

**ARCHAEOLOGICAL IMPACT ASSESSMENT
OF A SMALL PART OF GROOTVLEI
(PORTION 8 OF FARM 92 STEENBOKFONTEIN),
CLANWILLIAM MAGISTERIAL DISTRICT,
WESTERN CAPE**

(AIA conducted under Section 38 (1) of the National
Heritage Resources Act as a freestanding AIA.)

Requested by

Wilhelm Kruger on behalf of Wiese Pty (Ltd)

13 April 2007



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EXECUTIVE SUMMARY

The UCT Archaeology Contracts Office was asked by Wilhelm Kruger Argitektuur Interieur on behalf of Mr Buys Wiese to conduct an Archaeological Impact Assessment of a small part of the farm Grootvlei (Portion 8 of Farm 92 Steenboksfontein), near Lambert's Bay. The proponent is currently upgrading a campsite based on plans passed unconditionally by the West Coast District Municipality in 2003. Their failure to request the appropriate impact assessments has resulted in the unintentional disturbance of archaeological material at the construction site. Work has stopped and the owner has been asked by the Department of Environmental Affairs and Development Planning to have an Archaeological Impact Assessment conducted. This report fulfils that requirement.

The site is characterised by two primary dune ridges with a low-lying area in between. Indigenous dune vegetation covers the site with that near the coast being sparse and that further inland being fairly dense. The campsite is located on the seaward of the two dune ridges. Archaeological shell scatters were observed over almost the entire area above the high water mark but only in the western parts was there any evidence of dense sub-surface middens. These middens have been exposed by the development through the digging of foundations and service trenches and the planting of trees. Indications are that the remaining shell scatters are either low density or shallow in depth. The dense middens are significant in the local context and likely to be able to provide good scientific data, while the material further inland is either deflated or far more ephemeral.

Since the main construction activities have already been completed, there is not much mitigation that can be done. It is recommended, however, that a detailed document outlining all further work planned for the site be prepared and submitted to HWC for consideration by their APM committee. This should include all work at or near to ground level as well as any landscaping or planting. In this way any activities that might be detrimental to archaeological material can be identified and any necessary mitigatory actions stipulated. HWC can also state whether a permit will be required for further development that might disturb archaeological material.

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1. INTRODUCTION

The UCT Archaeology Contracts Office was asked by Wilhelm Kruger Argitektuur Interieur¹ on behalf of Mr Buys Wiese² to conduct an Archaeological Impact Assessment of a small part of the farm Grootvlei (Portion 8 of Farm 92 Steenboksfontein), near Lambert's Bay (Figure 1). The landowner is in the process of upgrading camping facilities based on plans that were passed unconditionally in 2003 by the West Coast District Municipality. At the request of the Department of Environmental Affairs and Development Planning (DEA&DP) work on the development was halted until completion of an Archaeological Impact Assessment. This must be submitted to Heritage Western Cape for comment prior to any further work being undertaken on the site. The current report serves to fulfil that requirement.

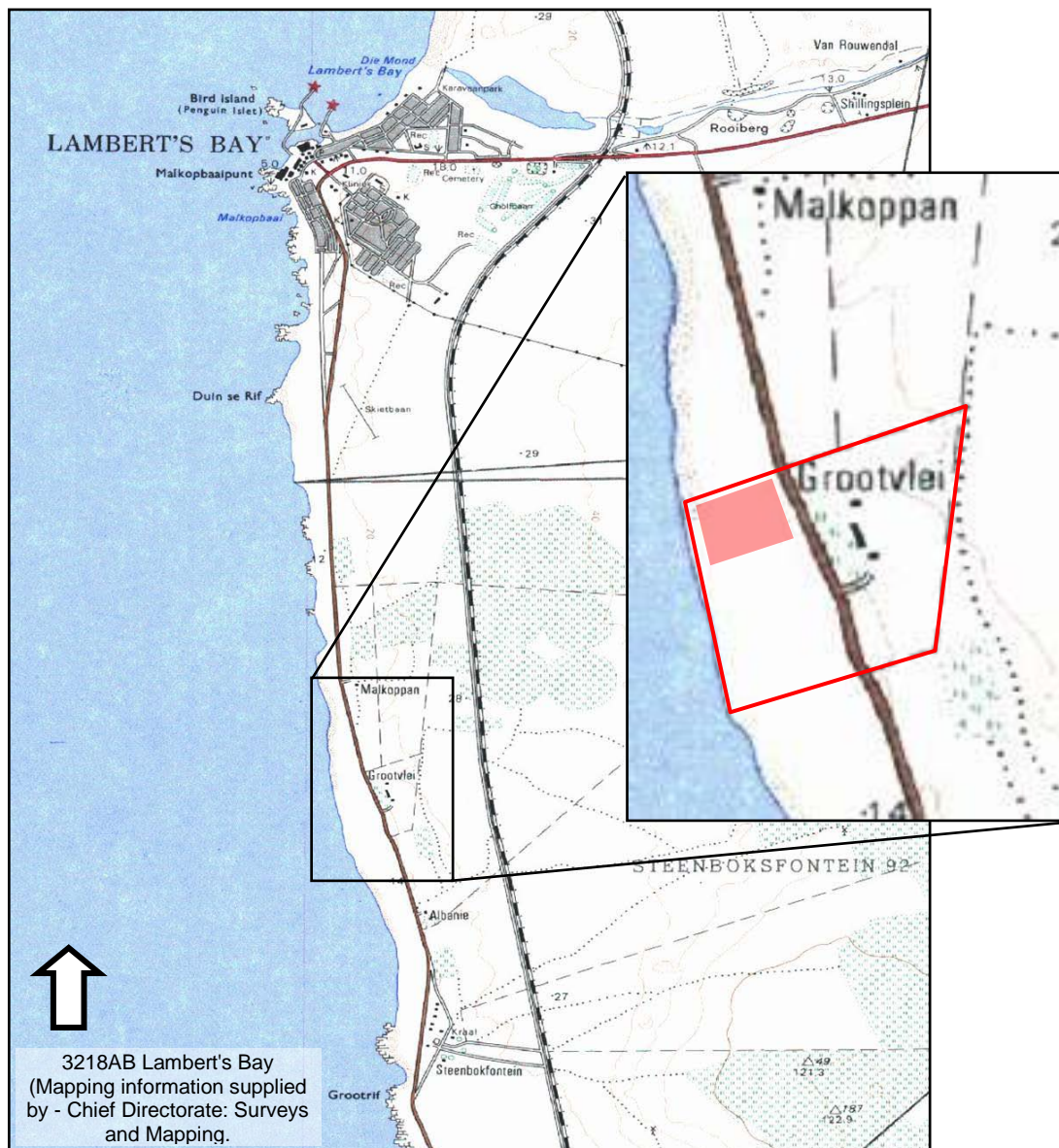


Figure 1: Location of Grootvlei (red outline). The study site lies in the northwest corner of the property (shaded area).

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The assessment was required to examine the immediate vicinity of the campsite, but it was decided after commencement of the site visit that a wider area would be more appropriate. The approximate location of this area is shown on Figure 1. This was partly due to the fact that services (water and sewerage) had already been installed and that these lay further away from the campsite area. In this way the findings will be able to inform any further work that may occur in the area surrounding the campsite. The previous facilities had been in place for some 20 years.

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA) of 1999 protects a variety of heritage resources including all palaeontological or prehistoric material, historical artefacts and structures and human remains. Disturbance or destruction of any protected heritage material requires a permit issued by the relevant authority, which in this case would be Heritage Western Cape (HWC).

In terms of the NHRA, only two types of protected heritage material could be of concern at Grootvlei:

- In Section 35, "**Archaeological**" refers to any material remains resulting from human activity which are older than 100 years of age, in a state of disuse and are in or on land. It includes artefacts, human and hominid remains and artificial features and structures. This means that an archaeological site is any area where there are artefacts (objects made by human hand) and/or ruins that are over 100 years of age.
- In Section 36, "**Burial Grounds and Graves**" means any place of interment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. Note that although isolated **human remains** are not included here, they are protected by other legislation such as provincial ordinances and the Human Tissues Act.

Archaeological material in the case of Grootvlei will include all the shell middens and shell scatters present on and in the dunes while graves would refer to any prehistoric burials that might have occurred in the area. Of course it is not possible to locate such graves during field survey and so any burial uncovered during development would necessarily have to be dealt with immediately post-discovery.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The site lies in the north-western corner of the farm Grootvlei and the development is approximately 50 m inland from the high watermark (Figure 2). It straddles the first dune ridge behind the beach with a second and much larger dune ridge being located further inland, between the seaward dune and the Elands Bay – Lamberts Bay road. The campsite is small, being no more than about 50 m in diameter. A dirt track leads from the main road to the site. Limited disturbance has taken place due to construction activities and the installation of services. Old jeep tracks also lead across the dunes but these are rehabilitating well since the owner does not allow vehicles on the beach or dunes on his land. One of these tracks is faintly visible in the right hand side of Figure 2.



Figure 2: A view of the seaward part of the search area looking towards the north. The campsite facilities are visible in the centre on the skyline.

The dune on which the campsite lies is poorly vegetated with only very small, scattered bushes being present (Figure 2). As one moves inland the bushes become steadily larger and denser until the western foot of the inner dune cordon where very dense, waist-high bushes cover much of the surface (Figure 3). Higher on that dune the bushes are again slightly less dense. Surface shell in varying density is visible over almost the entire search area. Besides the campsite, no other part of the search area is developed. Between the campsite and the beach the landowner has created a formal path to encourage people to stay off the dune areas and minimise disturbance there.

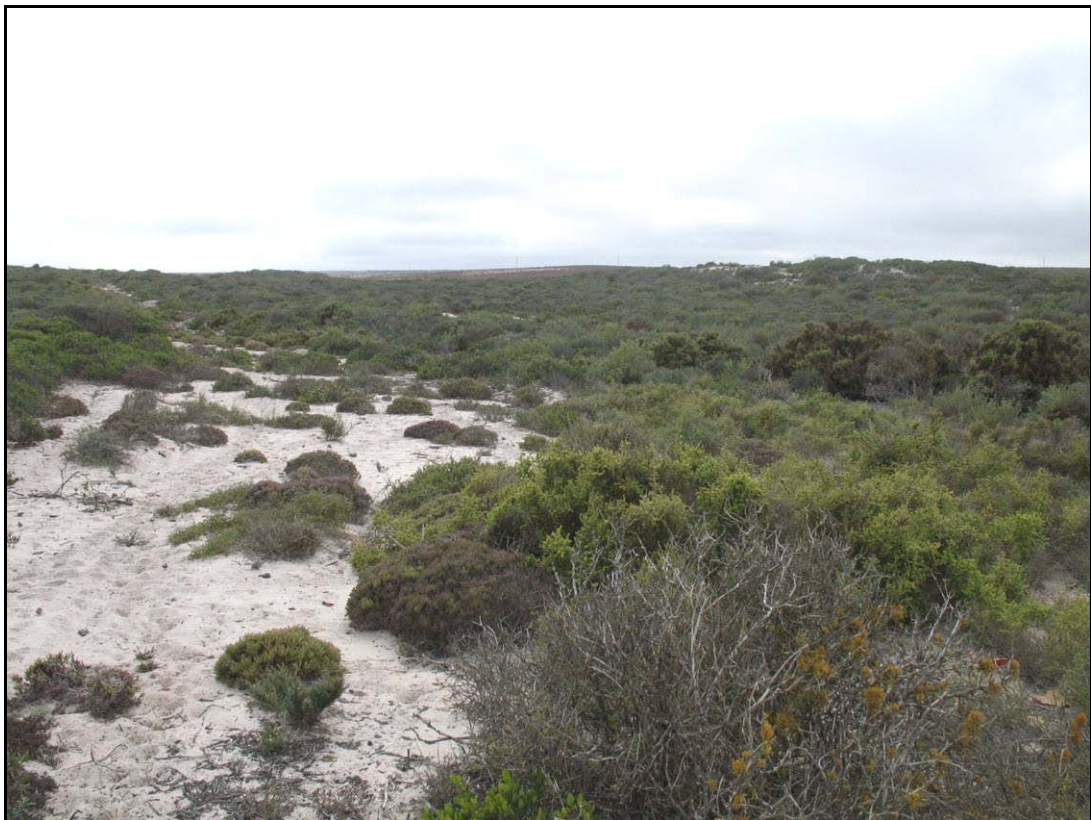


Figure 3: View to the north across the central portion of the search area. The high dune to the right is the inner dune cordon. The densest vegetation lies immediately west (i.e. in front) of that dune.

The coastline at Grootvlei is a mixture of rocky and sandy shore with a long stretch of rock platform extending northwards from this point. These rocks support abundant limpets and mussels making the shoreline a rich source of food (Figure 4 & 5). Areas with good supplies of shellfish typically contain large quantities of archaeological debris.



Figure 4: Limpets on the rocky shoreline adjacent to the site.



Figure 5: Mussels on the rocky shoreline adjacent to the site.

4. METHODS

A site visit was conducted on 04 April 2007 and the area in question was searched on foot. Relevant finds and features were recorded photographically and positions were recorded by means of a hand-held GPS receiver on the WGS84 datum.

It was necessary to cover the site twice with the first walk serving to provide a general assessment of the density of archaeological material present. During the second walk it was then possible to isolate and record those areas that were particularly dense and, more generally, to obtain a sense of where the majority of archaeological material lay. All recorded locations are plotted on the orthophoto map in Figure 6.

4.1. Limitations

In the central part of the search area, where the bush was most dense, it was not always possible to see the ground surface. However, with this area containing the most shell, it was still possible to ascertain where the primary patches were. As such, vegetation cover is not considered to have hampered the assessment in any way. Usually one is only able to assess the surface traces, but here, with some trenching for services and foundations having been carried out, it was possible to comment on subsurface remains visible in the churned sand.

Unfortunately there was a thick blanket of mist during much of my time on site and this seems to have resulted in minor inaccuracies in the GPS co-ordinates. I was also plotting locations visually on an aerial photograph while in the field, and the map of sites and shell scatters provided here (Figure 6) is based on a combination of the visual and GPS locations.



Figure 6: Aerial photograph of the study area showing the points described in Section 5 below. The red line is the northern boundary of the property, the yellow dotted line indicates the approximate area searched and the red shaded areas represent the patches of densest shell. The green circle indicates the area in which the upgraded camping facilities have been constructed. The pale and dark blue dotted lines indicate the 5 m and 10 m contours respectively.

5. FINDINGS

Only prehistoric material was found and this consisted of many shell scatters of varying density. The densest patches or 'hot spots' and other points worthy of note are plotted on Figure 6 as the letters "A" to "S", while the general areas of densest shell are indicated by shading. Each recorded point is described briefly below with a general discussion and illustrations of the archaeological material following afterwards. Note that with much of the area being covered by shell it is not possible to isolate where individual sites begin or end and it is likely that only a few separate and quite large sites are represented here. Some shell middens in the area are known to be in excess of 100 m in length.

5.1. Sites and areas requiring comment

Point A

GPS co-ordinate: 32° 08' 49.7" S 18° 18' 27.5" E

Description of location: The shell scatter lies beneath fairly dense bush in the low-lying ground west of the high dune ridge.

Shell content: Dense scatter of shell dominated by *C. meridionalis* but also including occasional *S. argenvillei* and *Burnupena* sp..

Other comments: One very small potsherd seen here.

Point B

GPS co-ordinate: 32° 08' 47.8" S 18° 18' 27.9" E

Description of location: The scatter lies beneath fairly dense bush on the low-lying ground west of the high dune ridge.

Shell content: Dense scatter of shell dominated by *C. meridionalis* but also including occasional *S. argenvillei* and *Burnupena* sp..

Other comments:

Point C

GPS co-ordinate: 32° 08' 47.8" S 18° 18' 31.3" E

Description of immediate area: The site lies on and immediately behind the crest of the high dune ridge among low, moderate density bushes.

Shell content: Very dense scatter of *C. meridionalis* but also including *C. granatina*, *S. granularis* and *S. cochlear*.

Other comments:

Point D

GPS co-ordinate: 32° 08' 47.0" S 18° 18' 30.1" E

Description of immediate area: This is a shell scatter on the crest of the hill in an open, deflated area.

Shell content: No single species is particularly dominant visually but *C. granatina*, *S. granularis*, *S. argenvillei*, *S. barbara* and *C. meridionalis* are all present.

Other comments:

Point E

GPS co-ordinate: 32° 08' 45.6" S 18° 18' 26.9" E

Description of immediate area: The site lies in the hollow, deflated area west of the main dune ridge and is among dense bushes.

Shell content: Very dense scatter of *C. meridionalis* with occasional *S. granatina*, *S. granularis*, *S. cochlear* and *Burnupena* sp..

Other comments:

Point F

GPS co-ordinate: 32° 08' 46.9" S 18° 18' 26.8" E

Description of immediate area: Disturbed area with septic tank in place (Figure 7).

Shell content: Not noted.

Other comments: The disturbed sand shows very little sub-surface shell content in this area.



Figure 7: The septic tank in place at Point F. Note the lack of shell in the churned up sand.

Point G

GPS co-ordinate: 32° 08' 45.0" S 18° 18' 27.0" E

Description of immediate area: This scatter lies in the deflated hollow west of the main dune ridge and is among dense bushes.

Shell content: Very dense scatter of *C. meridionalis* with occasional *S. granatina*, *S. granularis*, *S. cochlear* and *Burnupena* sp..

Other comments:

Point H

GPS co-ordinate: 32° 08' 45.3" S 18° 18' 28.6" E

Description of immediate area: Open deflated area on the crest of the large, inner dune ridge with low bushes around the edges. A pipe trench leading from the farm to the campsite crosses through here (Figure 8).

Shell content: Moderate shell scatter including *C. meridionalis*, *C. granatina* and *S. granularis*.

Other comments: The pipe trench and several nearby mole heaps show only low density sub-surface shell.



Figure 8: The water pipe in place at Point H. Although shell was disturbed during the trenching for this pipe, the material at the surface suggests that no dense shell midden is located within the uppermost 20 to 30 cm.

Point I

GPS co-ordinate: 32° 08' 44.1" S 18° 18' 28.0" E

Description of immediate area: This scatter lies on the northern end of the dune where it slopes down towards the access track.

Shell content: Moderate scatter of *C. meridionalis* but including occasional other shells.

Other comments:

Point J

GPS co-ordinate: 32° 08' 43.4" S 18° 18' 27.1" E

Description of immediate area: This scatter lies on low-lying ground among moderate density bushes just north of the access track.

Shell content: Dominated by *C. meridionalis* but also including occasional *S. granatina*, *S. granularis*, *S. argenvillei* and *Burnupena* sp..

Other comments: There is modern (mid-20th century and later?) rubble and iron dumped in the area.

Point K

GPS co-ordinate: not recorded

Description of immediate area: Also part of the same scatter as Point J.

Shell content: Similar to Point J.

Other comments: This area is noted for the large quantity of modern (mid-20th century and later) rubbish dumped here. This comprises predominantly of metal and includes at least three cars, a fridge, a mattress and many other fragments of rusted metal.

Point L

GPS co-ordinate: 32° 08' 43.4" S 18° 18' 25.6" E

Description of immediate area: The scatter lies on and slightly eastwards of a low sand ridge with low to moderate density bushes.

Shell content: Although not a very dense scatter, this one is quite extensive. It includes *C. granatina*, *S. granularis*, *S. argenvillei*, *S. barbara*, *C. meridionalis* and occasional *Burnupena* sp..

Other comments: This scatter is in a similar location to the *in situ* material noted near the campsite and may also have extensive subsurface deposits.

Point M

GPS co-ordinate: 32° 08' 46.1" S 18° 18' 25.0" E

Description of immediate area: This scatter lies in and just east of the driveway/open area. The undisturbed part has scattered low bushes.

Shell content: The scatter is strongly dominated by *C. meridionalis* but also includes occasional other shells.

Other comments: Although only of moderate density on the surface, there is evidence of dense sub-surface shell that has been exposed by the planting of trees along the edge of the open area. As these trees grow the roots will result in disturbance of the middens.

Point N

GPS co-ordinate: 32° 08' 46.5" S 18° 18' 25.8" E

Description of immediate area: This scatter lies on the eastern side of the low ridge on which the campsite is situated.

Shell content: A moderate density scatter including *S. granatina*, *S. granularis*, *S. argenvillei*, *C. meridionalis* and *Burnupena* sp..

Other comments: There is modern (mid-20th century and later?) rubble and iron dumped in the area.

Point O

GPS co-ordinate: 32° 08' 47.6" S 18° 18' 25.2" E

Description of immediate area: This scatter lies on the low ridge on which the campsite is situated.

Shell content: This seems to be a deflated layer of shell dominated by *C. meridionalis* but also including occasional other species.

Other comments:

Point P

GPS co-ordinate: 32° 08' 48.3" S 18° 18' 25.2" E

Description of immediate area: This scatter lies on the eastern side of the low ridge on which the campsite is situated.

Shell content: A shell scatter dominated by *C. meridionalis* but also including occasional other species.

Other comments:

Point Q

GPS co-ordinate: 32° 08' 47.3" S 18° 18' 24.3" E

Description of immediate area: This point is at the southern edge of the new structure and represents shell disturbed by the foundations (Figures 9 & 10).

Shell content: Dominated by *C. meridionalis* but also including *S. granatina*, *S. granularis*, *S. argenvillei* and *Burnupena* sp..

Other comments: Not very much shell on the surface but it is clear that sub-surface shell middens are present here. These middens probably extend beneath the campsite facilities.



Figure 9: The disturbed shell midden at the southern edge of the newly built structure at Point Q. Note the lack of shell in the churned up sand.

Point R

GPS co-ordinate: 32° 08' 45.9" S 18° 18' 24.2" E

Description of immediate area: This point is on the northern edge of the driveway/open area and represents shell disturbed by the pipe trench carrying the water pipe.

Shell content: Dominated by *C. meridionalis* but also including occasional other species.

Other comments: Not very much shell on the surface but it is clear that sub-surface shell middens are present here. As with the shell at Point Q, these middens may extend beneath the campsite facilities.



Figure 10: Close up of the disturbed shell midden at Point Q. Similar material is evident at Points M and R. The dark colour of the deposit indicates that it was still *in situ* prior to disturbance.

5.2. Discussion

The coastal dunes at Grootvlei are covered by extensive archaeological shell scatters. Although this survey examined only the surface traces, evidence provided by sub-surface disturbances shows that there are deeper shell middens present in some areas and that other areas contain surface shell with nothing substantial beneath them. The shell scatters varied in density and condition. Some, notably those in the central, low-lying area (Points A, B, E & G), are naturally deflated (e.g. Figure 11). This deflation results in the shell accumulating as a lag-type deposit at the surface. These scatters have a lower research potential due to the possibility that material of differing age has been conflated. Other areas, predominantly along the high eastern dune ridge adjacent to the road (Points C, D & H) and along the inner edge of the western dune ridge (Points L, N & O), have only moderate density surface scatters (e.g. Figures 12 & 13). These have limited research potential but would probably still provide good data. Dense sub-surface shell middens (Figures 9 & 10) appear to be restricted to the westernmost dune ridge (Points M, Q & R) which may, in fact, have formed partly due to the presence of the shells accumulated by prehistoric people. These dense middens are in all likelihood stratified. This means that occupation layers of differing age are located vertically one above the other and these deposits can thus provide valuable data concerning the changes that occurred through time. These dense midden deposits should be seen as significant within the local context.

It appears that cultural material is very infrequent, at least at the surface, with just a single piece of pottery and several manuports or manuport fragments being noted in the entire search area. No flaked stone was seen.



Figure 11: A patch of deflated shell from the central, low-lying part of the search area.

All the occurrences recorded and described pertain to the Later Stone Age. Surface material is probably all fairly recent, perhaps less than 2000 years old, but sub-surface midden deposits are likely to date back some 3000 to 4000 years with the oldest open midden site in the Lambert's Bay area being dated to about 5100 radiocarbon years BP (3900 BC; Jerardino 1996; Kaplan 1994). Buchanan (1986) cites a date of just 690 BP from Grootrif some 3 km south of Grootvlei. The oldest LSA material yet excavated in the local area comes from Steenbokfontein Cave, just 3 km southeast of Grootvlei, where an early Holocene date in excess of 8000 BP has been obtained (Jerardino & Swanepoel 1999; Jerardino & Yates 1996).



Figure 12: An example of a moderate density surface shell scatter.



Figure 13: Close up of a moderate density surface shell scatter. The good preservation of the shells might indicate this scatter to be fairly recent in age.

Other surveys and research work carried out in the area immediately north of Grootvlei and a little way to the south have shown that numerous shell midden sites of varying density are present all along the rocky shoreline and that some are very large and/or significant in terms of the material they contain (Buchanan 1986; Hart & Halkett 1995; Halkett & Mütti 1998; Jerardino 1994, 2007; Parkington 1976). Included among these sites are massive shell middens known as ‘megamiddens’ which are unique to this part of South Africa’s coastline. This particular type of midden is still not fully understood. They formed between approximately 3500 and 1800 years ago but also contain older material in some cases. They seem to have formed as a result of very heavy human predation on the abundant black mussels (*C. meridionalis*) that occur on the rock platforms along this portion of the coast. Due to the very limited cultural material found on megamiddens, they were earlier considered to have been primarily shellfish processing locations (Henshilwood *et al.* 1994). It seems more likely, though, that it is merely the immense volume of shell deposited on these sites that has dwarfed all other forms of archaeological material and that domestic activities indicative of camping at the sites did actually occur (Jerardino & Yates 1997).

At this stage it is not really possible to tell whether megamiddens are present on Grootvlei, although the thick shell that was disturbed at Points M, Q and R (Figure 6) suggests that dense middens are certainly present on the property. It would only be possible to characterise the sub-surface middens properly through test excavations. There is generally very little evidence of deflation suggesting that much of the undisturbed archaeological deposits are still *in situ*. As such they present a valuable source of information regarding the diets and practices of the prehistoric inhabitants of the area.

6. CONCLUSIONS

The vast majority of archaeological material in the search area is still *in situ*, although small amounts have been disturbed by the construction operations on the site including foundations, services and the planting of trees. It appears that the West Coast District

Municipality was at fault when it unconditionally approved the plans for the upgrade in 2003 and that this has led to the development taking place without any further archaeological testing or mitigation.

Almost the entire area between the high tide mark and the Lambert's Bay Eland's Bay road contains prehistoric archaeological material and any development within this zone, whether large or small, will have an impact on this material. It is not possible to comment fully on the significance of the material without sub-surface testing but it is likely that the dense shell middens beneath the campsite area will be able to provide good scientific data concerning the diets and cultural practices of the sites' prehistoric occupants. This data would complement the work of others in the area.

7. RECOMMENDATIONS

At this stage, with construction having already taken place, there is little more that one can do by way of mitigation. In terms of a way forward it is recommended that a document detailing all further work that is still to take place be prepared and submitted to HWC for consideration by their Archaeology, Palaeontology and Meteorites (APM) committee. This document should focus on any work that will occur on or near ground level, such as installation of flooring or services, in order to ensure that no further impacts will occur. This is not restricted to subsurface excavations, since surface activities can also result in damage occurring at a later stage, for example through deflation and compaction of a denuded area (e.g. the current driveway area) or through erosion at a drainage outfall. If areas within the campsite are heavily walked over by people then there will be an impact on subsurface deposits through churning of the uppermost material and introduction of foreign materials such as cigarette ash, waste water and other general debris. Any modification to the access route should also be detailed along with any landscaping or planting activities. After receipt of such report HWC would be able to provide feedback on what mitigation could be undertaken if necessary as well as stating whether they will require a permit to be issued for further disturbance to the midden deposits.

It should be noted that activities such as planting of trees (as has recently occurred on the site) have a large subsurface impact as the roots will grow into the shell middens causing churning of deposits. The natural dune plants have relatively shallow or small root systems which only result in minor impacts to the very uppermost material.

It is important to remember that prehistoric burials can occur anywhere and that they are particularly common in coastal shell middens. No surface indications burials exist and they are often intersected accidentally during development. Although all the major work has already been conducted at Grootvlei the possibility of intersecting human remains should not be discounted during any further work at the site. Should this occur, work in the immediate area should stop and the find be reported to HWC. An archaeologist would need to be contacted to remove the remains at the cost of the developer.

It was noted during the survey that piles of modern shell (*C. granatina*) were lying around on the surface. Dumping of modern shells should not be allowed as this will also contaminate archaeological material through the introduction of modern material to old deposits.

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