70	58.5
Max	95	98	98
Min	7	7	7
Frequency	22	22	7
Juveniles	-	-	89

While oysters tend to be the second most common shellfish eaten, the size is not easily quantifiable. "Limpets" are the third most frequent shellfish eaten. The

middens have up to three different species; however *Siphonaria capensis*² appears to be the most prominent species. Their sizes are listed in Table 3. These shellfish also appear to have been harvested for all sizes.

Table 3: Sizes Of *Siphonaria Capensis*

average	51.1
median	41
max	88
min	23
f	9

The shellfish from the midden is similar to other excavated middens; however it appears to have fewer species of shell, and a much lower percentage of oyster and 'limpets'.

Pottery

The pottery from the site indicates that the area is a multicomponent site. MPE104 is related to MPE110 and surrounding these two sites are small scatters of pottery. The older pottery has circular impressions or shell-impressed decorations. These styles could date from 1300 ACE to 1700 ACE. The main excavation at MPE110 appears to be from a single occupation, with the occasional older sherd. These types of decoration tend to post-date 1700 ACE. Fig. 28 illustrates some of these decorations. They are as follows:

- circular lip punctuates
- averted rim round lip
- averted rim, flat lip
- lip notching
- slightly averted rim, round lip
- straight rim, flat lip
- four rows of triangular impressions

² This needs to be confirmed by a specialist, as the inner colouring has faded.

- straight rim, round lip
- tapered rim with round lip
- tapered rim, bevelled lip

Fig 28: Pottery Decorations At MPE110



MPE 158

MPE 158 is located on the edge of the red dune system, ocean side and was recorded in June 2014. It consists of a mostly intact shell midden that was exposed by bush clearance and drilling activity. The midden is located about 1m below the surface with approximately 3m of midden visible (fig. 29).

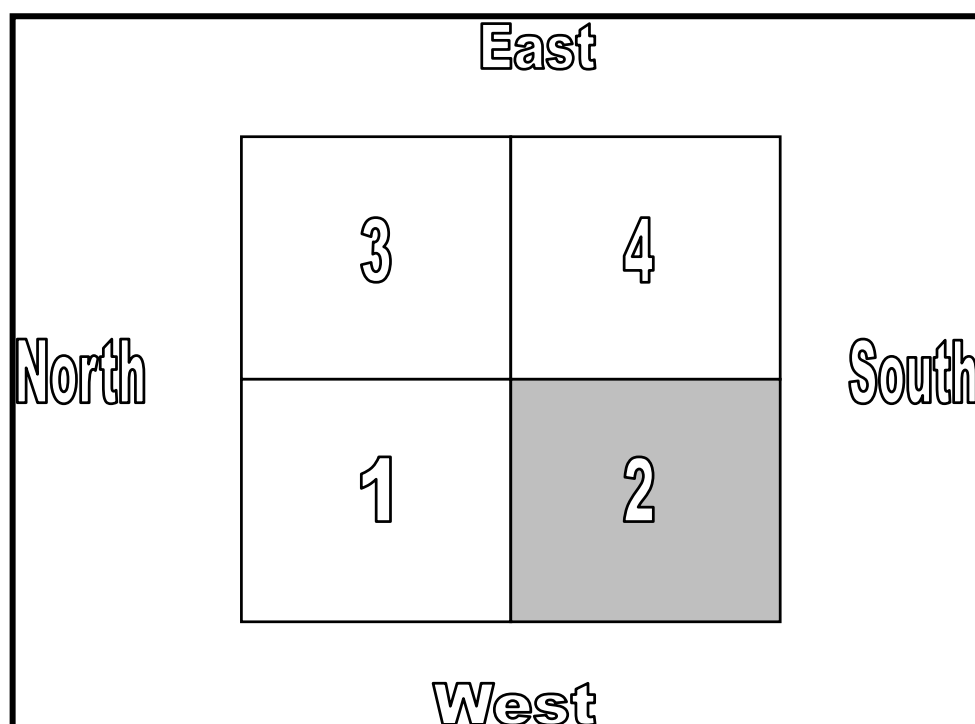
Fig. 29: Exposed Midden At MPE158



Excavation

The midden was exposed by removing the overburden to expose the midden. Four 1m x 1m squares (fig. 30). This initially covered the shell midden. The midden was sampled as it was well preserved and there were possibly more middens in the area.

Fig.30: MPE 158 Site Map



Stratigraphy & Excavation

The soil above the midden varied from 100cm – 80cm in depth. The midden was ~2m in diameter forming a basin-shaped deposit. The centre of the basin was ~20cm thick and 50cm – 60cm in diameter. The basin area was fairly loose sand mixed with complete shells. The areas outside of the main basin were thin and highly disturbed by root activity. Fig.31 shows these sections.

The excavated site had one main shell midden, although we expect more middens to occur within 50m of this midden. The midden had a noticeable amount of closed *P. perna* i.e. they had been cooked, but had not opened. There were several burnt shell fragments in this midden. A few of these were sampled and bagged individually. Complete *P. perna* were measured on site – there were very few complete shells.

Fig. 31: Excavations And Sections At MPE 158



Results:

Table 4 summarises the results from the excavation. Figure 32 shows these results as a percentage of each category to the total artefact and ecofact weights from the excavation. *P. perna* is the most dominant category in the excavations.

Fig. 32: Finds As A Percentage Of Total Weight.

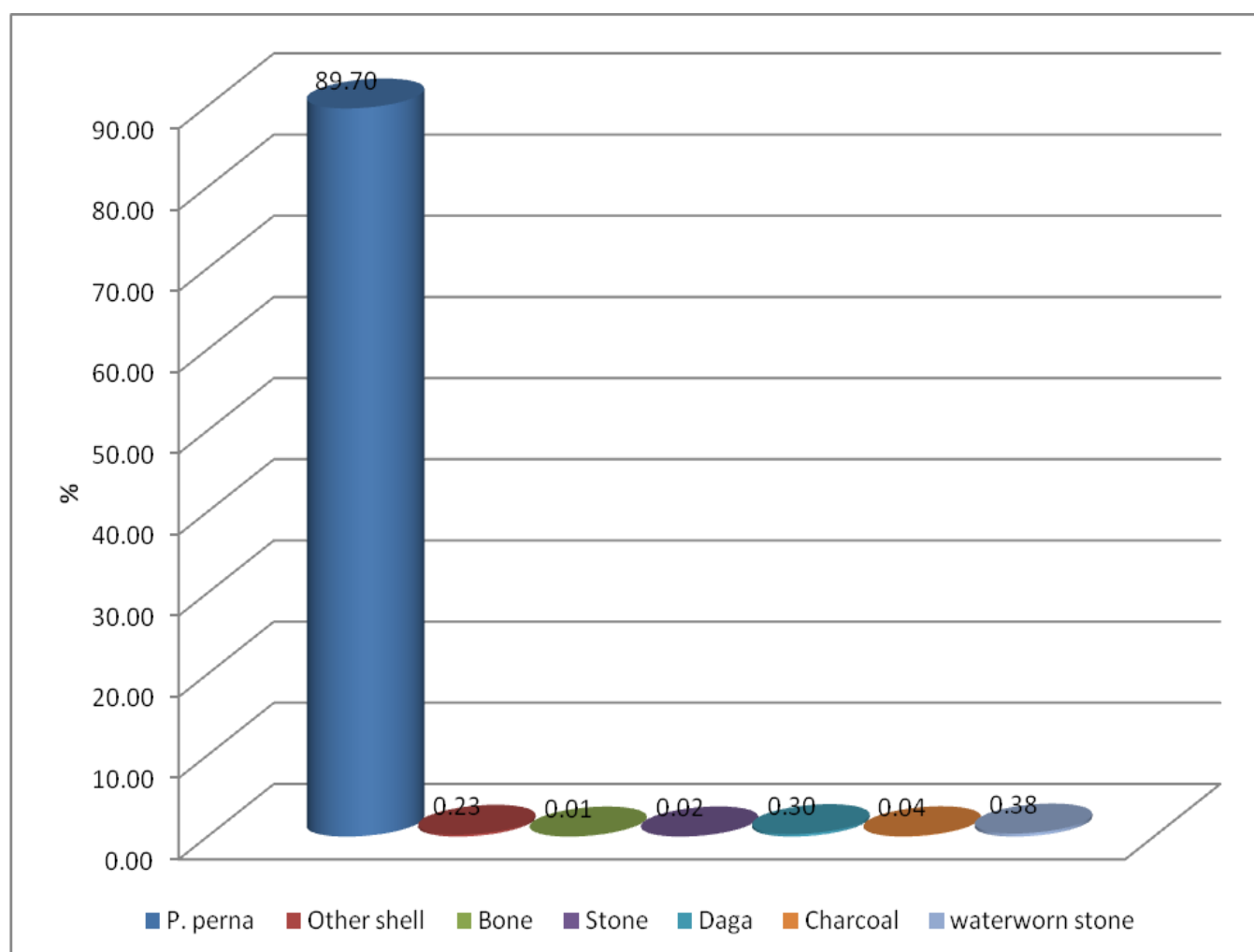


Table 4: Summary Of Excavation Results From MPE158

Category		Grams/freque ncy	Total
Buckets			20.383
Bone	Bovid	g	1
	Fish Otolith	g	0
	Fish bone	g	2
Stone	Manuport	f	0
	Smoothed	g	10
	Stone	f	1
	Water worn stone	g	161.5
	Upper G/Stone	g	0
		f	0
	Lower G/stone	g	0
		f	0
Adornment	<i>Nassa</i> . beads	f	3
Coral		f	2
Daga		g	129.5
Charcoal		g	19
Iron fragment		f	2
Pottery	(grams)	g	193
Shell	Other Shell	g	97.5
	<i>P. perna</i> Left	f	532
	<i>P. perna</i> Right	f	542
	<i>P. perna</i> weight	g	38148
	(grams)		
Total Weight		g	42529

General Deposit

305.745dm³ of shell midden deposit was excavated. .This is about half of the midden deposit at MPE110.

Faunal Remains

There are very few faunal remains in this midden. Two fragmented bovid bones were excavated, and several fish bones. The fish remains consisted mainly of vertebra and vertebrae spines. No otoliths or fish teeth were recorded.

Charcoal

Very little charcoal was excavated from the deposit – only 19g. There is not enough charcoal for a reliable radio-carbon date.

Stone

The stone from the sites consists mainly of water worn stone and one smoothed stone. There is a noticeable lack of grinding stones in the excavation, and surrounding area on the surface.

Small finds

Three *Nassa* beads and two fragments were excavated. A small amount of daga floor was thrown in the midden.

There is a distinct lack of small finds in this midden.

Shell

The most common shell is *Perna perna*, or the common brown mussel, and it appears to be the staple food, as in all shell middens. Other types of edible shellfish include oyster, whelk, and limpets. Other shell species that were probably not eaten include lichen, barnacle, and key-hole limpets.

The bulk shell samples consist of 24% of the shell material. Only the left/right hinges from the bulk samples were counted, while all complete shell were measured. The bulk samples yielded a maximum of 542 mussels. These mussels varied in size however not many were measurable as they tend to break in the deposit (only 1.1%

of the counted mussels were measurable). Table 5 summarises the size of the mussels. These are average sizes for mussels from the middens in the area, although there are a few large ones. The number of juveniles is normal in comparison to other sites. These limited results indicate that *P. perna* was harvested in bunches, and not selectively for larger sizes.

Table 5: *Perna perna* Measurements

	Left	right	total
average	130	73.3	74.3
median	65	74.5	65.0
max	130	127.	130.0
		0	
min	53	17.0	17.0
f	4	2	
Juvenile			20

The shellfish from the midden is very different to other excavated middens. The number of unopened *P. perna* were not noted, however we noted that at least half were still closed (or joined). This suggests that this midden was a midden for inedible mussels. We would target additional middens at this site for a comparison.

Pottery

Very little pottery was excavated at the site, or found on the surface. All the sherds were undecorated. This suggests that the site post dates 1850 ACE.

MPE 159

MPE 159 is located on the second dune cordon from the ocean. It consists of two shell middens, one that is intact, and another that was partially exposed by bush clearance. There are two human bone fragments in the vicinity of the lower midden which makes the site of high significance. The higher midden is very well preserved, and is of medium significance. The excavated area occurs along the down slope of a

cleared road (fig. 33). The rest of the site occurs under thick vegetation. The site was excavated in November 2014.

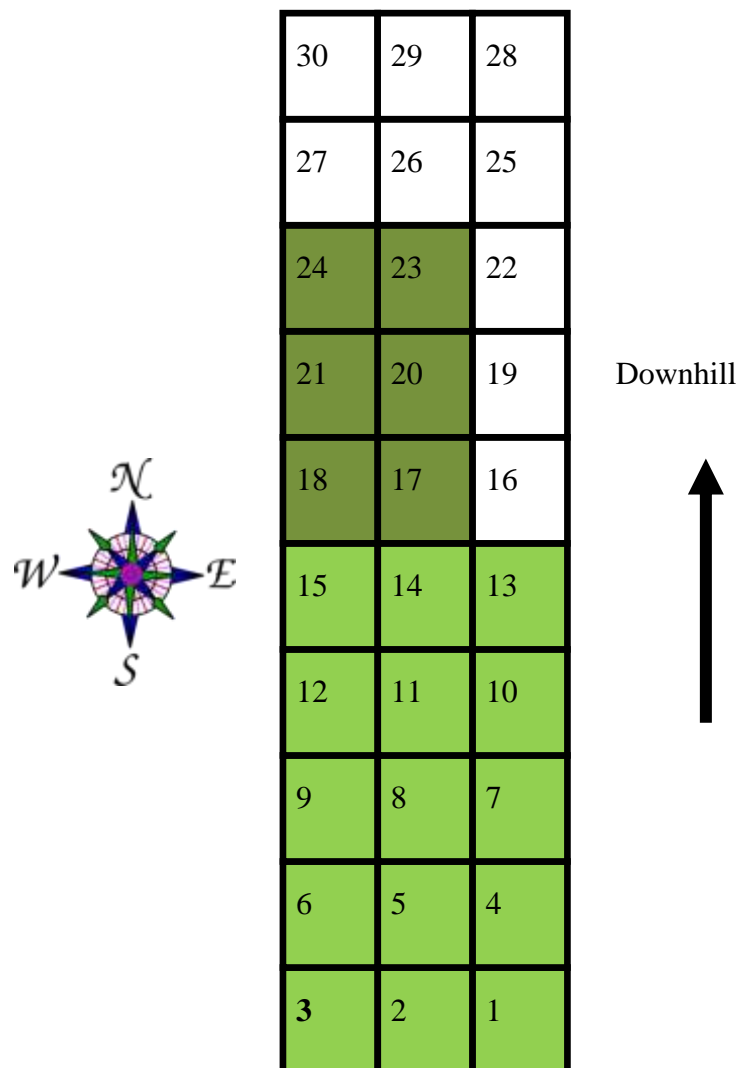
Fig. 33: General View Of The Excavation



Excavations:

The site was divided into 30, 1m x 1m squares around a midden that was exposed by bush clearance (fig. 34). The squares were excavated from the outer edges first, working our way towards the obvious shell midden located roughly in the centre. The midden was exposed by removing the overburden. The shell midden was excavated stratigraphically, while the areas around it were excavated in 10cm spits. The second midden appears to be separate from the main midden; however this could have been a result of root and bulldozer activities. They were excavated separately, but combined in the analysis.

Fig.34: MPE 159 Site Map³



³ Light green = excavated; dark green = excavated shell midden

Stratigraphy & Excavation

The soil above the midden had mostly been removed by bush clearance activity. The middens were located in Squares 14, 15, 17, 18, 21, and 23. The midden 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.

The midden was a maximum of 10cm thick in the centre. The squares to the south of the middens were excavated to 50 – 90cm below the surface. The western row was significantly deeper than the two rows to the east. This could be a result of a dip in the dune. There was also a 20cm – 30cm drop in the depth of the basal layers between the squares 13 – 15 and the midden in squares 16 – 18.

The excavation and sections are shown in figure 35.

Results:

Table 6 summarises the results from the excavation. Figure 36 shows these results as a percentage of each category to the total artefact and ecofact weights from the excavation. *P. perna* is the most dominant category in the excavations; however, unlike the previous two sites there is an almost 10% drop in the percentage total of *P perna*. The increase in the relative percentages of bone, other shell species, and daga is the cause of this.

Fig. 35: Excavations And Sections At MPE 159



Fig. 36: Finds As A Percentage Of Total Weight.

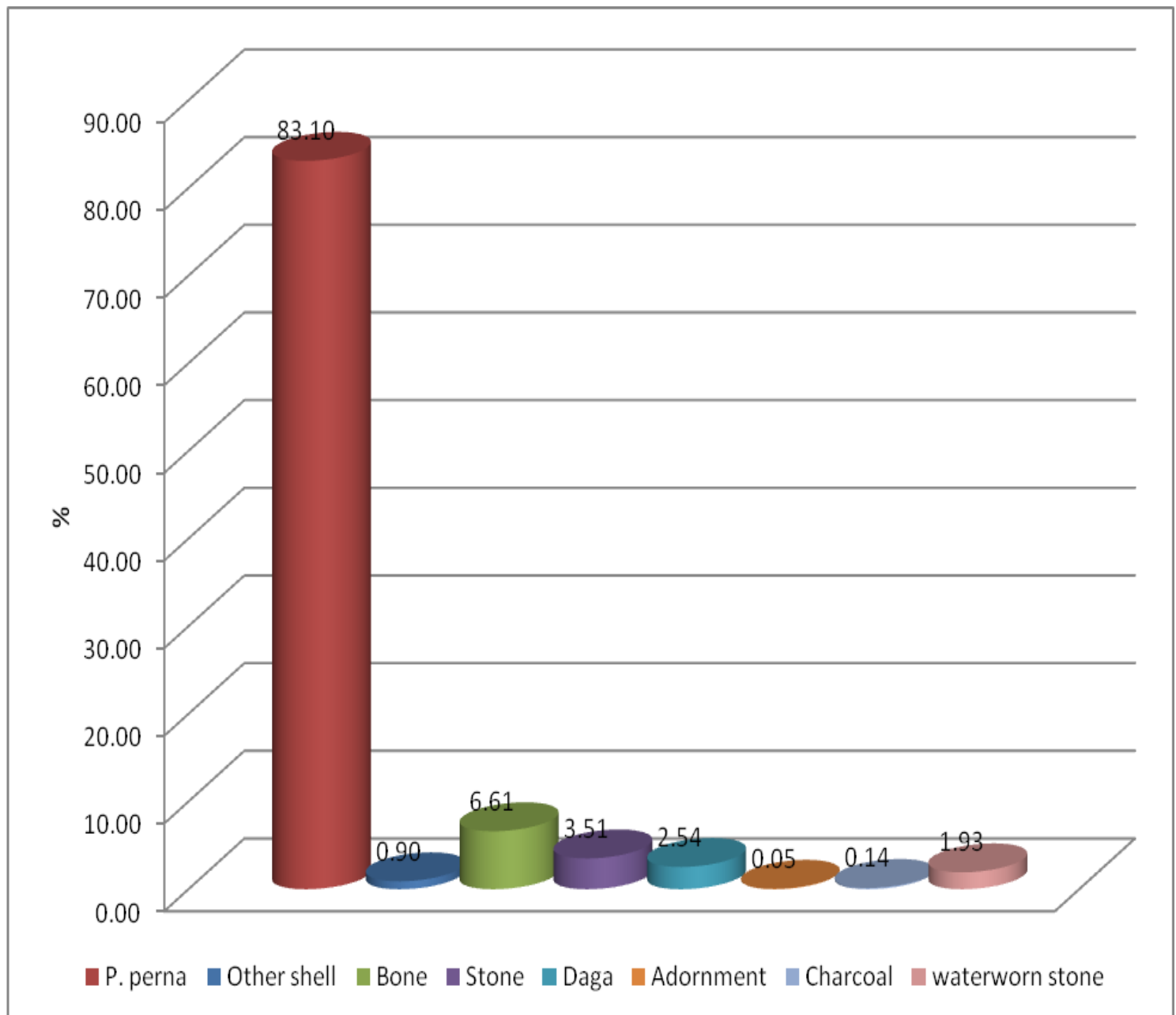


Table 6: Summary Of Excavation Results From MPE159

Category		Grams/freque ncy	Total
Buckets			58.583 ⁴
Bone	Bone	g	755
	Fish otolith	g	3
	Fish Bone	g	59
Stone	Manuport	f	1
	Smoothed	g	185
	Stone	f	27
	water worn stone	g	2858
	Upper G/Stone	g	1676
		f	7
	Lower G/stone	g	3350
		f	7
	Nassa. beads	f	72
Coral		f	7
Worked Bone		f	2
Charcoal		g	212
Iron ore		g	1352
Daga		g	3765.5
Pottery		g	13443
Shell	Other Shell	g	1337
	<i>P. perna</i> Left	f	497
	<i>P. perna</i> Right	f	413
	<i>P. perna</i> weight	g	123210
Total	Weight	g	148274

⁴ 878.745 dm³

General Deposit

878.745 dm³ of shell midden deposit was excavated. This is similar to the deposit excavated at MPE110. The volume of the deposit excludes squares where there was no shell midden. This would vary from 5000 – 8000dm³.

Faunal Remains

There are few faunal remains in the middens. Most of the bone comes from a few large bovid fragments. There is a sharp increase in the amount of fish in this midden compared to the previous two middens. Three otoliths were recorded: these tend to be rare finds due to their small size, and they are often mistaken for quartz fragments. One bone appears to be the carpo-metatarsal of a domestic fowl (or similar size).

Charcoal

A large amount of charcoal was excavated from the site in comparison to the other sites. In a few instances the charcoal was placed directly into bags for future dating purposes. The charcoal was concentrated in two main areas. The first was Pit 1 which was a small ash pit above Lens 1, in Squares 14 and 17. The second area was in squares 8 – 9, in association with daga fragments.

Stone

The stone from the sites consists mainly of water worn stone and smoothed stones. The upper and lower grinding stones were mostly fragments, and because of their size, they appear to be more in number than the other stone categories. There is a noticeable lack of grinding stones in the excavation, and surrounding area on the surface. The high number of water worn stones suggest that the *P. perna* was harvested in bunches and not selectively.

The manuport is a nugget of banded agate.

Small finds

There are a 72 *Nassa* beads from the midden and two fragments were excavated. A small amount of daga floor was thrown in the midden. Two fragments of shell pendants were excavated. These were similar to those in figure 27.

The coral was mostly small fragments, unlike the large chunks found on the surface at MPE110.

Square 10 and 11 had the highest concentration of iron ore. There were two pieces that had fragmented. They were in the basal units at ~80cm below the surface.

Two areas appear to have been dumping areas for daga floor fragments. Square 8 (and some of Sq. 9) have a high concentration of daga fragments. The one area had the upper grinding stone associated with smoothing the floor besides the fragments (fig. 37). The rest of the daga tends to come from square 23 Lens 1. One daga piece had the mat impressions on it. It is unusual to find so much daga in a site of this age.

Pottery

Very little diagnostic pottery was found at the site. 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.

The decorations are as follow:

- bevelled lip
- slight everted rim with circular impression on lip
- everted rim with square impressions on lip
- lip notching

Fig. 37: Daga Concentration In Square 8



Shell

The most common shell is *Perna perna*, or the common brown mussel, and it appears to be the staple food, as in all shell middens. Other types of edible shellfish include oyster, whelk, and limpets. Other shell species that were probably not eaten include lichen, barnacle, and key-hole limpets.

The bulk shell samples consist of 10.3% of the shell material. Only the left/right hinges from the bulk samples were counted, while all complete shell were measured. The bulk samples yielded a maximum of 497 mussels. These mussels varied in size however not many were measurable as they tend to break in the deposit (only 1.8% of the counted mussels were measurable). Table 7 summarises the size of the

mussels. These sizes are much smaller than the other excavated sites, even with a low sample size. The high number of juveniles suggests that smaller sized *P. perna* were removed. This could be an environmental or human reason.

There is an increase in the amount of *Siphonaria capensis* at this site, and these formed most of the 'other shell' category. These species are also smaller in comparison to MPE110.

Table 7: *Perna perna* Measurements

	Lef t	Rig ht	Total
Avera ge	34. 4	41. 5	37.5
Media n	30	47	40
Max	49	49	49
Min	20	30	20
F	5	4	9
Juveni les			182

Table 8: *Siphonaria capensis* Measurements

	Total
average	28.13043478
median	28
max	40
min	14
f	26

The shell midden represents a general midden with a greater variety of artefacts and ecofacts from the other excavated sites. More middens occur in the area and

form part of a general human settlement. We will excavate more of these when they are exposed.

CONCLUSION

A total of 27 archaeological sites were recorded in 2014, and 3 sites were excavated. Most of the sites were sampled. 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 occurrence of a small oyster button is unique, while the occurrence of two human remains, that are probably related, is rare. The occurrence of Mpambanyoni pottery at one site is also rare for this area as only two other sites have this type of decoration.

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. For example, the occurrence of a small, yet fully developed elephant cranium in 2010 within the dune system is intriguing. 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. 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. Human skeletal remains dating back to the 11th century are being uncovered. 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.

Mining Ponds D and E will be entering an archaeologically rich area in 2015. These sites will be close to the St Lucia estuary, and it will be interesting to see how, or if, they differ to the sites more to the south. Mining Pond A and C are entering areas of medium archaeological sensitivity. These two ponds will be mining the first main and highest) dune cordon from the beach.

There has been a concerted effort from Ecology, mine planning and bush clearance teams to look out for, and report, archaeological sites as they are exposed. This has resulted in several sites being recorded before they were further damaged.

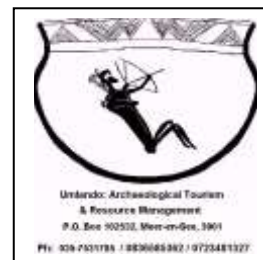
REFERENCES

- 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: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age: ? Indeterminate IA

Historical Period:

Recorder's Site No.: MPE 156

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 32.665 E 32 22.389 Alt: 119m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

MPE 156 is located on the first dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: It is of low significance and no further mitigation is required

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 02/04/2014

Owner:

References:

Description of site and artefactual content.

The site consists of a dispersed shell midden that was exposed and extended by bush-clearance. There is some undecorated pottery on the surface.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period:?



Recorder's Site No.: MPE 157

Official Name:

Local Name:

Map Sheet:

Map Reference:

GPS reading: S: 28 31'43.9'' E: 32 22' 26.3''

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

MPE 157 is located on a small hill in a valley between the first and second dune cordons, very close to MPE 158.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: RBM Mining

RECORDING:

Details of graphic record: None

Recorder/Informant: Name: Umlando, Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 21/08//2014

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a surface scatter of undecorated pottery (incl. rims and lips), bovid bone and brown mussel.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age: ?

Historical Period:?

Recorder's Site No.: MPE 158

Official Name:

Local Name:

Map Sheet:

Map Reference:

GPS reading: S: 28 31'47.8" E: 32 22' 31.5" Alt: 51m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

MPE 158 is located on the second dune cordon from the ocean, on the edge of the red dune system.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: Yes. The midden is very well preserved. Excavation.

Threats: Yes

What threats: RBM Mining

RECORDING:

Details of graphic record: Digital

Recorder/Informant: Name: Umlando, Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 26/06//2014

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of an intact *P. perna* midden that was exposed by bush clearance and drilling activity. The midden is located about 1m below the surface with approximately 3m of midden visible. The bulldozer just clipped the edge of the midden; however, it is a very dense midden and should have been reported as per RBM's SOP 5. The numbered surveyor pole was in fact placed near the exposed midden, so it is unlikely that it was not noted.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age ?

Historical Period:?



Recorder's Site No.: MPE 159

Official Name:

Local Name:

Map Sheet:

Map Reference:

GPS reading: S: 28 31 24.9 E: 32 22 35.2 (Midden 1)

S: 28 31 27.6 E: 32 22 35.5 (Midden 2)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

Site is located on the second dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: Yes, Test-pits and monitoring

Threats: Yes

What threats: RBM Mining

RECORDING:

Details of graphic record:

Recorder/Informant: Name: Umlando, Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 29/07/2014

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of two p.perna middens. The upper midden is very well preserved and there are pottery and human bone on the surface. The lower midden is slightly dispersed, but still of medium significance

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):					

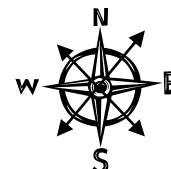
Recorder's Site No.: **MPE 160**

Official Name:

Local Name:

Map Sheet:

GPS reading:: S: 28.53168 E: 32.37319 Altitude: 31m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 160 is located on the divide between the Red Dunes and the normal dune system, on the ocean side. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1820/AA/1.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is of low significance and no further mitigation is required, however, it was sampled and will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6856

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

It consists of a surface scatter of undecorated pottery (incl. rims), upper grinding stones and *P.Perna*. There is no evidence of a midden, although the shell fragments indicate that there is one in the vicinity, most likely in the adjacent, uncleared forest.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

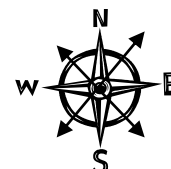
Recorder's Site No.: **MPE 161**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.53022 E: 32.37423 Altitude: 37m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 161 is located on the divide between the Red Dunes and the normal dune system, on the ocean side. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1840/BB/1.

SITE DESCRIPTION:

Type of Site: Open. Midden. Grave.

Merits conservation: The site is of high significance due to the human remains and apart from having removed the remains and sampling the site, it will also be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:6857, 6858 Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a dispersed *P.perna* midden, upper grinding stones, bovid bone, decorated pottery (Group 7) and human remains.

The human remains are mostly gone and only the lower limbs were still *in situ*. We removed what was left as SK 1, and collected bone from the surface as well.

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 162**

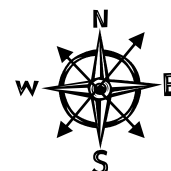
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.53063 E: 32.37469

Altitude: 40m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 162 is located at the base of the first dune cordon from the ocean, inland side. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1840/AA/1.

SITE DESCRIPTION:

Type of Site: Surface Scatter

Merits conservation: It is of low significance and no further mitigation is required, however, it was sampled and will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:6859

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of an ephemeral surface scatter of undecorated pottery and *P.perna*.

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.: **MPE 163**

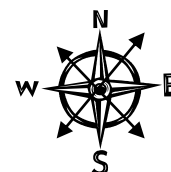
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 32.235 E: 32 22.632

Altitude: 126m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

MPE 163 is located on the first dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Surface Scatter

Merits conservation: It is of low significance and no further mitigation is required, however, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a surface scatter of *P.perna*, oyster, upper grinding stones, bovid bone and undecorated pottery.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period: x

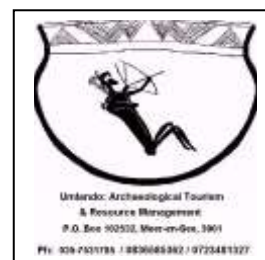
Recorder's Site No.: RD 015

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 31.714 E: 32 21.847 Alt: 87m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

RD015 is located on the district road to Maphelane side of the red dune system.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 21/05/2014

Owner:

References:

Description of site and artefactual content.

The site consists of a single shell midden exposed by road clearance. Chances are that there will be the remains of a household in the adjacent uncleared bush. Chances are that there will be the remains of a household in the adjacent uncleared bush.

The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period: x

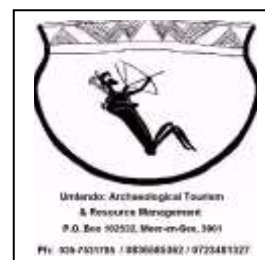
Recorder's Site No.: RD 016

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 32 22.0 E: 32 21 13.7 Alt: 41m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

RD016 is located on the district road to Maphelane side of the Red Dune system. The site was exposed by bush clearance and/or drilling activity. The site is currently of low significance and no further mitigation is required; however, we will monitor it for as long as possible

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 06/06/2014

Owner:

References:

Description of site and artefactual content.

It consists of an ephemeral surface scatter of *P. perna*, pottery and a single upper grinding stone. The pottery is undecorated. The site probably dates to the early 20th century and thus human remains may occur below the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period: x

Recorder's Site No.: RD 017

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 31 34.7 E: 32 21 51.7 Alt: 73m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

RD 017 is located on the district road to Maphelane side of the red dune system, in the vicinity of RD 016, but more towards the ocean.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 06/06/2014

Owner:

References:

Description of site and artefactual content.

The site was exposed by road cutting and consists of a scatter of *P. perna* and a single potsherd.

The site probably dates to the early 20th century and thus human remains may occur below the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period: x

Recorder's Site No.: RD 018

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 31 49.6 E: 32 22 11.7 Alt: 32m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

RD 018 is located on the ocean-side of the red dune system. It consists of a single, dispersed *P. perna* midden and a bone fragment.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 26/06/2014

Owner:

References:

Description of site and artefactual content.

It consists of a single, dispersed *P. perna* midden and a bone fragment. The site was exposed by bush clearance and drilling activity. It is a small, but obvious midden and it should have been reported as per RBM's SOP 5.

. The site probably dates to the early 20th century and thus human remains may occur below the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age:

Historical Period: x

Recorder's Site No.: RD 019

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28 31 54.0 E: 32 21 54.3 Alt: 82m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

RD 019 is located on the ocean-side of the red dune system

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The site is currently of low significance; however, we will monitor it for human remains for as long as possible. If a burial is located the significance will change accordingly.

Threats: Yes

What threats: MPE Mining

RECORDING:

Graphic record:

Digital pictures: x

Tracings:

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 26/06/2014

Owner:

References:

Description of site and artefactual content.

It consists of a single, dispersed *P. perna* midden and an undecorated potsherd. It is an obvious midden and should have been reported as per RBM's SOP 5.

The site probably dates to the early 20th century and thus human remains may occur below the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

Recorder's Site No.: **RD020**

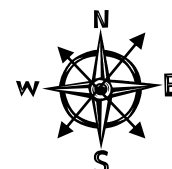
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.253294 E: 32.36518

Altitude: 76m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD020 is located in the Red Dune system, close to Sokhulu Reservoir.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: It is of medium significance and if time allows, test-pits will be undertaken and it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:6853

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site was exposed by bush clearance and consists of a single *P.perna* midden, upper grinding stones, bovid bone and shell-impressed pottery (Tsonga, Group 7).

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.: **RD021**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.53126 E: 32.36894

Altitude: 35m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD021 is located in the Red Dune system, close to Sokhulu Reservoir.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: It is of low significance and no further mitigation is required. However, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a single *P.perna* midden and undecorated surface 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:	?	Recent Past (last 60 yrs):					

Recorder's Site No.: **RD022**

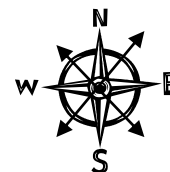
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.53261 E: 32.36792

Altitude: 40m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD022 is located in the Red Dune system, close to Sokhulu Reservoir. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1780/DD.

SITE DESCRIPTION:

Type of Site: Open. Midden

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

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6854, 6855

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a single, dispersed *P.perna* midden, upper grinding stones, bone fragments and pottery. The midden itself is partially still intact in the roadside section and three potsherds have *intsumpa*.

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.: **RD023**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.53024 E: 32.37114

Altitude: 28m

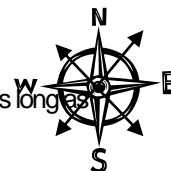
DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD023 is located in the Red Dune system, close to Sokhulu Reservoir. As per RBM SOP we were informed by RBM Ecology that the Exploration team has exposed a site near surveyor pole nr. 1820/DD/1.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: It is of low significance and no further mitigation is required. However, it will be monitored for as long as possible.



Threats: Yes

What threats: RBM mining

RECORDING:

Digital pictures #:

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 04/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a single, dispersed *P.perna* midden and undecorated pottery 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	x		
Historical	Historical Period:		Recent Past (last 60 yrs):					

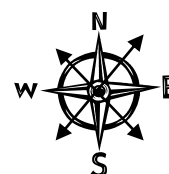
Recorder's Site No.: **RD024**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28° 31.613" E: 32° 21.704" Alt: 72m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD024 is located in the red dune system, close to the Maphelane district road.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: It is of low significance and no further mitigation is required, however, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures N/A

Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 31/10/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a 30m x 30m surface scatter of *P. perna* and 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	x		
Historical	Historical Period:		Recent Past (last 60 yrs):					

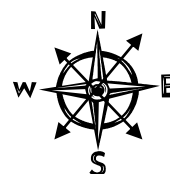
Recorder's Site No.: **RD025**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28°31.759" E: 32°21.725" Alt: 76m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD025 is located in the red dune system, close to the Maphelane district road.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: It is of low significance and no further mitigation is required, however, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures N/A

Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 31/10/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a 30m x 30m surface scatter of *P. perna* and, undecorated pottery and upper grinding stones.

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):					

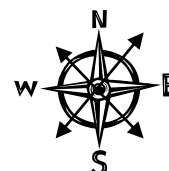
Recorder's Site No.: **RD 026**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28°31.737" E: 32°21.603" Alt: 64m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD026 is located in the red dune system, close to the Maphelane district road.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: Yes. We will monitor the site continuously over the next couple of weeks. As it is the rainy season, more bone should be exposed which will allow us to determine whether it is indeed a human burial.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #7038

Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 31/10/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a 30m x 40m surface scatter of undecorated pottery and bone fragments. The bone may be of human origin which means that although the site itself is of low significance, the possible burial is of high significance.

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):	x				

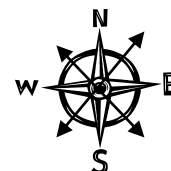
Recorder's Site No.: **RD 027**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28°31.782" E: 32°21.655" Alt: 75m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD027 is located in the Red Dune system, close to the Maphelane district road.

SITE DESCRIPTION:

Type of Site: Open. Midden.

Merits conservation: It is of low significance and no further mitigation is required, however it, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #7039

Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 31/10/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a single *P. perna* midden and a surface scatter of *P. perna* and oyster.

The site dates to the last 60 years which makes it very recent.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

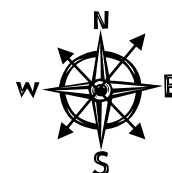
Recorder's Site No.: **RD 028**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28°31.844" E: 32°21.732" Alt: 72m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

RD028 is located in the Red Dune system, close to the Maphelane district road.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: As this is a possible smelting site, it is of medium significance and has been sampled. We will continue to monitor it for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #7040

Tracings:

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 31/10/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of an extensive scatter of decorated pottery, *P. perna*; fire cracked stone, iron ore and 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.: **AMS 27**

Official Name:

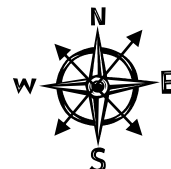
Local Name:

Map Sheet:

GPS reading: S: 28.58978 E: 32.33984

Altitude: 48m

GPS taken 100m (S)



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

AMS 27 is located on the first dune cordon from the ocean. We were called in to collect human remains that were in the sieves at AMS Dry Mining Plant 3.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: Because of the human remains the area is of high significance and will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #:

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

There is some surface shell in the area and it is located close to an Msuluzi site with a *P.pema* midden, upper grinding stones and lower grinding stones, however, we cannot confirm that the skeletal remains come from either of these areas. The site name AMS 27 was just given to serve as future identification for the remains.

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.: **AMS 28**

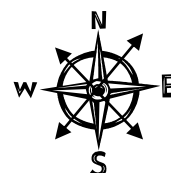
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.59087 E: 32.34004

Altitude: 44m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

AMS 28 is located at the top of the first large dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: The site is of high significance due to the cranial fragment, was sampled and will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6860

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a mixture of surface scatters of asbestos, modern brick, large WBS lower grinding stones, glass, upper grinding stones, and large chunks of coral, shell and a human cranial fragment.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

Recorder's Site No.: **AMS 29**

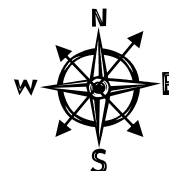
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.58979 E: 32.33984

Altitude: 44m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

AMS 29 is located at the top of the first large dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: The complete lack of pottery and the occurrence of stone tools indicate that it is a Stone Age site and as such it is of high significance and will be excavated in the near future. We will also continue to monitor the site for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6861 to 6864

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of two large shell middens, 5-10cm below the surface.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

Recorder's Site No.: **AMS 30**

Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.59319 E: 32.33729

Altitude: 62m

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

AMS 30 is located on the first large dune cordon from the ocean

SITE DESCRIPTION:

Type of Site: Open. Midden

Merits conservation: It is of low significance and no further mitigation is required. However, it will be monitored for as long as possible.

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6865, 6866

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a large shell midden that is probably related to AMS 29, but once again there is a complete absence of pottery and small lower grinding stones.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

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

Recorder's Site No.: **AMS 31**

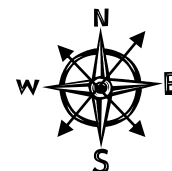
Official Name:

Local Name:

Map Sheet:

GPS reading: S: 28.59012 E: 32.33786

Altitude: 41m



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION

AMS 31 is located behind the first dune cordon from the ocean.

SITE DESCRIPTION:

Type of Site: Open. Surface Scatter

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

Threats: Yes

What threats: RBM Mining

RECORDING:

Digital pictures #: 6867, 6868

Tracings :

Drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 17/09/2014

Owner:

References:

DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.

The site consists of a surface scatter of *P.perna*, *Nassa*, small bovid bone and teeth, fishbone and teeth, upper grinding stones, Stone Age flakes and cores.