

**ARCHAEOLOGICAL SURVEY OF THE RICHARDS BAY MINERALS ZULTI
NORTH & TISAND MINING LEASES**

For Richards Bay Minerals



By

Gavin Anderson

**Institute for Cultural Resource Management, Natal Museum, Private Bag
9070, Pietermaritzburg, 3200**

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INTRODUCTION

The archaeological survey of the Zulti North and Tisand mining lease areas began near the end of 1994. The survey program emerged from recommendations by Whitelaw (1993) after a Richards Bay Minerals initiative for a systematic archaeological survey ahead of dune mining activity. Both the initial and current survey form part of Richards Bay Minerals Integrated Environmental Management Program for dune mining. This report serves to consolidate the results of the archaeological survey undertaken by the ICRM during the course of 1996 and 1997. I have retained the ceramic groupings proposed in last year's report, which contextualises the ceramic groupings for this year's report. Twenty seven new archaeological sites were recorded during 1997-1998, making a grand total of ±110 new archaeological sites recorded so far in the mining lease. The historical aspect of archaeological surveys in this area was discussed in last year's report.

The terms of reference for this project are to :

- undertake an archaeological survey of the Zulti North and TiSand Lease
- area;
- to record archaeological sites and undertake appropriate mitigation,
- the results will be written in a report..

THE ENVIRONMENT

The area consists of a flat coastal plain interspersed with dune cordons, often greater than 150m in height. These dune cordons were formed during the Late Pleistocene as the sea retreated (Hobday and Orme 1974). This marine transgression resulted in several lakes being formed, often being estuarine, and the rivers were deflected so as to run parallel with the coastline. The KwaZulu-Natal coastal plains have been described by Moll (1976) as Coastal Dune Forest. Present day vegetation tends towards grasses along the flatter plains, although in the past they were probably Coastal Dune Forest. These changes in vegetation are probably a result of Iron Age farmers' slash-and-burn methods for clearing plots of land (see Hall 1981).

The soil tends to have a low nutrient status, although exceptions do exist. This is probably a result of the soil consisting of weathered marine deposits formed during the Cretaceous Period (King 1972). This is in contrast to the hinterland which is mainly formed on the Karoo formations.

METHODOLOGY

All sites have been 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 usually occurs on most sites. Sites of high significance are excavated or extensively sampled. The sites that are extensively sampled have high research potential, yet poor preservation of features. I attempt to recover as many artefacts from these sites by means of systematic sampling, as opposed to sampling diagnostic artefacts only.

Significance is generally determined by several factors. However, in this survey, a wider definition of significance is adopted since the aim of the survey is to gather as much information as possible from every site. This strategy allows for an analysis of every site in some detail, without resorting to excavation.

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?
- 3.3. 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 fulfill 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.

THE SITES¹

MPC65a/b

The site consists of two smaller sites in close proximity to each other. Both sites consist of a small shell midden with some adiaagnostic pottery. The shell tends to be *P. perna*.

The site is of low archaeological significance.

MPC70

This site is on top of the second dune cordon and consists of an ephemeral scatter of indeterminate pottery.

The site is of low archaeological significance.

MPC71

This site is a scatter of artefacts that have been disturbed by the bulldozer.

The site is of low archaeological significance.

MPC73

The site is a scatter of Msuluzi sherds near the top of a tall dune.

The site is of low archaeological significance and was sampled.

MPC75a

The site dates to both the Early and Late Iron Age and is situated on the tallest dune closest to Lake Nhlabane. The site consists of a scatter of artefacts over a ± 50 –70 m area.

The artefacts include shell fragments and pottery.

The site is of low archaeological significance and was sampled.

¹ The following sites are in the process of being accessioned in the Natal Museum's Database. The information will be included in the next report: MPC51, MPC65a/b, MPC 75a/b, MPC70, MPD20, MPE32, MPE40, MPE43, MPE44, MPE50.

MPC75b

The site is located on top of the third dune cordon and consists of a scatter of sherds in a ± 40 m radius. The artefacts include Mzonjani pottery, several pieces of slag, upper grinding stones and one small shell midden.

The site is situated near and uphill from MPC76 and appears to be partly related to MPC76.

The site is of medium archaeological significance and was sampled.

MPC76

MPC76 is situated between the ecostrip and Mining Pond C. The site was originally recorded by me in August 2001, and subsequently various RBM employees brought the site to my attention. On site discussion with Cas Du Plessis occurred and he offered not to mine this specific area for another month and to demarcate the sensitive area that should not be affected by the bulldozers. This gave me the opportunity to bring my team to RBM and undertake the excavations.

We proceeded to demarcate the site into 48 9m X 9m squares (fig. 1) The methodology behind this was to grid the site in order to plot artefacts and note relative densities of these artefacts across the site. In other words, I wanted to see if I could determine if different activities occurred at different places at the site. This is important as the site has about 500 years of human (discontinuous) occupation and we need to isolate the various activity areas. Another important aspect of this site is that it is the first site, along the Zululand dune coast that has faunal (or bone) remains. The biotic nature of the dunes tends to disintegrate organic remains very fast (normally within 500 years). In this instance, we recorded three human skeletons, several animal bones and fish bones during the excavations. No other Early Iron Age sites along the Eastern Seaboard has yet yielded such old organic remains, let alone skeletons. In summary, this site has a long occupation, an extraordinary amount of metal working activity, human skeletal remains, marine and terrestrial animal remains, and shellfish remains.

In order to understand MPC76, we need to analyse the various artefacts and features of the site. This includes pottery pits, metallurgical pits and areas, shell middens, faunal remains and skeletal remains.

Metallurgical areas:

In the beginning of the excavation we collected and weighed slag from the surface of the site. Since most of the squares are littered with slag, we only collected, and weighed, pieces larger than ± 5 cm in diameter. By the end of the surface collection (that is collecting artefacts only observed from the surface) we had weighed approximately 1.7 tons of slag. The largest single piece of slag weighed 9.5kg. This suggests a very high density of slag on a small site such as this. The slag varied in terms of its quality. Some of the slag was mixed with sand, iron ore, or silica; while other fragments were solid iron without air bubbles and impurities.

In addition to the surface collection, we targeted areas that had obvious metal working activity. Specifically we were trying to locate a furnace and areas where the by-products of metal working were discarded. So far the furnace has eluded us. However several discard pits were excavated. These pits tend to be between 50 cm and 150 cm in diameter and vary between 15 cm to 116cm in depth (fig. 2). Often these pits have slag, pottery and tuyères associated with them. The pits also differ in their content. Some pits have only large pieces of slag, while others have small fragments of slag and iron ore.

SP1, for example, was ± 1 m wide and 0.7 m deep and consisted of small pieces of slag, tuyères, and some marine shell (fig. 3).

Faunal Remains

Many areas on the site had faunal remains. These remains are mostly friable and had to be treated on site with an acetone-glue mixture. The faunal remains included hippo bones, a possible crocodile cranium, domestic cattle or buffalo-sized remains, the cranium, vertebrae and scapulae of a small duiker-sized animal, fish bones (mainly vertebrae and vertebral spines) and various burnt bones. One feature consisted of a small (± 50 cm x 50 cm) depression full of (burnt) bone.

These remains suggest that the people were subsisting mainly on a variety of non-domesticated animals whilst at the smelting site. I still need to confirm whether some of the bones are domestic cattle or buffalo.

Shellfish remains

Scatters of shellfish were visible over the whole site, however only two areas had dense concentrations suggesting that they may be shell middens. These two middens were concentrated on the northwestern part of the site. I excavated one of these middens as a sample. The main middens consisted of ± 6 layers of shell surrounded by a brown sand or an ashy sand (fig. 4). Most of the shell was relatively compacted and crushed, however some were in tact. Approximately 10 cm below the main midden was a another concentration of shell (brown mussels) in a ashy soil. These remains were well preserved and still complete. That is the mussels had not yet been opened for eating purposes.

Human Skeletal Remains

Three human skeletons were recorded. The bones were very friable and had in some instances completely disintegrated. Only some of the cranial fragments, teeth and some of the long bones were recovered. The sparse skeletal remains suggest that the bodies were buried in a sitting position. No graves goods were directly associated with the burials, however complete vessels were in the vicinity of two of the burials. These vessels date to the older occupation of the site (± 1700 -1500 years ago).

Ceramics

The site was literally littered with pottery. These were mostly sherds of the various vessels that have been broken and scattered through time, in other words mostly uninformative material. However, of these fragments many were decorated with various motifs. These motifs are instrumental in determining the age of the pot and the people who were living at the site.

The decorative motifs on the various pots indicate that there are three phases of occupation at the site: Mzonjani (AD 400 – AD 550), Msuluzi (AD 600 – AD 780), and Ndondondwane (AD 780 – AD 950). These occupations belong to the Early Iron Age and are the first farmers in KwaZulu-Natal. The vessels vary in size, shape and function.

Apart from the pottery fragments, many complete pots were also visible on the surface (fig. 1). These were excavated as they may have been in pits. In addition to this some of these pots turned out to be in pits with several more complete pots. A

total of 64 pottery pits were excavated. Some of these pits had up to seven pots inside the pits. Some of these pits were however truncated by other pits, e.g. a pit would have Ndongondwane pots at the top, but Mzonjani vessels at the base.

Two kind of pits exist at this site. The first is the “rubbish pit”. These pits have pottery, animal bones, slag and other metal working debris. In other words they are full of general artefacts. The second type of pit, tends to have only pottery remains. These pots are either inverted (sometimes the base has been purposefully removed and discarded elsewhere), upright or on its side. A total of seven of these pits were located and each of these had between 2 – 4 complete pots.

Special Finds

A few special finds were excavated. We call them ‘special finds’ as they are “out of the ordinary” type of artefacts we normally locate on a site. These include:

- 2 small light blue glass beads
- a ± 1 cm dark blue glass bead with light blue and white dots
- several figurine fragments
- a stone bracelet
- a small ceramic ‘cup’ that may be for *muti*

Interpretation

The site is primarily an iron smelting and possibly smithying site. It does not appear to have been continuously occupied for the whole 500 years, but rather during a series of episodes. There appears to be a domestic area just east of the smelting site. The sherds are very similar, however the density of slag is much lower. This suggests that the main metal working was undertaken outside of the main living area. If this is the case then it would not explain why three human burials occur in the vicinity of the metal working area, when they tend to occur within the domestic context.

The spatial plan of the site is that of an area of high density of metal working surrounded by more semi-domestic activities. The real domestic area is further east up the dune. It is in this area where hardly any slag occurs.

One of the more interesting outcomes of this excavation is the association of human burials more with the metallurgical part of the site than with the domestic part of the site.. As is the normal case for such types of settlements. A more detailed analyses of the site, features and artefacts in the future should yield interesting results.

MPC77

This site is ± 1 km east of MPC76 at the top of a dune. The site is ± 70 m x 80 m in size and consists of a scatter of pottery, marine shell, slag and utilised stone.. The pottery is characterised by shell impressed decorations (Group 7), and a red burnish on thin walled sherds. The site dates to early Late Iron Age and was sampled.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPC99/11

This site is a large smelting site on the second dune cordon from the lake, covering an area of ± 150 m x 100 m. The site has been disturbed by bulldozers, however, I noted several activity areas. These areas included shell middens, pottery concentrations, and metallurgical areas. The pottery was fragmented, however, several complete vessels were recovered. Some of these vessels had the shell-impressed decorations, lip notching and lip impressions, i.e. Group 7 pottery.

The shell middens have burnt bone and shell. The shell includes the standard shell species, e.g. *P. perna*, *Ostridaeae spp.*, and *Patella sp.*, associated with shell middens of the area. The faunal remains included domestic and wild bovids, warthog, and aquatic mammal (Hippo?).

MPC1/20a/b

This site is located between the first and second dune cordons from Lake Nhlabane. The site is a scatter of Early Iron Age sherds and grinding stones. The sherds belong to the Mzonjani and Ndongondwane Phases. The number of sherds are of low density in comparison to other EIA other sites in the vicinity.

The site is of low archaeological significance and was sampled.

MPD60

This site is part of an Early Iron Age village. It has been systematically excavated over the last three years, and will be excavated in the future. The site consists of a main village settlement that contains mostly Mzonjani pottery, with a few traces of Msuluzi decorations. The village appears to be ± 150 m long and $\pm 40 - 50$ m wide and contains many *in situ* features. More than a hundred squares were excavated at this site (fig. 5).

The site has a basic stratigraphy. The upper 20 cm – 30 cm is considered to be Topsand. This is followed by a compacted brown sand (often with recent organic material), a compacted mottled yellow-brown layer (MBY) or a hard greyish sand (HGS). Below this is the sterile light brown sand (LBS). The main artefact concentrations occur in the MBY layers.

MBY tends to occur between ± 40 cm – 150 cm below the surface. However, most of the MBY is between ± 40 cm – 60 cm below the surface. The site does a large ‘dip’ in the center, from Squares B13 – B8A. In this area the MBY is located from 100 cm – 150 cm below the surface (fig. 6) – it is literally a sunken area between two parts of the site. Since several features occur in tact in this deeper area, it cannot be a result of a lag deposit, and thus, the sudden depth occurred at the site whilst it was occupied. This may suggest a sunken kraal.

Various features were excavated at MPD60. These include fireplaces/hearths, pits, pottery concentrations, complete pots. The main pottery concentration occurred in the “kraal area” (Sq.’s A10). The pottery was located in Spits 5 – 8 and extended for over 9 m². The pottery was a dense layer of pottery, ± 30 cm thick, and continuous throughout the excavated squares. There is no pattern to the discard of these pots, nor were any pits located in this central area.

Most of the pits occurred on the outskirts of the “sunken area”. These pits included decorated pots in various positions.

A few hearths were excavated. These hearths contained pots and charcoal. The occurrence of charcoal in the Mzonjani layers is extremely rare along the Eastern

Seaboard. The charcoal is useful for tree species identification, and radiocarbon dating.

Only one bone fragment was found on the slopes of the site.

MPD62

This site is a scattered midden of marine shell and a few sherds

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPD63

This site is located along the second dune cordon. The site consists of an ephemeral scatter of marine shell and adiagnostic pottery.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPD64

The site is an extensive scatter of marine shell and artefacts over a ± 60 m radius, that has been extensively disturbed by bulldozer activity. The shell scatters consists of at least eight distinctive scatters. The marine shell species is the same as other sites, and no new species were observed.

The pottery belongs to both Group 7 and 6. The pottery has the characteristic thin-walled vessels and is predominantly with shell-impressed decorations.

Several fragments of slag and iron-ore were recorded.

Significance and mitigation: The site is of medium archaeological significance and was sampled and excavated.

MPD65

The site is at the top of a dune and consists of a scatter of diagnostic pottery, marine shell and utilised stone. The site dates to the Late Iron Age or Historical period.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPD66

The site is on the top of the dunes and is ± 50 m long and ± 20 m wide. The pottery is undecorated and thin-walled. Several undecorated rims were observed. Small fragments of marine shell and slag were observed.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required. The site was sampled.

MPE245/00

This site is located along the top of the second dune cordon, and consists of an *in situ* shell midden, as well as various scatters of shell. The site includes shell, grinding stones, a few faunal remains, and pottery sherds. The pottery sherds are thin-walled and undecorated.

The site is of medium archaeological significance and was sampled.

MPE23

The site is an ephemeral scatter of shell and pottery over a ± 20 m radius.

The site is of low archaeological significance and was sampled.

MPE24

This site has been exposed by the road for MPE, and has been continuously sampled since 2000. The site consists of a large scatter of marine shell, stone and pottery fragments. A shell adornment with three perforations was located near the midden.

The site is of low archaeological significance and was sampled. A sample of shell was recovered for future analyses

MPE30

This site is on top of one of the taller dunes in the area, and located near the old forestry lookout tower. The site consists of an ephemeral scatter of shell that has slumped into the mining pond

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPE31

This site is scatter of stone, sherds and shell located on top of a relatively flat area on the dune. The pottery is thin-walled and undecorated, and some have a red burnish.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPE32

The site has been exposed by a bulldozer cutting. It consists of several shell middens with a variety of shell species. The pottery is undecorated and thin-walled suggesting a more recent age for the site.

Significance and mitigation: The site is of low archaeological significance and no further mitigation is required.

MPE40

The site is located on the top of the first dune cordon near the beach road. The site consists of a sparse scatter of diagnostic sherds and two upper grinding stones.

The site is of low archaeological significance.

MPE41

This site is on top of the dune on a relatively flat area of the dune. The site consists of shell, stone and pottery sherds. The sherds are mostly thin-walled, with a red burnish, and are undecorated.

The site is of low archaeological significance and no further mitigation is required.

MPE42

This site is located on the dune closes to the sea, besides the current beach road. The site has a stratified shell midden that has been partially disturbed by the road cutting. The midden includes the standard shell species found in these middens, stone and pottery.

Significance and mitigation: The site is of medium archaeological significance and further mitigation is required. Mitigation should be in the form of sampling and/or excavation.

MPE43

This site is located ± 150 m southwest of MPE42 and consists of several shell middens and artefact scatters. The pottery tends to be thin-walled and brown, although some sherds have a red burnish. There are three shell middens that consist mainly of *P. perna*.

The site dates to the early Late Iron Age.

The site is of low archaeological significance and was sampled.

MPE44

This site is located ± 100 m south of MPE 43.. Several pottery sherds were observed, and one complete vessel was sampled. Some of the pottery has shell impressed decorations. The shell midden included *P. perna* and oyster *Ostridaea spp.* Other artefacts include possible fragments of daga and cow-sized bones.

The site is of low archaeological significance and was sampled.

MPE51

The site is located on a flat area between two small dunes. The site is an ephemeral scatter of artefacts that have been dispersed by the bulldozers. The artefacts include thin-walled diagnostic pottery, marine shell, a tuyère fragment and some bone. The site probably dates to the late Iron Age.

The site is of low archaeological significance and no further mitigation is required.

MPE52

The site is located on the last dune from the sea and is ± 30 m in diameter. The site consists of a small shell midden (mostly *P. perna*), some pottery and white beach sandstone. The pottery is undecorated and thin-walled. The site probably dates to the LIA.

The site is of low archaeological significance and no further mitigation is required.

The site was sampled.

STM

Shark Tooth Midden is one of the more important sites so far excavated in the dune system. The site has been radiocarbon dated to ± 3500 years ago, and is thus the first San hunter-gatherer site excavated in the mining lease. I am still busy with the excavation and analyses of the site, and as yet have no sorted and analysed material.

The site consists of a shell midden that is 0.3m to 0.7 m deep and ± 5 m in diameter (fig. 7). It appears as if a living area may occur to the west, north-west and north of the midden. The living area has not yet been excavated.

The midden consists mostly of brown mussels, oysters and limpets (fig.'s 8-11). Several fish and animal bones have been excavated. Some rare finds include ostrich egg shell beads and a complete crocodile cranium that was in an ash-pit. Several stone tools were recovered and these have been heavily eroded. The stone tools tend to be general purpose tools.

CONCLUSION

The archaeological survey and excavations at RBM mining lease is an ongoing research. Each year more finds are located that add new information to our current understanding of his area and early farmer history. Sites such as STM, MPD60, and MPC76 stand out as being sites of very high significance, and have been salvaged. I believe that several such sites still exist in the mining lease.

STM and MPD60 still require further mitigation prior to their destruction by the mining activity. This will be undertaken in the 2003 – 2004 season.