

**THE ARCHAEOLOGICAL SURVEYS, MONITORING AND
EXCAVATIONS AT RICHARDS BAY MINERALS**

**FOR RICHARDS BAY MINERALS AND KWAZULU-NATAL
HERITAGE**

**DATE: 29 JANUARY 2006
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| | |
|--|----|
| INTRODUCTION..... | 4 |
| THE SURVEYS AND MONITORING PROGRAM | 4 |
| Town Board (TB) | 4 |
| MPA | 7 |
| MPC | 7 |
| MPD | 8 |
| MPE..... | 8 |
| AMS | 9 |
| EXCAVATED SITES | 11 |
| AMS3 | 11 |
| MPD61 | 12 |
| STMB | 16 |
| TB4..... | 20 |
| TEMPORARY STORE ROOM AT RBM..... | 20 |
| RADIOCARBON DATING..... | 21 |
| CONCLUSION AND FUTURE MANAGEMENT..... | 24 |
| Appendix A | 25 |

| | |
|--|----|
| Figure 1: Squares 3 & 4 South and East Sections of Lens 1..... | 13 |
| Table 1: Artefacts From AMS3..... | 14 |
| Table 2: Length Of Brown Mussels From AMS3..... | 15 |
| Figure: 2: Excavation Plan for STM and STMB..... | 17 |
| Figure 3a: Stratigraphy Of The 9-Line East Sections..... | 18 |
| Figure 3b: Stratigraphy Of The East-Line South Sections..... | 19 |
| Table 3: List Of Radiocarbon Dates For RBM Sites..... | 23 |

INTRODUCTION

Umlando surveyed, monitored, and/or excavated several sites in 2005. This report is a summary of the monitoring and the surveys. Furthermore, a working document was implemented regarding the treatment of human remains and the procedures related to human remains.

Most of the sites are sampled if they have diagnostic material, even if these are open sites. These open sites tend to be single occupation sites, and thus there is little chance for intrasite contamination. If a site has medium to high significance it is automatically excavated, monitored, and/or systematically sampled.

THE SURVEYS AND MONITORING PROGRAM

Town Board (TB)

The Town Board mining lease and activity began in the early parts of the year. This is to be the southern part of the Zulti North mining lease.

TB1 and TB2 are located on the highest dune in the area, and besides the trigonometric beacon. TB1 and TB2 yielded two human skeletons. The sites were recorded separately, however they are probably part of the same site. The human remains at TB1 were inadvertently identified as modern human remains, and partially removed by the RBM Community Affairs Dept, and members of the local community. The RBM rehabilitation superintendent halted the removal and we inspected the remains and the burial area¹. Further human remains were recovered: these included tibia, radius, ulna, phalanges, and cranial fragments. An iron armband was located on an arm, however it was poorly preserved. The positions of the remaining metatarsals (feet bones) indicate the person was originally in a sitting position and facing sunrise.

Juvenile bones were observed just north of the main burial and amongst the adult remains as well. Most of these were in a secondary context and had been probably removed with the first burial.

The double burial is unique for Kwa-Zulu Natal and had the potential to yield much information, especially regarding LIA burial practice.

The artefacts are as follows:

- ❖ Pottery:
 - Conical perforations on body
 - Straight rim-neck-body with flat or round lip
 - Various pot lids
 - Tapered rim with everted, flat or round lip
 - Straight rim-neck-body with circular impressions on flat lip
 - Lug on body
- ❖ Various faunal remains
- ❖ Various fish remains
- ❖ Slag and iron ore
- ❖ Various marine shell samples: large whelks, oyster, brown mussels, and limpets.
- ❖ A bone spoon was located on top of the disturbed grave, but we are not sure of its provenience.
- ❖ Daga floor fragments
- ❖ Decorated dagga pipe: rows of small incisions on bowl and stem
- ❖ Yellow smoothed ochre
- ❖ Isolated human remains:
 - Mandible from the child at TB1
 - Adult mandible (from mine sieves)

¹ This essentially illegal removal led to an official document and Standard Operating Procedure document that is now enforced.

- Finger bones (phalanges)
- Maxillae fragments

TB3 was surveyed after TB1 was recorded. We noted that skeletal remains had been uncovered by the bulldozer at the base of the TB1 hill. I noted that several artefact concentrations occurred at the site, and that there was a high possibility of more human remains. We excavated those parts of the human that remained *in situ* (i.e. the feet). The feet face sunset and the rest of body had been displaced.

The area surrounding the burial was probably a settlement. The settlement had various features (middens, ash dumps, general middens), and variety of artefacts. These had all been scattered by the bulldozer and no intact features or stratigraphy was observed. The shell consisted of large oyster, mussel, large whelks, and some limpets. The artefacts consisted of a possible ivory bangle, undecorated pottery, large amounts of large bovid bone and fish remains.

I suggested that TB1 – 3 are monitored each day, as we were not able to excavate the site: the area was too disturbed to excavate; however, an hour of monitoring each day would suffice. The purpose of the monitoring program was to sample, or collect, material that would be uncovered on a daily basis, as well as potential human remains (a mandible had been recovered from the mine sieves the previous week). If further human remains were observed, then we would be able to undertake the necessary mitigation.

The monitoring occurred from the 4th May to the 23rd May; whereafter the bulldozers cleared the remaining parts of the site.

TB4 is approximately 50m southwest of TB2. We removed one near complete pot from the surface, and noted a few bone and shell fragments. We

monitored this site for further artefacts, and later excavated it. The excavations were test-pit excavations to determine if material that is more significant exists.

TB6 is located on the first dune from sea and near the Meerensee Equestrian Center. The site consists of a scatter of undecorated pottery sherds, and one lower grinding stone made from white beach sandstone.

TB7 is a memorial to a pilot who crashed in the vicinity several years ago. Mhlathuze Municipality and the family of the deceased erected the memorial. The memorial is in the shape of a stone cross with "SAS Natal" engraved on it. The Memorial will be removed, and replaced after mining.

MPA

MPA yielded only one new site throughout the year. This is probably since MPA has been moving very slowly northwards.

MPA34 is located on small dune adjacent to the MPA33 skeleton excavated in 2004. The site is an ephemeral scatter of shell over a large area (approx. 50m radius). The shell consists mostly of brown mussel and some limpet. The pottery is mostly undecorated and thin-walled. One sherd was decorated with lip notching, and one undecorated bowl was recorded.

MPC

MPC yielded only one new site throughout the year. This is probably since MPC has been moving very slowly northwards as well.

MPC83 is located along the second dune cordon, and on the highest dune along this cordon. Site consists of four small middens of mostly brown mussel and some limpets. Diagnostic pottery was present.

MPD

MPD74 is located on the opposite side of the new pylon # MPD44. It is an ephemeral scatter of brown mussel and undecorated pottery.

MPD75 is located opposite Pylon # MPD42, along the dune ridge. It is approximately in the middle of the dune system. The site consists of a small ephemeral scatter of brown mussel and limpets, and some undecorated pottery.

MPD76 is located south of the MPD75 and adjacent to pylon # MPD41. It is a large scatter of shell (approx. 5m diameter) and some pottery. The shell consists of brown mussel, oyster and limpet. The pottery is thin-walled and undecorated. One upper grindingstone was also observed.

MPD77 is located near pylon # MPD38. It is an ephemeral scatter of mostly brown mussel and some limpet fragments. Some of the shell is burnt, however it is probably from a recent burn. The midden is very disturbed and may have been bigger. No other artefacts were observed.

MPD78 is located along the top of the second dune cordon from the ocean. The site consists of one small midden of brown mussel. The pottery is undecorated. And one orange-red rim-lip was observed.

MPE

MPE also yielded only one new site throughout the year. This is probably since MPE has been moving very slowly northwards as well.

MPE61 is located along the second dune cordon from Lake Nhlabane, near the top of the dune. It consists of a large scatter of shell (brown mussel, oyster), and several artefacts. These artefacts are as follows:

- ❖ Pottery
 - thin-walled pottery sherds
 - some sherds with a brown burnish

- Lip notching
- Everted rim with round or flat lip
- Straight neck-rim-body with tapered or flat lip
- Double horizontal row of shell impressed decorations
- ❖ Quartzite core.
- ❖ Daga flooring
- ❖ Slag
- ❖ Bovid mandible

AMS

AMS4 is on the crest of the first dune from the hinterland. The site is a scatter of artefacts along the crest of the dune. The pottery includes two Mzonjani sherds, as well as thin-walled LIA sherds. The shell is mostly brown mussel *and one* upper grinding stone was observed.

AMS5 is on top of the first dune cordon from the interior. It has several “steps” that eventually form a flat top. The site is large with an extensive scatter of artefacts and features over an approx. 50m radius (if not more). This suggests that there is a small homestead on this hill.

At least four shell middens were observed and these appear to be relatively intact. A wide range of artefacts and ecofacts were sampled and observed. These are as follows:

- ❖ Pottery
 - mostly thin-walled
 - Comb stamping with a variety of shell impressed motifs
 - Everted rims with flat or round lips
 - Straight neck-rim-body with flat or round lips
 - Tapered rim with flat or round lips
 - Straight neck-rim-body with flat punctated lip
- ❖ Grinding stones

- ❖ Faunal remains - mostly bovid
- ❖ The marine shell consists of oysters and black mussels
- ❖ Slag

AMS6 is similar to AMS5, however it has been very disturbed by bulldozer activity. Thus while pseudo spatial patterns exist at AMS6, the features are too disturbed to warrant an excavation. I have sampled this site instead, and will monitor it in future surveys.

The artefacts from AMS6 include thin-walled pottery sherds, faunal remains, marine shell, slag, and grinding stones. The pottery consists of undecorated sherds with flat or tapered round and/or flat rims.

Bulldozers have disturbed AMS7, and only artefacts remain. The site is essentially an iron smelting site area with a living area on its outskirts. The smelting activity is on northern side, whilst the domestic area appears to be along the southern side of the site. The domestic area consists of ~5 shell scatters (probably middens ~2m diameter). The smelting area is slightly elevated above the rest of the site and has 1 - 2 shell scatters and a lot of iron working debris (slag, tuyeres, and ore).

The artefacts are as follows:

- ❖ Stones:
 - Upper and lower grinding stones - mostly around the northern part of the site
 - Smoothed pebbles
 - Palettes
- ❖ Variety of faunal remains -mostly bovid.
- ❖ Pottery
 - Tapered rim with punctated flat lip
 - Tapered rim with round or flat lip

- Straight rim-neck-body with flat or round lip
 - Several thick pot lids
 - Everted and tapered rim with flat lip
 - Tapered rim with beveled lip
 - Straight rim-neck-body with round, everted or flat lip
 - Tapered rim with incised lip (with crescent shape)
 - Flattened *isumpa* on body
 - Tapered rim, flat lip and rectangular comb stamping on flat lipSingle row of circular impressions (on body?)
 - Three grooves on body
 - Shell impressed comb stamping:
 - Single horizontal row
 - Four horizontal rows
 - Horizontal rows with diagonals between two rows
- ❖ Metallurgy
- Slag
 - Tuyeres
 - Furnace fragments
 - Iron ore
 - Hammerstones
 - Quartzite

EXCAVATED SITES

AMS3

AMS3 was excavated in March 2005. The site is located on the top of a high dune and the midden appeared to be a small single midden. These middens are important as they are good indicators of the material people used in a short period of time, and there is little chance of the layers being mixed (as with multiple component sites).

The stratigraphy is illustrated in figure 1. The midden is placed on the edge of dune and slopes west, north, and east. There is a smaller midden below the main lens that slopes eastwards. The lenses were excavated and bulk samples were taken from two lenses. That is all material from a quarter of the square is kept and used as a representative sample of the site or layer.

The lenses yielded a good sample of bovid bones and charcoal, as well the normal range of shellfish remains. Table 1 indicates these remains.

An interesting result from the shellfish remains is that the brown mussels tend to be very small in all of the lenses (Table 2). These are small in comparison to other sites where the average is at least 8cm in length.

MPD61

MPD61 was first excavated in 2002. We excavated the site to see if it was related to MPD60, or a different site. Since MPD60 yielded a vast amount of pottery, we believed that either MPD61 would yield similar amounts, or it was the end of the site, or a different site. The 2002 excavations yielded several sherds, however never in the same density as at MPD60. The 2005 excavations began on the eastern side of the original excavations and we extended more eastwards. Six squares were excavated. Very little material came from these excavations and we concluded that we had reached the extent of the site.

The pottery is similar to MPD60 and it appears that MPD61 is indeed the outskirts of MPD60. No further work is required at this site.

The pottery can be defined as follows:

- Diagonal rows on rim with flat lip
- 6 broken rows of horizontal grooves on rim, with a vertical chevron pattern below on the body

Figure 1: Squares 3 & 4 South and East Sections of Lens 1



Table 1: Artefacts From AMS3

| SQ. | LEN S | QUAD | BON E | CHARCOAL | WATERWORK N STONE | WATERWORK N SHELL | CORAL | SHELL | NASSA. BEADS | MNV | WORKED STONE | BULK SAMPLE |
|-------|-------|------|-------|----------|-------------------|-------------------|-------|-------|--------------|-----|--------------|-------------|
| - | SF | - | - | - | - | - | - | 5 | - | 6 | - | |
| 4 | 1 | - | 3 | 20 | - | - | - | 0.17 | - | 2 | 3 | |
| 3 | 2 | - | 3 | 5 | - | - | - | 0.01 | - | 3 | 1 | |
| 3 | 1 | - | - | 4 | - | - | - | 0.25 | - | 1 | 2 | |
| 5 | 1 | - | - | 5 | - | - | - | 0.2 | - | 1 | - | |
| 1 | 2 | - | - | - | - | - | - | - | - | 3 | - | |
| 2 | 1 | - | 10 | 40 | 360 | 80 | 10 | 6.6 | 2 | 2 | - | YES |
| 5 | 3 | NW | 100 | 20 | 180 | 60 | - | 6 | - | 2 | - | YES |
| 5 | 3 | NE | 60 | 3 | - | - | - | - | - | 4 | - | |
| 5 | 1 | SE | - | 4 | - | - | - | - | - | 3 | 4 | |
| 5 | 3 | SE | 20 | 2 | - | - | - | - | - | 1 | 3 | |
| 5 | 1 | NE | - | 3 | - | - | - | - | - | 2 | 3 | |
| 5 | 1 | SW | 0.2 | 3 | - | - | - | - | - | 1 | 1 | |
| 5 | 3 | SW | 10 | 3 | - | - | - | - | - | 4 | 1 | |
| 5 | Basal | NW | 0.2 | 5 | - | - | - | - | - | 3 | 3 | |
| 5 | Basal | NE | - | 10 | - | - | - | - | - | 1 | 2 | |
| 1 | 1 | - | 40 | 7 | - | - | - | - | - | 2 | - | |
| TOTAL | | | 246.4 | 134 | 540 | 140 | 10 | 18.23 | 2 | 41 | 23 | |

Table 2: Length Of Brown Mussels From AMS3

| SQ. | LENS | QUAD | n | AVERAGE | MAX | MIN | STD DEV |
|--------------------|-------------|-------------|------------|----------------|------------|------------|----------------|
| SURF | - | - | 5 | 3.9 | 4.2 | 3.2 | 0.4 |
| 1 | 1 | | 8 | 3.6 | 4.4 | 2.9 | 0.6 |
| 2 | 1 | | 13 | 3.1 | 4.2 | 2.1 | 0.5 |
| 3 | 1 | | 7 | 3.3 | 5.5 | 2.2 | 1.2 |
| 4 | 1 | | 28 | 4.0 | 8.2 | 2.9 | 1.2 |
| TOTAL | 1 | | 55 | 3.6 | 8.2 | 2.1 | 1.1 |
| 5 | 3 | NW | 98 | 4.2 | 5.7 | 1.7 | 0.8 |
| 5 | 3 | SE | 3 | 4.3 | 5.0 | 3.0 | 1.1 |
| 5 | 3 | SW | 12 | 4.4 | 5.8 | 3.1 | 0.8 |
| TOTAL | 3 | | 113 | 4.2 | 5.8 | 1.7 | 0.8 |
| Grand total | | | 174 | 4.0 | 8.2 | 1.7 | 0.9 |

STMB

STM was previously excavated over several years. It is radiocarbon dated to between 3 000 and 3 500 years ago. STMB is an extension to the north (northeast and northwest) of the previous excavations (i.e. the shell midden). We excavated at STMB for two seasons. The first season was for a week in June, where we undertook test-pit excavations to determine if archaeological material existed in this area. We were specifically looking for the living/domestic area of the hunter-gatherers related to the midden. This would be the first hunter-gatherer site, with a living area, to be excavated along the eastern seaboard.

The proposed living area was demarcated and we excavated eleven 1m x 1m squares in a straight line (the E-line) as depicted in figure 2. The site has a single horizon, or layer, that varies between 5 cm, to 15cm in depth (figure 3).

Several concentrations of stone tools were observed during this excavation as well as various smaller concentrations, or pockets, of shell. Two possible hearths were also recorded. We deduced that a living area probably does exist in this area, and is worthy of further excavations.

We opened the northern and southern squares in the second season. These excavations showed definite areas of artefact concentrations and more pockets of shell. Furthermore, the more northwestern squares showed an increase in shell density and possibly another midden.

We are currently curating and analysing the data and an interim report will be submitted in 2006. We intend to continue with the excavations over the next two years.

Figure 2: Excavation Plan for STM and STMB

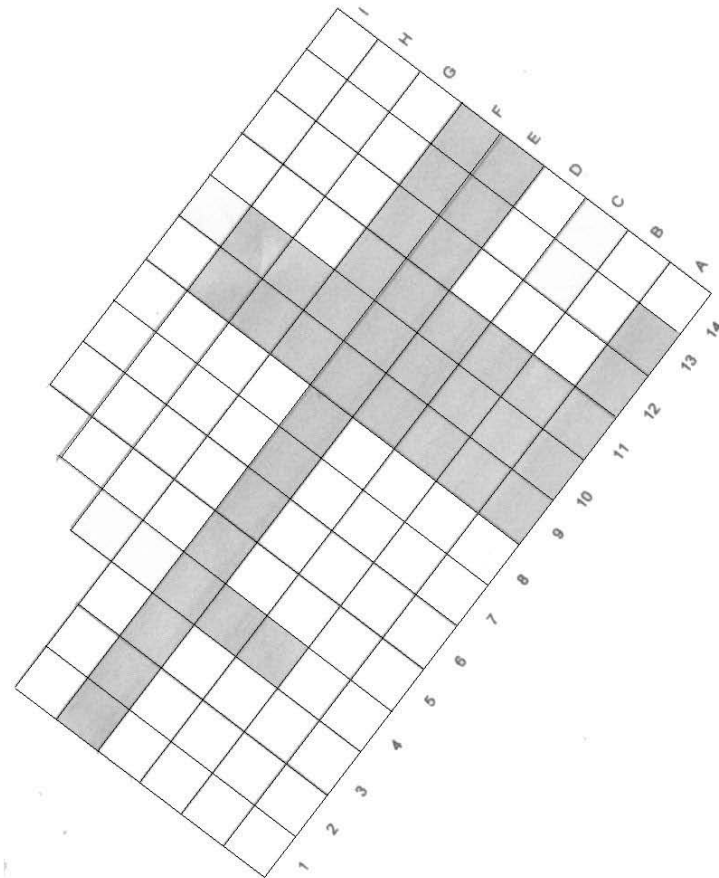
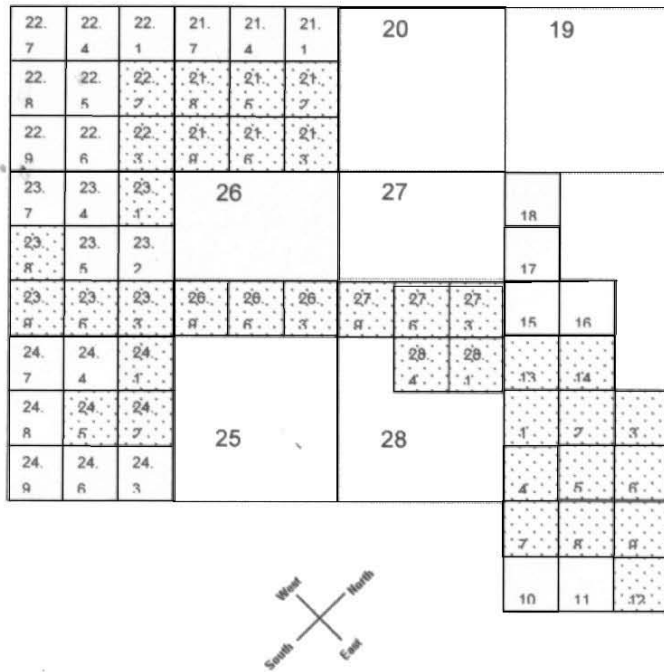


Figure 3a: Stratigraphy Of The 9-Line East Sections

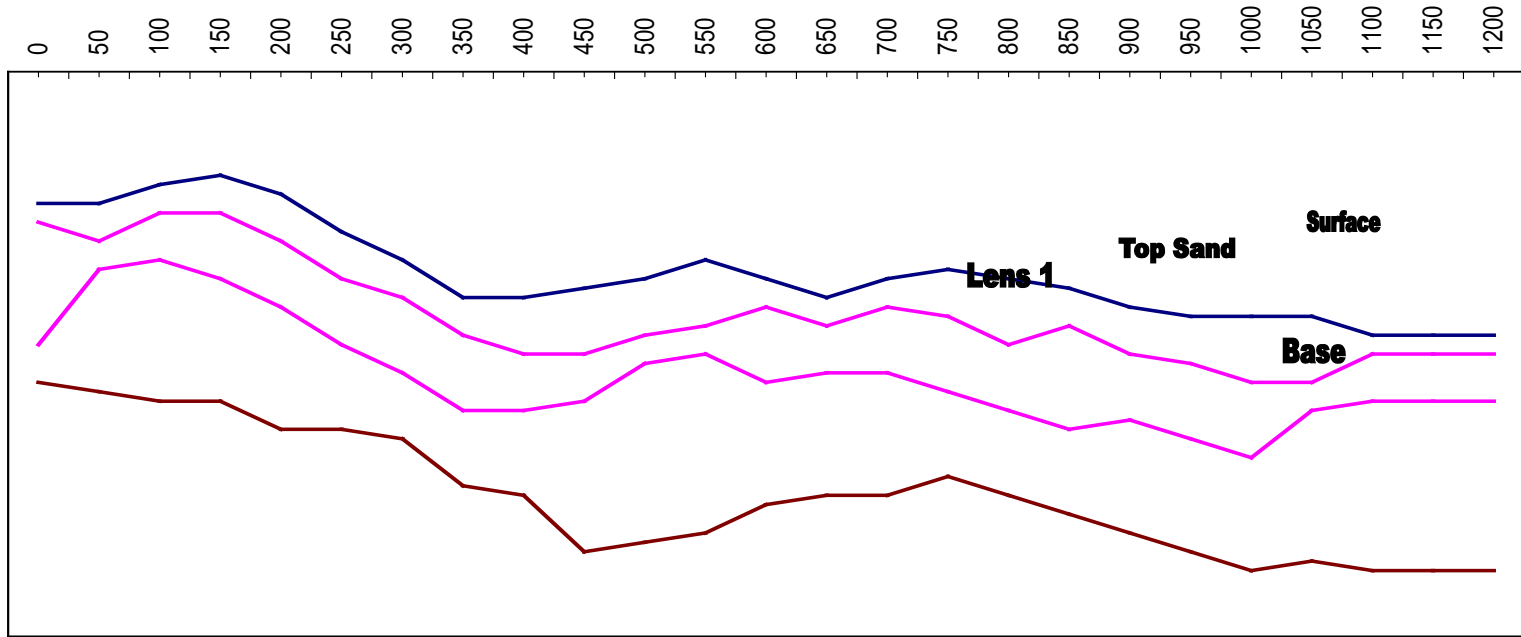
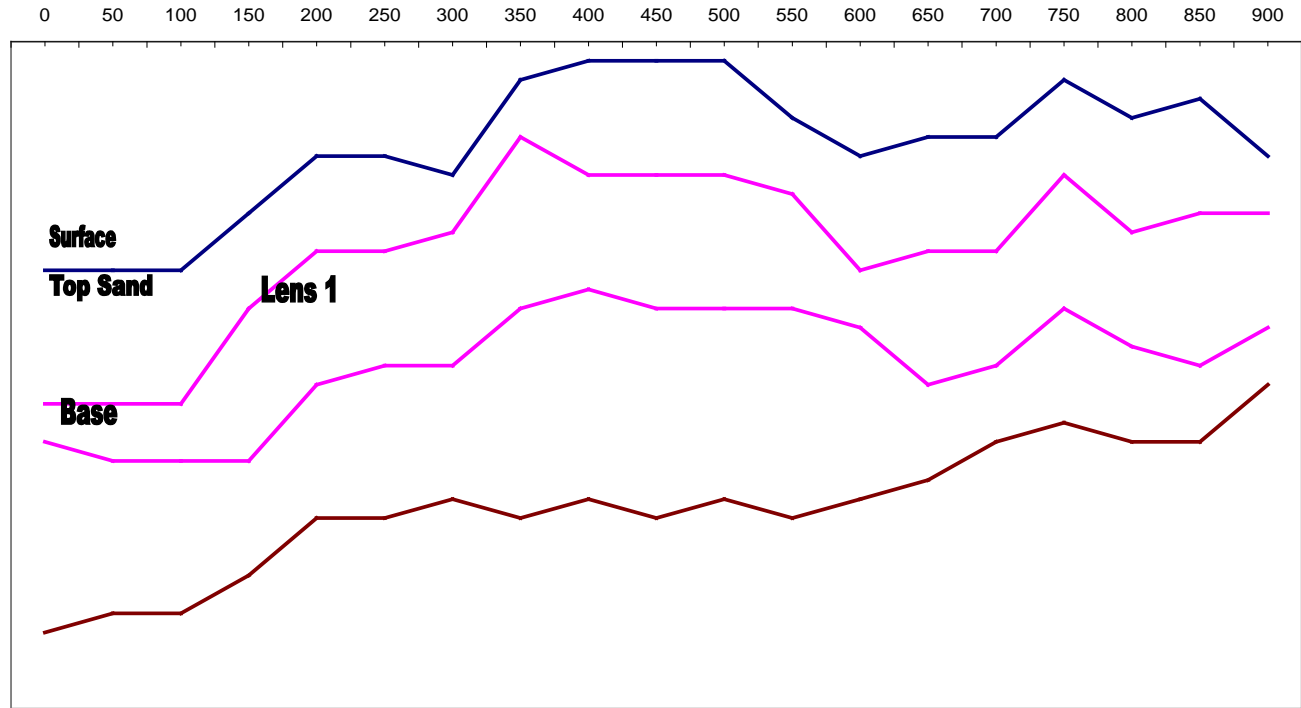


Figure 3b: Stratigraphy Of The East-Line South Sections



TB4

A small test-pit excavation was undertaken at TB4 to determine if any spatial features and/or stratigraphy existed at the site. Two 2m X 2m X 0.7m squares were excavated. The squares were ~10m apart from each other. Several sherds and a few faunal remains were recovered however no significant material was recovered.

There was no stratigraphy in either squares and the soil profile went from topsoil to brown sand to sterile sand.

The artefacts are as follows:

- ❖ Faunal remains of large bovid
- ❖ Stone:
 - White beach sandstone fragments for lower grinding stones
 - Upper grinding stones
 - Iron ore – “bog iron”
- ❖ Pottery
 - Straight rim-neck-body with everted, round or flat lip
 - Tapered rim with everted, flat or round lip
 - Straight rim-neck-body with incised flat lip

The excavations are complete and no further excavations were conducted.

TEMPORARY STORE ROOM AT RBM

The artefactual material and human remains are currently at the Umlando offices in Meerensee. We have discussed the use of a storeroom at the rehabilitation offices for archaeological remains. RBM may allocate one room that will be dedicated to the storage of all artefacts and human remains. Two keys

should be available for this room: one set for Umlando, and one as the spare key at the main office of the RBM Rehabilitation Center, i.e. Rynhard Kok's office.

The material will remain in this room until they are returned to the KwaZulu-Natal Heritage offices in Pietermaritzburg once a year. Using this room will also comply with the policy regarding the treatment of human remains. This policy states, amongst other things, that a dedicated room should be made available for the ethical storage of human remains.

We have received written approval from Amafa to use this temporary storage facility.

RADIOCARBON DATING

A last project of scientific significance is that of radiocarbon dating. All living material (or material with carbon in it) can be dated by means of the radiocarbon dating method (up to ~30 000 years ago). However, there is a difference between the dates of marine shell and land mammals of the same period.

This discrepancy has been corrected along the West Coast for marine shell dates – there is ~ a 200 - 400 year difference. However, the discrepancy along the East Coast is still unknown (see Appendix A for details). All previous shell dates from RBM are thus “in limbo”, as we cannot state that these are the real dates. Table 3 lists the various sites in the mining lease and the types of dates. Note the differences between dates from the same levels but of a different dating medium.

One of the aims is to obtain as many samples of both shell and organic material (bone or charcoal) in order to correct the discrepancy. Most of the sites have marine shell, and few faunal remains. Thus, we rely on shell samples for

dates. The CSIR has noted that this is of high significance in terms of research (see Appendix A)

| Pta No. | Accession no. | Site name | Square | Lens | Type of sample | 14C years BP | std dev | Cal. Date* | | | Diff. btw bone & Shell BP | Diff. btw bone & Shell calib |
|--------------|---------------|-----------|--------|-------|----------------|--------------|-----------|--------------|-------------|-------------|---------------------------|------------------------------|
| | | | | | | | | max | probable | min | | |
| 7750 | KZ97/9 | | 1 | 1 | Marine shell | 790 | 20 | 1499 | 1515 | 1529 | | |
| 7753 | KZ98/11 | | 7 | 5 | Marine shell | 890 | 20 | 1441 | 1451 | 1461 | | |
| 7744 | KZ96/37 | | 13 | 1 | Marine shell | 985 | 20 | 1388 | 1401 | 1412 | | |
| 7758 | KZ96/29 | | 1 | 1 | Marine shell | 1095 | 20 | 1295 | 1303 | 1312 | | |
| 8537 | | MPE10 | 6.1 | 5c | Marine shell | 1090 | 50 | 1398 | 1426 | 1451 | | |
| 8540 | | MPE10 | 4.1 | 3b | Marine shell | 1515 | 20 | 1029 | 1040 | 1051 | | |
| 8543 | | MPE10 | 6.4 | 8 | Marine shell | 1100 | 50 | 1392 | 1421 | 1446 | | |
| 8548 | | MPE10 | 7.1 | 10 | Marine shell | 1000 | 50 | 1446 | 1473 | 1507 | | |
| 8532 | | STM | | C | Marine shell | 3840 | 60 | 1705 | 1638 | 1560 | | |
| 8533 | | MPE | 4.5 | SM2-3 | Marine shell | 990 | 50 | 1451 | 1479 | 1515 | | |
| 8534 | KZ99/9 | MPE99/7 | 4.9 | SM4 | Marine shell | 1000 | 50 | 1446 | 1473 | 1507 | | |
| 8541 | KZ2000/12 | MPD245/00 | 3 | 2 | Marine shell | 860 | 50 | 1537 | 1634 | 1665 | | |
| 8539 | KZ99/8 | MPE99/6 | 15.1 | BOL1A | Marine shell | 850 | 20 | 1625 | 1642 | 1654 | | |
| 9222 | KZ99/9 | MPE99/7 | Sa1 | SM2 | Marine shell | 760 | 15 | 1681 | 1688 | 1695 | 320 | 226 |
| 9263 | KZ99/9 | MPE99/7 | Sa1 | SM2 | Bone | 440 | 35 | 1445 | 1462 | 1492 | | |
| 9230 | KZ2000/12 | MPD245/00 | Shell2 | 2A | Marine shell | 1060 | 45 | 1418 | 1441 | 1464 | 500 | 24 |
| 9251 | KZ2000/12 | MPD245/00 | Bone2 | 2A | Bone | 560 | 50 | 1403 | 1417 | 1433 | | |
| 9227 | | STM | / | 20 | Marine shell | 3440 | 60 | 1253 | 1163 | 1075 | 1155 | 795 |
| GrA259 43 | | STM | / | 20 | Bone | 2285 | 40 | 382 | 368 | 303 | | |
| 9232 | KZ97/5 | | / | 1 | Marine shell | 1390 | 50 | 1122 | 1189 | 1239 | 560 | -67 |
| 9241 | KZ97/5 | | / | 1 | Bone | 830 | 50 | 12210 | 1256 | 1277 | | |
| 9238 | KZ97/9 | | / | 2 | Marine shell | 990 | 40 | 1456 | 1479 | 1507 | 490 | 43 |
| 9259 | KZ97/9 | | / | 2 | Bone | 500 | 90 | 1409 | 1436 | 1487 | | |
| 9233 | KZ98/13 | | 4.2 | 3B | Marine shell | 1590 | 60 | 913 | 990 | 1032 | 920 | -318 |
| 9264 | KZ98/13 | | 4.2 | 3B | Bone | 670 | 50 | 1293 | 1308 | 1400 | | |

Table 3: List Of Radiocarbon Dates For RBM Sites

CONCLUSION AND FUTURE MANAGEMENT

We surveyed, monitored, and excavated archaeological sites that were effected by the mining program. Several new sites were recorded and/or excavated, while other previously recorded sites were revisited. The mining of Town Board area yielded important information in terms of burials. Shark Tooth Midden is the first hunter-gatherer living area along the eastern seaboard to be excavated.

Umlando and RBM have also set up a standard document regarding the treatment of human remains in the dunes. Whilst human remains tend to have specific treatment, large companies have various departments that treat certain items differently. We have now set up a single method for the treatment of human remains for of the all departments within RBM and the general community.

RBM has also started its exploration in the Zulti South lease. We have visited the area briefly in December 2005 and noted that several sites, as well as one human burial, occur in the area. The archaeological program for Zulti South will be the same as that for Zulti North and TiSand. That is, there will be regular monitoring and/or excavations during the duration of the project.

Umlando will continue its archaeological program in the mining leases in 2006. This is not only in line with RBM's policy, but also of Rio Tinto's policy of heritage management. Surveys will occur on a monthly basis, and excavations will occur as needed.

We have also identified STMB to be of high significance. It is the first hunter-gatherer site to be excavated along the eastern seaboard. Further research in the area will attempt to document the site to its full potential. STMB may also extend beyond the areas demarcated in the excavation map above. If this is the case, then we will extend our excavations.

Appendix A
Email Letter from CSIR regarding the RBM radiocarbon dates

----- Original Message -----

From: "Stephan Woodborne" <SWOODBOR@csir.co.za

To: <umlando@telkomsa.net

Sent: Monday, October 04, 2004 4:02 PM

Subject: E-coast radiocarbon dates

Dear Gavin

I have just come from a meeting with Dr. Vogel and Siep Talma in which we discussed the implications of the recent set of radiocarbon dates that we analysed for you. The paired shell and bone samples allow us to calculate an offset for the marine reservoir effect which makes all marine radiocarbon dates appear older than they really are. Your results seem to suggest that this is a relatively constant value of 500 years. This is valuable data for us, and we spent some time comparing this to the West Coast results that we have. Surprisingly they are in the same range. We anticipated that the W-coast offset should have been larger because of the upwelling of deeper, older water.

Unfortunately, your samples provide 6 datapoints on the curve which is not sufficient to make any conclusive statements, especially as one or two of the results are obviously errors (probably because of the association between the shell and the bones). If we really want to advance the science, we will require more samples that we hope can fill some of the gaps. We also need to re-analyse samples from the problem data in order to exclude bad data.

All of this work will help us to better understand the use of radiocarbon in dating E-coast samples. Obviously this is very important for archaeologists, but it is also directly relevant in some of the other research that I am involved in. This includes understanding dune dynamics where we use radiocarbon to date shell inclusions, and also our collaborative work with the council for geoscience in which we are using ^{14}C to date subtidal geomorphological features. These link together to help us understand coastal morphology and sediment mobility in response to sea level changes. I would be most appreciative if you could continue to look out for paired shell and bone/charcoal samples in the course of your work. I would also like to try to fill the gaps in the current data set, particularly between 1000 and 3000 years ago. I have no doubt that with a few more datapoints we will confidently be able to draw the appropriate conclusions. We would like then to go to print in a scientific journal and would obviously make you a co-author. If there is any other contribution, we would acknowledge that appropriately.

Please will you let me know if you are able to help us further.

Regards
Stephan

APPENDIX B

Site record forms

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age: X

Late Iron Age ?

Historical Period: ?

Recorder's Site No.: AMS4

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S: 28 33' 48.1"; E 32 20' 31.2" (alt = 76m)

GPS reading? yes

Directions to site: Sketch or description.

Site is on crest of dune approx. 30m seawards of AMS3. More of site will be exposed later.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: yes

What threats: RBM mining

RECORDING:

Details of graphic record: N/A

Colour slides:

Black & White photographs

Tracings

Re-drawings

Date: 31/03.05

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Description of site and artefactual content.

Site is a scatter of artefacts along the crest of the dune. Pottery includes 2 x Mzonjani sherds, as well as thin-walled LIA sherds. Some shell exists and it is mostly *P. perna*. 1 x upper grinding stone observed.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age ?

Historical Period: ?

Recorder's Site No.: MPD74

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S: 28 34' 58.9" E:32 20' 30" (alt = 60m)

GPS reading? yes

Directions to site: Sketch or description.

Follow MPD's new electricity line Site is located on the opposite side of pylon # MPD44

SITE DESCRIPTION:

Type of Site: open

Merits conservation: No

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Date: 03/02/2005

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Description of site and artefactual content.

Ephemeral scatter of *P. perna* and undecorated pottery.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period:: ?

Recorder's Site No.: MPD75

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 35' 02" E 32 20' 25.6" (alt = 35m)

GPS reading? yes

Directions to site: Sketch or description.

Opposite Pylon # MPD42, along dune ridge. Middle of dune system

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 03/02/2005

Description of site and artefactual content.

Site consists of a small ephemeral scatter of *P. perna* and *Patella spp.*. Some undecorated pottery.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: MPD76

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 35' 04.1"; E32 20' 24" (alt = 34m)

GPS reading? yes

Directions to site: Sketch or description.

Same as previous site, but next to pylon # MPD41

SITE DESCRIPTION:

Type of Site: yes

Merits conservation: no

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 03/02/2005

Description of site and artefactual content.

Large scatter of shell (approx. 5m diameter) and some pottery. Shell is brown mussel , oyster and limpet. Pottery is thin-walled and undecorated. 1 x upper grindingstone.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: MPD77

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S: 28 35' 11.9" E: 32 20' 17.3" (alt = 34m)

GPS reading? yes

Directions to site: Sketch or description.

As before, next to pylon # MPD38

SITE DESCRIPTION:

Type of Site: open

Merits conservation: no

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 03/02/2005

Description of site and artefactual content.

Ephemeral scatter of mostly brown mussel and some limpet. Some shell is burnt, but probably from recent burn. Midden is very disturbed and may have been bigger.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: MPD78

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 34' 59.4" E: 32 20' 17.1"

GPS reading? yes

Directions to site: Sketch or description.

Site is located along top of 2nd dune cordon from the ocean.**SITE DESCRIPTION:**

Type of Site: open midden

Merits conservation: no

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 03/02/2005

Description of site and artefactual content.

1 midden of *P. perna*. Pottery is undecorated. 1 x orange-red rim-lip (adiagnostic).

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: MPC83

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 37' 04.5" E: 32 17' 58" (alt = 50m)

GPS reading? yes

Directions to site: Sketch or description.

1st high dune from current MPC location (probably 2nd dune ridge from lake).**SITE DESCRIPTION:**

Type of Site: Middens/open

Merits conservation: possible

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

Colour slides: Black & White photographs

Tracings Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date

03/02/2005

Description of site and artefactual content.

Site consists of 4 small middens of mostly brown mussel and some limpets. Small middens have sampling potential.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: MPA34

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S: 28 37 53.3" E: 32 17' 28.1" (alt = 44m)

GPS reading? yes

Directions to site: Sketch or description.

Site is located on small dune adjacent to MPA33 skeleton.

SITE DESCRIPTION:

Type of Site: open

Merits conservation: no

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 03/02/2005

Description of site and artefactual content.

Ephemeral scatter of shell over a large area (approx. 50m radius). Mostly brown mussel and some limpet. Pottery is undecorated and thin-walled.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: x

Historical Period:

Recorder's Site No.: TB1

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 45' 45.6" E: 32 08' 25.7"

GPS reading? yes

Directions to site: Sketch or description.

Follow dune route towards RBM mining lease from Richards Bay. Turn right just after horse riding school onto the dirt road. Follow this road, and curves, towards the trig beacons. Site is located around these 2 beacons.

SITE DESCRIPTION:

Type of Site: open, midden, and skeletons

Merits conservation: yes

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: video and digital photos

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 02/02/2005

Description of site and artefactual content.

Pottery is LIA shell impressed patterns, as well as lip notching. A lot of domestic cattle and fish bones scattered around the site. Skeletons heavily disturbed by human activity. And parts of remains recovered before reburial. Area excavated for the rest of the remains, and mainly foot bones and 1 x arm not removed. Arm has iron bangle, but fractured. Feet indicate sitting position and facing sunrise.

Juvenile bones found amongst the illegal excavated remains, and the rib bones were observed a few meters upslope.

Shell in area of graves but no other grave goods seen.

RBM procedures regarding human remains has been officially documented and put into place.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: ?

Historical Period: ?

Recorder's Site No.: TB2

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 45' 48.5" E 32 08' 20.8"

GPS reading? yes

Directions to site: Sketch or description.

Lower dune directly south of TB1.

SITE DESCRIPTION:

Type of Site: open

Merits conservation: resurvey

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date:

Description of site and artefactual content.

Scatter of pottery, shell and bone.. 1 x whole undecorated pot observed.

Mitigation: Resurvey this site until cleared by mine.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: x

Historical Period:

Recorder's Site No.: TB3

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S: 28 45' 44.2" E: 32 08' 25.1"

GPS reading? yes

Directions to site: Sketch or description.

Same as TB1, except this site is on dune to east and much lower.

SITE DESCRIPTION:

Type of Site: open settlement

Merits conservation: yes

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Date: 02/03/2005

Description of site and artefactual content.

Settlement with various features (middens, ash dumps, general middens), and variety of artefacts. Shell: large oyster, mussel, large whelks (2B identified), possible ivory bangle, undecorated pottery, lots of large bovid bone, fish and human. Bulldozer has disturbed human and only feet are *in situ*. Feet face sunset: rest of body had been displaced and we saved what we could.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: X

Historical Period:

Recorder's Site No.: TB6

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: s 28 46' 01.2" E 32 08' 11.7" (alt = 47m)

GPS reading? yes

Directions to site: Sketch or description.

On first dune from sea. Dune system is only one dune now and near southern end of dune system, before Meerensee Equestrian Center

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record: N/A

| | |
|----------------|---------------------------|
| Colour slides: | Black & White photographs |
| Tracings | Re-drawings |

Recorder/Informant: Name: Gavin and Louise Anderson

Date: 2005/10/17

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Description of site and artefactual content.

Scatter of undecorated pottery sherds. 1 x white beach sandstone lower grinding stone.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age

Historical Period: X

Recorder's Site No.: TB7

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 46' 04.3" E 32 08' 5.9"

GPS reading? yes

Directions to site: Sketch or description.

Near trig beacon seawards of Meerensee equestrian Center.

SITE DESCRIPTION:

Type of Site: Memorial

Merits conservation: yes

Threats: YES

What threats: RBM

RECORDING:

Details of graphic record: N/A

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Owner State

References:

Description of site and artefactual content.

Site is a memorial to a pilot who crashed in the vicinity several years ago. Mhlathuze Municipality and the family of the deceased erected memorial. Memorial has SAS Natal engraved on a cross.

Memorial will be removed, and replaced after mining.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: X

Historical Period:

Recorder's Site No.: MPE61

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference: S 28 34' 21.4" E 32 20' 29.5"

Directions to site: Sketch or description.

Second dune cordon from Lake Nhlabane, near top of dune.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: RBM

RECORDING:

Details of graphic record:

Recorder/Informant: Name: Gavin and Louise Anderson**Date:****Address:** PO Box 102532, Meerensee, 3901**Owner:** State**References:****Description of site and artefactual content.**

Large scatter of shell (brown mussel, oyster) with some thin-walled pottery. Stone: quartzite core.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: x

Historical Period:

Recorder's Site No.: AMS7

Official Name:

Local Name:

Map Sheet: 2832CB Cape St Lucia

Map Reference: North reading: S28 33' 42.1' E 32 20' 32.2:

South: S28 33' 43.3' E 32 20' 31.4

Directions to site: Sketch or description.

Site is on first dune cordon from the interior

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: yes

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record:

Recorder/Informant: Name: Gavin and Louise Anderson**Date:****Address:** PO Box 102532, Meerensee, 3901**Owner:** State**References:****Description of site and artefactual content.**

Site has been severely disturbed by bulldozers, and only artefacts remain, no stratigraphy etc. Site is smelting site and living area. Smelting activity is on northern side, whilst domestic area appears to be along the southern side of the site. The domestic area consists of 5 shell scatters (probably middens ~2m diameter). Smelting area has 1-2 shell scatters and a lot of iron working debris (slag, tuyeres, and ore). Hammerstones, upper and lower grinding stones were also observed. Several faunal remains observed and these are mostly bovid. Pottery is varied and includes decorated fragments.

ARCHAEOLOGICAL SITE RECORD FORM**SITE CATEGORY:** (X where applicable)

Stone Age

Early Iron Age:

Late Iron Age: X

Historical Period:

Recorder's Site No.: AMS8

Official Name:

Local Name:

Map Sheet: 2832CB Cape St Lucia

Map Reference: S28 33' 45.2" E32 20' 30.7"

Directions to site: Sketch or description.

About 50m south of AMS7

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: yes

What threats: RBM

RECORDING:

Details of graphic record:

Recorder/Informant: Name: Gavin and Louise Anderson**Date:****Address:** PO Box 102532, Meerensee, 3901**Owner:** State**References:****Description of site and artefactual content.**

Shell midden scattered at base of dune. Shell is mostly *P. Perna* and oyster, with some whelk, and may have been ~4 middens. Two more small middens occur directly above these on top of the dune. Pottery is undecorated.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age

Late Iron Age: Possible?

Early Iron Age: Possible?

Recorder's Site No.: MPC 82

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading: S- 28 37' 14.2'' E 32 17' 53.8''

Directions to site: Sketch or description.

From current location of MPC, on the cleared dune towards the sea/ second dune cordon seawards from Lake Nhlabane. Site is located on a small raised area on the top of the dune.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: MPC Mining

RECORDING:

Details of graphic record: N/A

Colour slides

Black & White photographs

Tracings

Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Date: 30/08/04

Owner State

References:

Description of site and artefactual content.

The site consists of a large shell midden, not intact, but no other artefacts.

Shell = Perna Perna & Rock oyster.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age
 Early Iron Age: Possible?
 Late Iron Age: Possible?
 Historical Period:

Recorder's Site No.: MPE 57

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading: S- 28 33' 45.5'' E- 32 20' 46''

Directions to site: Sketch or description.

Continue with the track from MPE 56. The site is located in the road, approximately 200m after the hairpin turn.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: Yes. Excavation of midden.

Threats: Yes

What threats: MPE Mining

RECORDING:

Details of graphic record: N/A

Colour slides

Black & White photographs

Tracings

Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Date: 30/08/04

Owner State

References:

Description of site and artefactual content.

The site consists of a single, intact shell midden. It is possible that it extends into the roadside vegetation.

Pottery: Appears more EIA than LIA, but is undecorated. 1x Lid. SAMPLED

Shell: Perna Perna

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age

Early Iron Age: Yes

Late Iron Age: Yes

Historical Period:

Recorder's Site No.: AMS 1

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading: S- 28 33' 58.6'' E- 32 20' 20.2''

Directions to site: Sketch or description.

The site is located at the current car park of Ascent Mining Services.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: Supplementary (dry) mining at Pond E.

RECORDING:

Details of graphic record: N/A

Colour slides

Black & White photographs

Tracings

Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Date: 30/08/04

Owner State

References:

Description of site and artefactual content.

The site is possibly just run-off from the recorded site at the top of the dune that is being mined.

Pottery: SAMPLED. Combstamped/shell impressed EIA + undecorated, thin-walled LIA. SAMPLED.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age

Early Iron Age:

Late Iron Age: Yes

Historical Period:

Recorder's Site No.: MPE 56

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading: S- 28 33' 35.6'' E- 32 20' 59.3''

Directions to site: Sketch or description.

The site is located on the second dune cordon from Lake Nhlabane, seawards. It is on top of a dune, in the road, as well as in the roadside vegetation.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No. Due to extensive damage, the site is not worthwhile excavating.

Threats: Yes

What threats: MPE Mining

RECORDING:

Details of graphic record: N/A

Colour slides Black & White photographs

Tracings Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Date: 30/08/04

Owner State

References:

Description of site and artefactual content.

The site consists of various shell middens, heavily disturbed by bush clearance and road cutting.

Pottery: LIA thin-walled. SAMPLED

1x nodule of ochre

Bone fragments (possibly human), but no further evidence could be located.

Shell: Perna perna, Rock oyster + limpets.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age

Early Iron Age: Yes

Late Iron Age: Yes

Historical Period:

Recorder's Site No.: AMS2

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading? S 28° 33' 59.2" E 32° 20' 25.7"

Directions to site: Sketch or description.

Site is on the first dune cordon from Lake Nhlabane. Site occurs over two dune crests and a flat area between each crest.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: no

Threats: Yes

What threats: RBM mining

RECORDING:

Details of graphic record: N/A

Colour slides

Black & White photographs

Tracings

Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Date: 30/8/04

Owner State

References:

Description of site and artefactual content.

Artefacts are dispersed by bulldozer activity. Pottery is undecorated and a few diagnostic sherds were sampled. Shell is *Perna perna* and scattered across the area – no definite midden occurs. A few broken grinding stones were observed. One large (± 10 cm diameter) piece of slag at base of dune. One fragment of human cranium was recovered from the conveyor belt below the site. No other human remains have been observed or reported. These remains probably slumped with the rest of the dune during mining operations.

ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY:

Stone Age
 Iron Age: Late Iron Age
 Iron Age

Recorder's Site No.: MPC80

Official Name:

Local Name:

Map Sheet: 2832CA KwaMbonambi

Map Reference:

GPS reading? S28 37' 14" E32 17 50.8"

Directions to site: Sketch or description.

Site is in front of current MPC mine path. It is located along the second dune cordon from Lake Nhlabane

SITE DESCRIPTION:

Type of Site: Open
 Merits conservation: No
 Threats: Yes
 What threats: RBM mining

RECORDING:

Details of graphic record: N/A

Colour slides

Black & White photographs

Tracings

Re-drawings

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 491, Mkuze, 3965

Owner State

References: RBM Report: 2004

Description of site and artefactual content.

Site extends across a ± 50 m radius on a flat are of the top of the dune. It consists of an extensive scatter of pottery and marine shell. These have been disturbed by bulldozer activity.

Shell: *Perna perna* and oyster

Stone: 1 x upper grindingstone (on beach pebble)

Pottery: Various sherds of size and thickness. Pottery is thin-walled and some have red burnish. Similar to Group 7 pottery elsewhere recorded in dunes.

