

**A PHASE 1 ARCHAEOLOGICAL INVESTIGATION
OF MOSSELBAAI NATUURRESERVAAT C C,
A PORTION OF
VERLORENVLEI FARM (number 8), ELANDSBAAI**

Prepared for

**Doug Jeffery
Environmental Consulting
&
Facilitation Services**



Prepared by

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(27 December 1998)

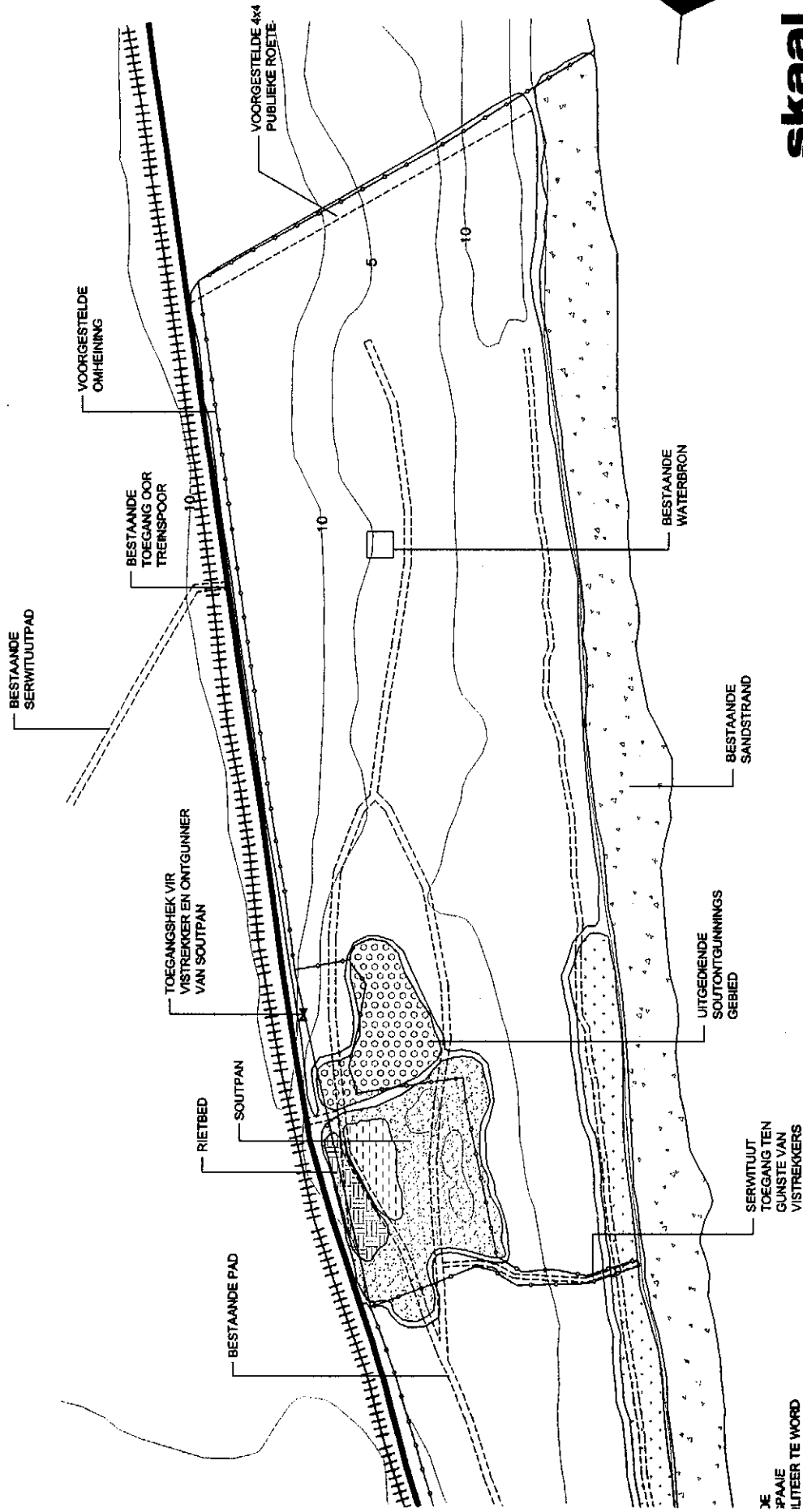
ARCHAEOLOGICAL EXPOSURES

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Erratum

p. 9 (Figure 3) should read (Plate 3)



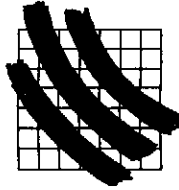
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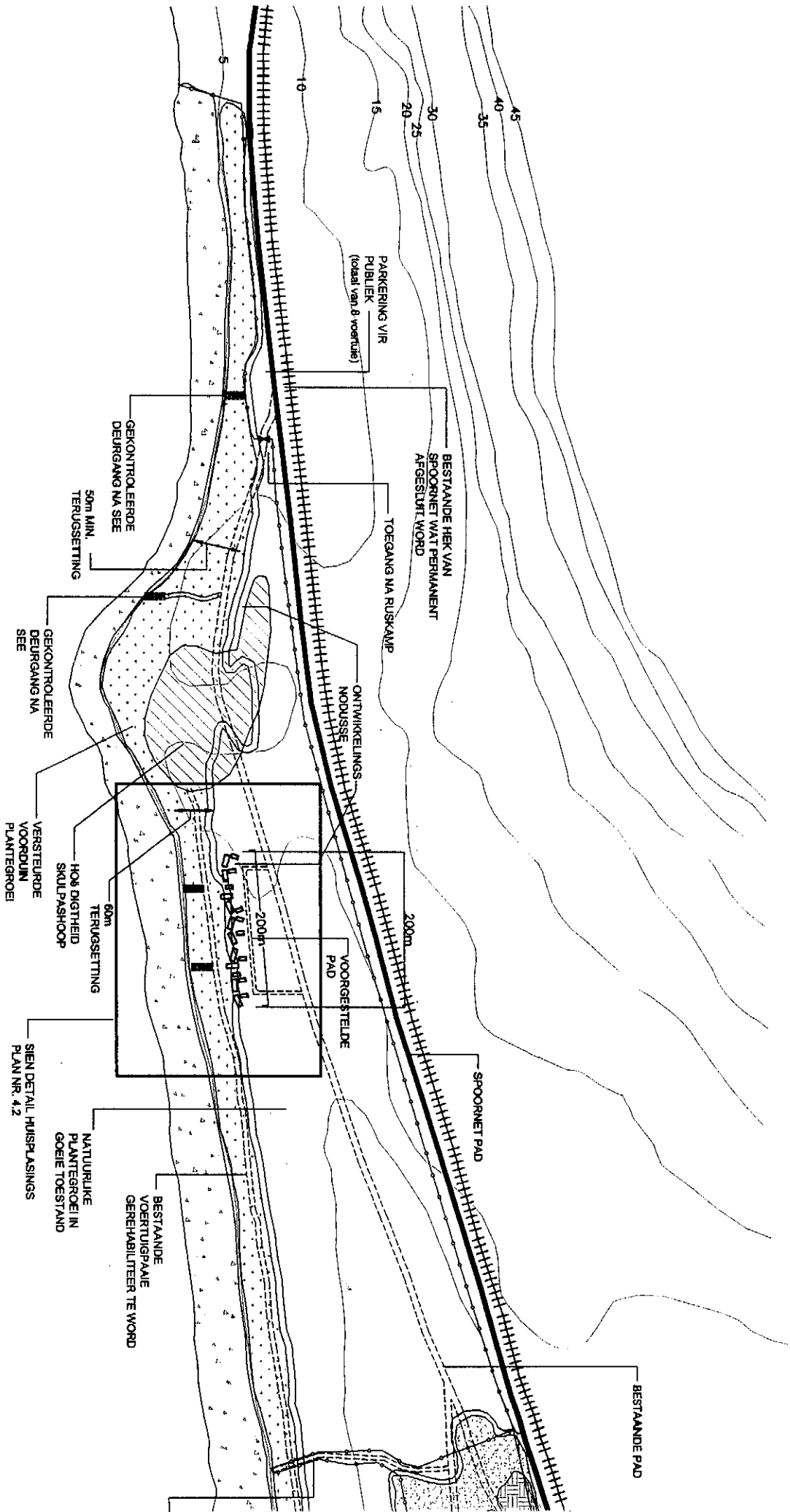
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ELBAAI NATUURRESEERVAAT



MOSSELBAAI

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EXECUTIVE SUMMARY

A string of archaeological sites of varying density and sensitivity have been identified in the Mosselbaai Natuurreservaat study area. Most of these are Later Stone Age shell middens and a few include material from the historical period. The most sensitive site (MTM) falls within the area of planned development and requires appropriate sampling of archaeological deposits before any modification of the area commences. A representative portion of MTM should remain undisturbed. The medium density archaeological zone at the south easterly extent of the property also requires appropriate sampling before establishing a 4X4 exit track from the beach to the Spoornet service road. Any disturbance or moving of earth in the high and medium density archaeological zones must be monitored by a professional archaeologist. The remainder of the sites should be protected from damage due to recreational activities or the establishment of walking trails.

1. INTRODUCTION

This report is the result of a phase 1 archaeological investigation of Mosselbaai Natuurreservaat. The investigation was carried out as part of an Integrated Environmental Management project co-ordinated by Doug Jeffery Environmental Consulting and Facilitation Services.

I start by presenting some background information including the location and status of the area under inspection as well as some background regarding the archaeology. This is followed by a description of the phase 1 archaeological impact assessment including methods employed. Results of the investigation are presented by location, and general observations are made for various density archaeological zones within the study area. Finally, I present recommendations for further investigation and Cultural Resource Management. Two published articles referred to throughout this report are attached at the end of the document.

2. BACKGROUND

Location and Status

The portion of Verlorenvlei farm (number 8) which required Archaeological Impact Assessment (AIA) is situated on the west coast of the Western Cape and has its centre at 32° 20' 45" S and 18° 19' 15" E (Figure 1). This portion comprising 97, 2768 hectares was purchased by ten shareholders in 1990 and is now registered as Mosselbaai Natuurreservaat C C (Title Deed T71717/1992). The area has Open Zone 3 status and some of the shareholders intend building holiday homes in the near future. Shell middens are automatically protected by the National Monuments Act of 1969 (as amended) and the said area requires an AIA as part of the Integrated Environmental Management plan.

Archaeology

Over the past 30 years or so, members of the Archaeology Department at the University of Cape Town (UCT) have done considerable research into the nature of prehistoric human settlement in the Elandsbaai area. We know of numerous archaeological sites in the area which indicate that people have visited this area for many thousands of years prior the arrival of Europeans in the late eighteenth century. The largest and most notable archaeological site within Mosselbaai Natuurreservaat is a large shell midden known as Mike Taylor's Midden (MTM). This site has been referred to in a few publications including the two attached at the end of this report (Henshilwood *et al.* 1994, Jerardino & Yates 1997 and references therein). The latest and most pertinent comment regarding MTM was made by Jerardino and Yates (1997:43): "*It is argued that MTM displays much greater variability through time and space than previously suggested, and that*

large amounts of stone artefacts and bone remained "invisible" to archaeologists because of the enormous quantities of marine shell refuse."

3. PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT

As described in my initial proposal, I consulted with David Halkett and Tim Hart (Archaeology Contracts Office [ACO], UCT) prior to conducting a phase 1 archaeological investigation of the above-mentioned property. Having the status of Field Director in the Cultural Resource Management (CRM) section of the South African Association of Archaeologists (SAAA) I am required to consult Principle Investigators (in this case ACO) according to the regulations of SAAA. Along with an assistant, Dr. Antonieta Jerardino, I conducted fieldwork (surveying, mapping the location and extent of archaeological sites, documenting and assessing archaeological nature within said area) between 10 and 12 November 1998.

This report will be submitted to Doug Jeffery Environmental Consulting & Facilitation Services, the National Monuments Council and Mr. Nelis Visagie.

Methods

A survey was undertaken by walking a series of transects across the property and inspecting the ground surface for traces of archaeological remains. Since we knew of the existence of MTM, our objective was to establish the edges of the site and the presence of any other archaeological occurrences to the north and south of it. Where archaeological remains were observed, the locality was plotted as accurately as possible on a 1: 10 000 ortho-photo. A Global Positioning System (GPS) was not used because it is not accurate enough for our purposes. We probed beneath the surface with a steel rod to establish the presence or absence of underground archaeological deposits. Where necessary, small test excavations were undertaken to determine the nature and depth of archaeological remains. Finally, the findings at various localities were documented and photographed.

The only restriction we suffered during our fieldwork was low visibility (due to fairly dense vegetation cover) of the ground surface in the area to the west of the shaded areas indicated in Figure 2. Therefore, archaeological deposits in this area may have been overlooked.

4. RESULTS

Results of this investigation are described by location (areas containing archaeological material). The position of locations are shown in Figure 1. A general overview of the findings are presented at the end of this section.

Location 1: This is a very low density shell scatter including large specimens of black mussel (*Choromytilus meridionalis*), large barnacle (*Austromegabalanus cylindricus*), and fragments of limpets, namely *Patella barbara*. The assemblage is dominated by black mussel. The shells were brought to the surface through burrowing activity, and to determine the depth and stratigraphic nature of the deposit we excavated a small test pit down to 50cm below the surface. A few fragments of shell were encountered but no distinct stratigraphic horizon was exposed. The shell scatter continues in a southerly direction, visible on less vegetated surfaces, up to locations 2 and 4 where the density of material increases noticeably. At about 250m south of the northern boundary fence the shell scatter is still visible and limpet shells (*Patella compressa*, *P. granatina*) as well as whelks (*Argobuccinum pustulosum*, *Nucella* spp, *Burnupena* spp) appear on the surface. A test pit was excavated down to 65cm revealing no distinct stratigraphic horizon. At 35cm from the surface the sand turns from orange to light (almost white) in colour. Shells are mostly from the orange sand. At 350m south of the northern boundary the shell density increases but still remains significantly lower than the densest area of the large midden. Some white mussels (*Donax serra*) make an appearance (possibly as a result of sea gull feeding behaviour), but the shellfish composition remains unchanged (i.e., black mussel, barnacle, whelk and limpet).

Location 2: The density of shellfish remains increases significantly. Shellfish include mostly black mussel, some limpet, and barnacle. It appears that this is the northern extent of MTM. A test pit was excavated about 2m from the eastern boundary fence and down to 50cm below the surface. The matrix of the deposit is a humic dark brown soil and the shell content is of medium to high density.

Location 3: Here the shell accumulation is dense, dominated by black mussel with some barnacle and limpet. A test pit revealed a dark humic and ashy soil containing medium to high densities of shell down to approximately 70cm. Between 20 and 55cm from the surface we found the densest accumulation of shell. Probing down to 110cm below the surface we encountered no further indication of dense shell deposits.

Between locations 2 and 3 is a continuous string of shell scatters brought about by mole activity. The density of shell is particularly high nearer (about 15m from) the eastern boundary fence. This high density deposit coincides with the northern extent of a ridge running in a roughly N-S direction. As one walks away from the fence towards the beach the density of shell drops significantly.

A series of probes on the seaward side of the vehicle track between locations 2 and 3 revealed no dense shell accumulations beneath the surface. These probes were carried out where some low density shell scatters (mostly black mussel) were visible on the surface. These results are very similar to those from probes and test pits between the northern boundary fence and locations 2 and 4.

Location 4: Here we found denser shell scatters reminiscent of those found at locations 2 and 3 and suggest this to be the north western edge of MTM. Probing revealed shell deposits down to about 60cm below the surface. A test pit was excavated, exposing shell deposits of varying density. The deposit is less dense than that described at location 3. The top 55cm consists of light brown soil with medium densities of shell including black mussel, some limpet and traces of barnacle. From 55 to 85cm below the surface the shell density is high and lies in a humic dark brown, ashy soil. Probing below 85cm shows that this deposit continues downward, but due to restrictions in excavating such a small area we were unable to determine the exact depth of the deposit.

Location 5: Due to shell visible on the surface, a test pit was excavated to investigate the density and stratigraphic nature of the deposit. From the surface to 50cm down, is a low to medium density shell deposit including black mussel, limpet, whelk and barnacle. This is similar to the shellfish composition previously observed from MTM dating to between 980 to 1800 years before present (BP) (Jerardino and Yates 1997). From 50 to 80cm below the surface the shell density increases to medium-high but remains similar in composition. We probed to 100cm below the surface and found that the deposit continues down. For the same reasons mentioned above we were unable to determine the exact depth of the deposit.

A series of probes in the trough running between the apex of MTM and the ridge or dune closest to the high water mark showed that archaeological deposits of variable density (from medium to high) can be detected here. In this trough, deposits lie mostly at a depth of about 40cm below the surface and extend down to at least 100cm in places.

Location 6: Here the shell midden is of high density, with deposit starting from just below the surface and continuing to more than 60cm below the surface. The density of shell in this locality is higher than at location 5, and this appears to be the western extent of MTM.

Location 7: The shell deposit drops to low density at this point. We probed to 50cm below the surface and found no indication of denser shell deposits.

Location 8: This is the highest point of the N-S ridge referred to in discussing location 3. The shell density is very high all along the top of this ridge. A test pit was excavated to investigate the stratigraphic nature of the deposit. The top 25 to

30cm of deposit consists of very dense shell (mostly black mussel) in a dark brown soil. Between 30 and 55cm below the surface the shell density drops off but is still of medium to high density and lies in a dark brown sand. From 55 to 90cm below the surface is a paler dune sand with low shell densities.

Location 9: The surface shell scatters in this area are of low density and include black mussel, whelk, limpet and barnacle. A few probes to between 50 and 80cm below the surface indicated no significant shell deposits below the surface. Mole heaps near the eastern boundary show very little evidence of archaeological material.

Location 10: On the surface is a high density shell scatter dominated by black mussel and including *Argobuccinum pustulosum*, *Patella granularis*, *P. granatina*, barnacle and whelk. We found a small double-sided hammerstone of quartz measuring 5.5 X 4.5cm. Distinctive pitting and flake scars at the ends of this stone indicate that it was used as a hammerstone (Plate 1). A probe down to 60cm indicated a significant density of shell deposit. This was confirmed in the excavation of a 75cm deep test pit revealing medium to high density shell deposits in a dark brown sand. Shell included black mussel, marine sandy-bottom snail (*Bullia* sp.) and barnacle. The area between locations 2, 8 and 10 make up the eastern edge of MTM within the study area. However, the more likely easterly edge of MTM was probably disturbed when the Spornet service road and railway line were built.

Location 11: The shell scatter on the surface is of medium to high density and includes black mussel, *Argobuccinum pustulosum* and barnacle. Excavation of a test pit showed high to medium to low shell densities in a dark brown humic sand. The top 30cm of the deposit contains shell while from 30 to 90cm contains a soft and pale sterile sand. This appears to be the southern extent of MTM.

Location 12, 13 & 14: Very similar situation as described for location 11 except that the density of archaeological material is very low and occurs in sparse patches amongst high bushes. The species composition is similar to that described for location 11.

Location 15: Here the density of shell is extremely low. However, 1 quartz flake was found amongst the bushes.

Location 16: This is a medium to low density surface shell scatter, surrounded by a very low density area. Probing revealed medium to low density shell deposits below the surface.

Location 17: This is a medium to low density surface shell scatter situated amongst fairly thick vegetation cover. A test pit was excavated and revealed a very soft brown sand with medium to low densities of shell with no distinct

stratigraphic horizon. Shell occurred from the surface to a depth of 75cm. The density of shell scatters decrease from location 14 to the south of location 16.

Location 18: Here we found extremely thinly dispersed shell scatters. One quartz core was observed. The coastal ridge or dune is very densely vegetated, making visibility very low. The density of shell scatters seems to drop even further from locations 16 to 18.

Location 19: This is a medium to low density shell scatter situated on top of a hard surface. Water worn shell is visible amongst archaeological shell remains which suggest that this area was flooded occasionally as a vlei by run-off water from Waterkloof to the north east. We noted 1 quartz core and shell species include fragments of black mussel, *Nucella* sp. and *Argobuccinum pustulosum*. A test pit was excavated down to 45cm below the surface, revealing no deposits below the surface. This shell scatter covers a fairly large area of about 3000m².

Location 20: This is a low density shell scatter including black mussel, *Bullia digitalis* and *Nucella* sp. The scatter covers an area of about 400m². No water worn shell was observed here. A probe to about 60cm below the surface indicated no significant shell deposits underneath. Between locations 18 and 20 we found some low density shell scatters with black mussel, barnacle and *Argobuccinum pustulosum*. Some patches of shell include water worn shell while others do not. Some flat shaley pebbles were seen, possibly carried by people from the beach.

Location 21: Shell exposed in mole heaps indicate low density shell scatters to the south of the gypsum quarry. Very low density shell scatters were seen amongst fairly dense vegetation. Shell includes very fragmented black and white mussel. In patches closer to the quarry, water worn shingle was observed. We found an isolated quartz core in this area. A test pit excavated to 40cm revealed no sign of deposit below the surface, suggesting that the shells brought to the surface in the mole heaps originate from very low density shell scatters.

Location 22: We saw several patches of water worn shell and pebbles in this area with some very low density archaeological shell scatters visible amongst them. These shell scatters include mostly black mussel and some pieces of flaked quartz were observed. The area in which these types of scatters were noted is about 4000m². Probing in several locations within this area showed no evidence of significant shell deposits beneath the surface.

Location 23: This is a low density shell scatter exposed through burrowing activity, and which includes black mussel and some *P. granatina* fragments. No barnacles were observed at locations 21, 22 and 23. The coastal ridge or dune is very vegetated, making the survey difficult due to low (some 15%) visibility. A few probes showed no evidence of significant sub-surface deposits.

Locations 24 & 25: Here we noted a very low density shell scatter with black mussel and a few barnacle fragments. We also saw 4 pieces of flaked quartz as well as an undecorated, dark grey to black piece of Cape coastal pottery (pre-colonial). No deposits were detected beneath the surface during probing.

Within a radius of about 75 to 100m from the farm house ruins (location 31) and old windmill we detected residues of historic occupation including ceramic, glass and metal.

Water worn shell and pebbles were seen on the surface all along the depression running in a N-S direction (with the vehicle track as its centre) to the west of the old farm house. A few pieces of flaked quartz were also observed. The low density shell scatter described for location 22 continues to approximately 100m from the southern boundary of the property. We saw a few more pieces of flaked quartz at location 25.

Locations 26, 27, 28 & 29: These are medium to low density shell scatters being exposed through a great amount of mole activity and they include black mussel and *P. granatina* as well as fragments of European ceramics, glass and bone. The absence of whelk, limpet and barnacle was noted, with the exception of a few fragments of limpet at location 29. The area of the archaeological scatters range in size from some 600m² to 1200m² but test pits to some 50cm and probing to about 100cm below the surface showed no evidence of significant deposits below the surface. This suggests that the original deposits were quite thin and became even more dispersed through mole activity. Test pits revealed no distinct stratigraphic horizon suggesting that archaeological material was dispersed through the deposit. Due to the inclusion of historical material culture, our opinion is that these sites are likely related to historic occupation of the area.

Location 30: This location contains a medium density shell scatter of about 100m². All the shell is burned and very fragmented and includes mostly black mussel with some limpet. We saw no bone, but one fragment of European ceramic was seen on the surface.

Location 31: This is the site of a dilapidated farm house and outbuilding. The house is situated 100m west of the eastern boundary and 350m south of the Waterkloof railroad crossing. The foundations indicate that the house was 11m long (in a N-S alignment) and 3.5m wide. The foundations of a small outbuilding was seen to the north east of the house measuring roughly 3X3m. Amongst and around these ruins we noted remains from the historical period such as glass, ceramic, metal and bone. Roughly 40m west of the farmhouse is a dilapidated windmill and a water well - a modern water pump stands nearby.

General observations

Every archaeological shell scatter we observed was not plotted because the study area contains a more or less continuous string of archaeological deposits of varying density. I discuss the different areas of the property according to the density of archaeological material located in those areas, starting with the least dense and ending with the most dense. I list the locality numbers falling within specific density areas, and details of localities and specific finds in various areas can be drawn from the above text and Figure 1.

Low density: This category, an example of which is shown in Plate 2, covers much of the investigated area although there are distinct shell scatters (locations 1, 7, 9, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24 and 25) within the low density shaded area (Figure 2). Mostly, these archaeological occurrences consist of fragmented shellfish remains, although a few pieces of flaked quartz were observed at a few locations (for details see previous description of individual localities within the low density zone). In most cases these shell scatters have been exposed through burrowing activity, although the archaeological remains at some locations appear to be *in situ*.

Medium density: An example of this category is shown in Plate 3. Medium density shell scatters are restricted to three zones within the investigated area (Figure 2). The two zones north of the gypsum quarry and salt pan (including locations 16, 17 and 19) consist largely of fragmented shell, although a quartz core was noted at location 19. The medium density zone to the south of the gypsum quarry and salt pan (including locations 26, 27, 28, 29, 30 and 31) is also dominated by shellfish remains, but here we observed the appearance of historical artefacts such as ceramic (locations 26, 27, 28, 29 and 30), glass, metal and bone fragments of domesticated animals as well as the remains of an old farm house, outbuilding, windmill and a water well (location 31). The remains of the farm house and detail of the walling are shown in Plates 4 and 5 respectively. As at the low density zones, most of the archaeological material on the surface has been exposed through burrowing activity and burrowing is most notable in the medium density zone south of the gypsum quarry and salt pan. An exception to this is location 30 (Figure 3), where the material appears to be *in situ*. For more detail see the previous discussion of findings at various locations within the medium density zones.

High density: An example of this category is shown in Plate 6, but higher densities within this zone were also observed, particularly in the area opposite Mussel Point where vehicles have compacted the archaeological deposit. The high density zone (Figure 2) lies directly opposite Mussel Point and comprises the extent of MTM (locations 2, 3, 4, 5, 6, 8, 10 & 11). Although the extent of this midden has been estimated before (Buchanan 1988 [referenced in Jerardino & Yates 1997], Jerardino & Yates 1997 [Figure 2]), these researchers were primarily

concerned with the nature of the deposit (excavation) and not its extent (survey). Because our main concern in this phase 1 archaeological investigation was to determine the location, nature, and extent of sites (survey), we took great care to establish the boundaries of MTM as accurately as possible. This explains the discrepancy between the boundaries indicated by the high density zone (Figure 2) and that shown in Jerardino & Yates (1997: Figure 2).

The archaeological material in this zone is dominated by shellfish remains, particularly black mussel, but during our survey we noted some pre-colonial pottery on the surface. Moreover, excavations at MTM including those by Jerardino and Yates (1997) have shown that stone artefacts and animal bones are present in the deposits. The numbers of these residues, however, are swamped by the enormous quantities of marine shell when evaluated by sight. The area comprising the high density zone (MTM) is in the region of 60 000m².

Summary Table

Location #	Importance	Impact	Mitigation
2, 3, 4, 5, 6, 8, 10 & 11	high	negative	sampling
26 & 27	medium	negative	sampling
16, 17, 19, 28, 29, 30 & 31	medium	minimal	monitoring if disturbed
1, 7, 9, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24, 25	low	minimal	monitoring if disturbed



Plate 1. Quartz hammerstone found at location 10. Note the wear and pitting on the left, lower edge of the stone. This damage is distinctive of using a stone as a hammer. The dimensions of the stone are 5.5X4.5cm.



Plate 2. This photograph shows an example of a low density archaeological shell scatter. The length of the scale rod is 1 meter.

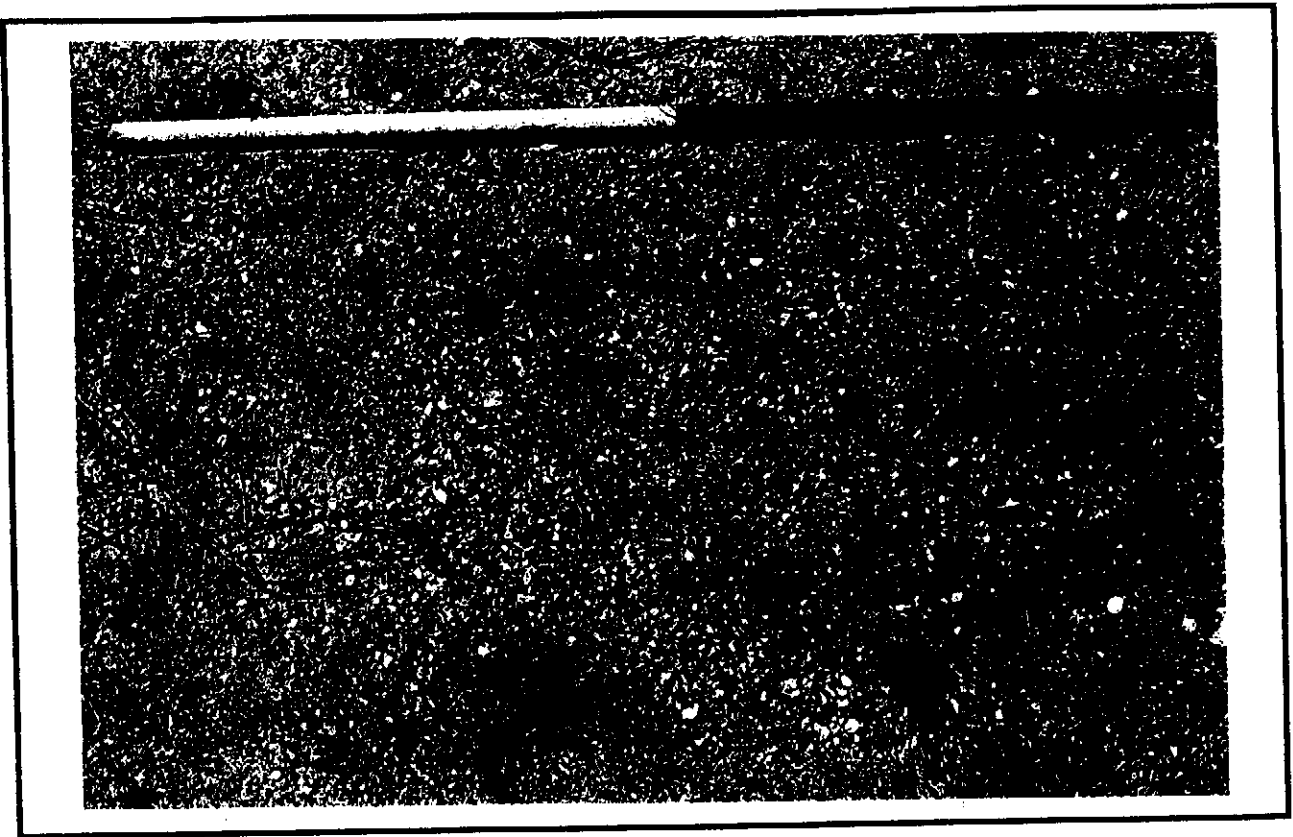


Plate 3. This photograph depicts a medium density archaeological shell scatter (location 30). The white part of the scale rod is 50cm long.

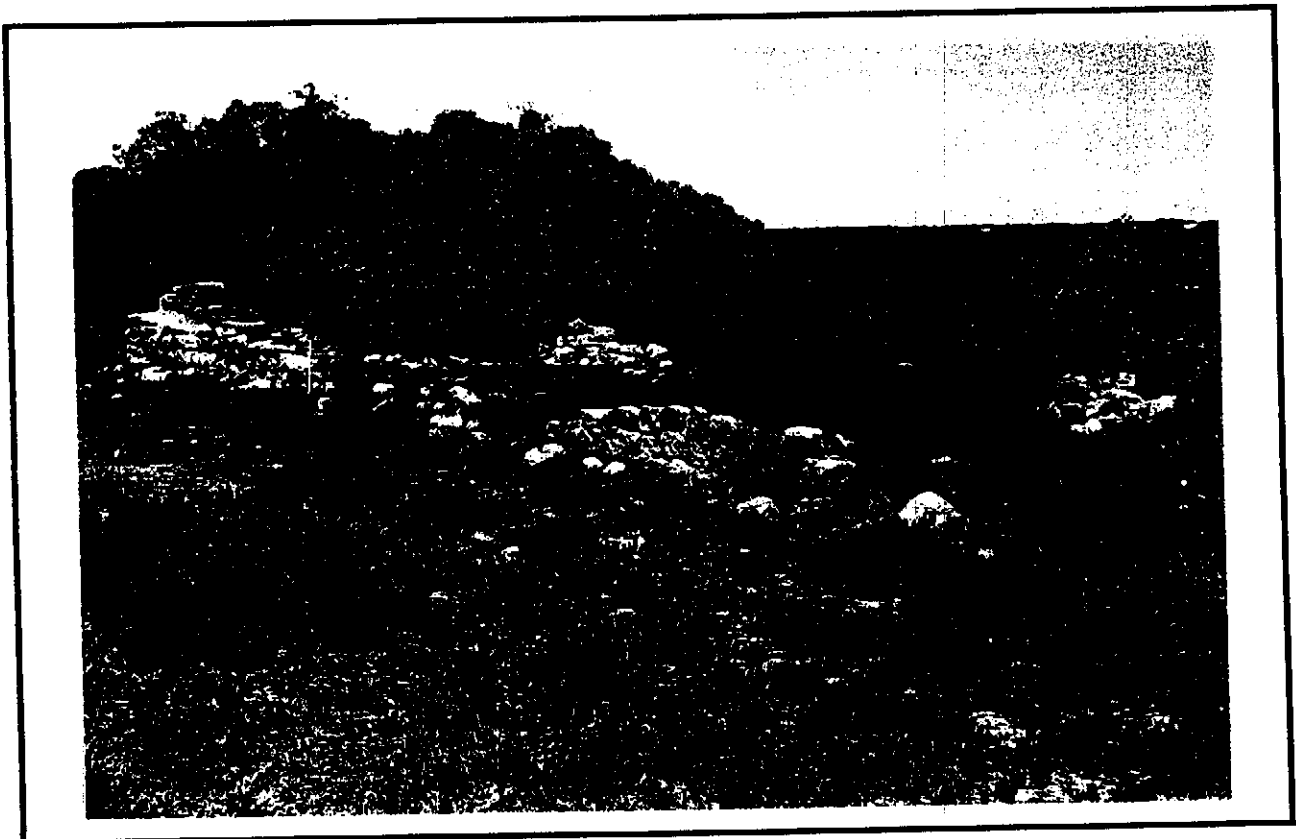


Plate 4. Ruins of the farm house described for location 31. The scale rod is 1 meter high.



Plate 5. Detail of the stone walling of the farm house ruins. In some places there are still traces of mud or clay used as mortar. The scale rod is 1 meter long.



Plate 6. An example of a high density archaeological shell scatter. Note the remnants of mole heaps to the left. The scale rod is 1 meter long.

5. RECOMMENDATIONS FOR FURTHER INVESTIGATION AND CULTURAL RESOURCE MANAGEMENT

Background

At the outset of this investigation, I was informed that the 10 shareholders of Mosselbaai Natuureservaat C C intend to build holiday houses in the area under consideration. During our fieldwork, Mr. Nelis Visagie (shareholder) kindly pointed out the extent and preliminary location of 10 (20X20m) plots on which houses are to be erected. Additionally, Mr. Visagie showed us the envisaged location of water tanks for “feeding” the houses and the location of an exit track for 4X4 vehicles (from the beach, across the southern extent of the property, to the Spoornet service road). Ms. Michelle Griffith of Doug Jeffery Environmental Consulting and Facilitation Services informed me that the location and extent of additional services or features are as yet undetermined and await the recommendations of this report. At this point the only areas (according to current plans) which will be directly impacted by development is the area opposite Mussel Point and a narrow strip (for exit track) along the southern boundary of the property. The area demarcated for housing lies within the high archaeological density zone and the strip for the 4X4 track cuts through part of the medium archaeological density zone at the south easterly extent of the property.

Archaeological Importance

The most sensitive part of the property, from an archaeological perspective, is the large shell midden known as MTM. Although some researchers have suggested that MTM is one of a few “very large and homogenous open air shell middens” (Henshilwood *et al.* 1994: 103), Jerardino and Yates (1997: 43) have “argued that MTM displays much greater variability through time and space”. Jerardino and Yates (1997) give a detailed account of early excavations and their findings as well as the results of their own excavations undertaken at MTM in 1994. My reading of the Jerardino & Yates paper is that a total of 11m² of archaeological material has been excavated from MTM. Considering the estimated size of this site to be in the region of 60 000m², only a fraction of a percent has been excavated, and even a smaller percentage has been thoroughly analysed. In their discussion Jerardino and Yates (1997: 49) argue that “considerably more work has to be done at this megamidden before its chronology is adequately established and site formation processes understood. Observations and conclusions drawn here about MTM are therefore of a preliminary character.” At this stage of research into these large shell middens we are able to ascertain 1) when the site was occupied, 2) that people were processing large numbers of shellfish (Henshilwood *et al.* 1994), 3) that other domestic activities were taking place (such as stone knapping and consumption of other fauna) and 4) that the spatial location of these activities changed through time. However, the details of what people were

doing here at different times and at different locations within the midden is as yet unclear.

In concluding, Jerardino and Yates (1997: 50) state that “further excavations at MTM and other megamiddens are essential for the proper characterisation of these large shell middens. This is necessary not only for the proper study of these peculiar sites. It is also important for the understanding of a millennium (c. 3000-2000 BP) during which dramatic changes in subsistence and settlement choices were experienced by coastal hunter-gatherer groups before the introduction of pastoralism in the western Cape.”

The medium density zone at the south easterly extent of the property contains archaeological sites which, to the best of my knowledge, have received very little, if any attention from archaeologists. These sites are interesting because they contain by-products of indigenous subsistence activities (shellfish refuse) as well as material from the historical period (e.g., European ceramics, glass, metal, etc.).

MTM, the medium density zone at the south easterly extent of the property and the ruins of an old farm house represent significant opportunities for future research in the study area.

Impact

According to current plans for building houses on top of MTM and for building a 4X4 track through the medium density zone mentioned above, archaeological sites will be directly impacted by envisaged development. Installation of septic tanks will have a significant negative impact on the archaeological deposits in the high density zone. Housing will only destroy part of MTM and therefore a considerable portion of the midden will be preserved. However, the area will be exposed to increased visitation and exposure to recreational activities, and therefore the sites in the area will be impacted to some extent.

Mitigation

Mitigation is required prior any proposed development on top of MTM and at the south easterly extent of the property. Further investigation and excavation should be carried out by a professional archaeologist.

While the medium density zone referred to above will require excavation of a small number of square meters of archaeological deposit to obtain a representative sample of the area which will be impacted, the situation at MTM is much more complex. Because of its size, it may not be economically feasible to retrieve a representative sample from the affected portion of MTM. Even though a

large portion of the midden will remain relatively undisturbed if development is undertaken, there is no assurance that the deposits potentially disturbed by development are equally represented in other parts of MTM which are not subject to development. Therefore appropriate sampling of the deposits which will be disturbed by development needs to be undertaken. As Jerardino & Yates (1997) have shown, there is evidence of variability through time and space, and therefore I suggest 1) the excavation of a series of trenches along the densest part of the midden (mostly in the 4000m² area currently earmarked for housing), 2) a series of trenches on the ridge where the water tanks are to be installed and 3) a few square meters at the periphery of MTM.

In addition, any moving or disturbance of earth (e.g., for pipes, cables, sewerage, walking trails, etc.) in the high, medium and low density zones, as indicated in Figure 2, must be monitored by a professional archaeologist during disturbance or movement of earth in the event of uncovering subsurface archaeological features (e.g., burials, caches of ostrich eggshell containers, etc.).

Suggestion

If the envisaged development is to proceed, the developer must apply for a permit from the National Monuments Council to destroy part of the shell middens. This is applicable to any disturbance or movement of earth where shell middens occur. I suggest that the developer apply for this permit timeously since there may be delays of up to six weeks. This will also allow an archaeologist to complete mitigation (a phase 2 archaeological investigation) well before any destruction of the archaeological deposits takes place during development.

6. ACKNOWLEDGEMENTS

I thank David Halkett and Tim Hart (ACO) for their valued guidance and for agreeing to act in the capacity of Principal Investigators for this investigation, Antonieta Jerardino for valuable discussion, editing and for assisting in completing the fieldwork, Mr. Nelis Visagie for help in the field, Janette Deacon and John Parkington for valuable advice, and the Archaeology Department at UCT for the use of a camera and a few tools.

7. ARCHAEOLOGICAL TEAM

Principal Investigators
Fieldwork
Report

David Halkett & Tim Hart
Peter Nilssen & Antonieta Jerardino
Peter Nilssen

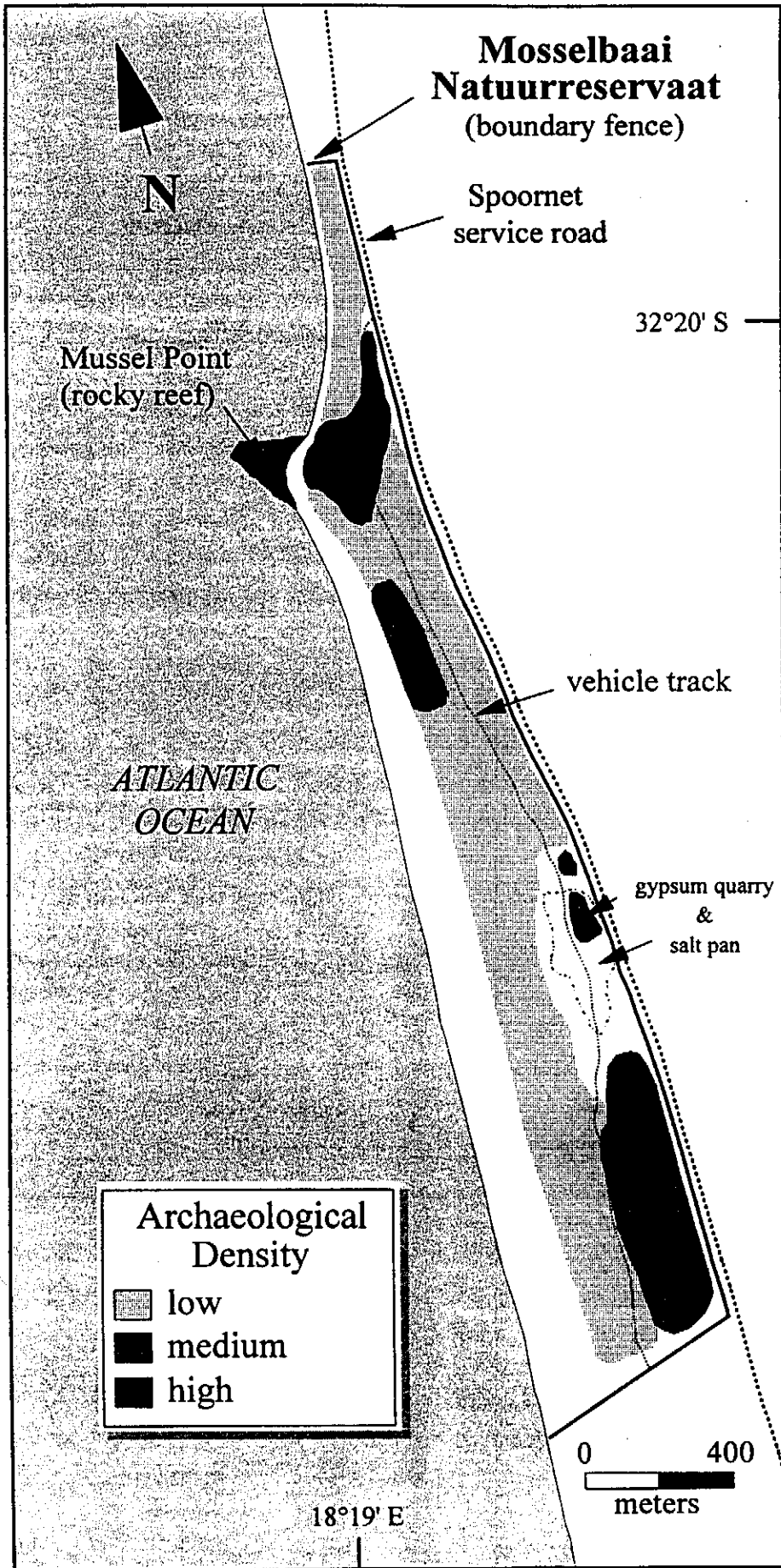


Figure 2. Map showing the densities of archaeological material in different parts of the Mosselbaai Natuurreservaat as described in the text. The unshaded, western part of the property and south of the reef is densely vegetated making visibility low.