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**PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT  
PROPOSED DEVELOPMENT  
PORTION 21-1 OF FARM 108  
PORTION 21-2 OF FARM 108  
PORTION 21-3 OF FARM 108 AND  
FISHING LEASE 112  
JACOBSBAAI**

Prepared for

**CAPE LOWLANDS ENVIRONMENTAL SERVICES**

Att: Mr Nic Hannekom  
PO Box 70  
Darling  
7345

By

Jonathan Kaplan  
**Agency for Cultural Resource Management**  
P.O. Box 159  
Riebeeck West  
7306  
Ph/Fax: 022 461 2755  
Cellular: 082 321 0172  
E-mail: [acrm@waccess.co.za](mailto:acrm@waccess.co.za)

**MAY  
2007**

## Executive summary

Cape Lowlands Environmental Services requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed resort development on Portion 21-1 of Farm 108, Portion 21-2 of Farm 108, Portion 21-3 of Farm 108 and Fishing lease 112, in Jacobsbaai, on the Cape West coast.

The subject erven are clustered around the existing Jacobsbaai Hotel and the Jacobsbaai Abalone Farm.

The aim of the study is to locate and map archaeological heritage sites and remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

The following findings were made:

**Portion 21-1 of Farm 108:** Archaeological heritage remains were documented in Portion 21-1 of Farm 108, but the remains have been severely disturbed as a result of the construction of a service trench and the laying of a pipeline through the proposed site. The archaeological remains have been rated as having low-medium local significance.

**Portion 21-2 of Farm 108:** Archaeological heritage remains were documented in Portion 21-2 of Farm 108, but the remains have been rated as having low local significance.

**Portion 21-3 of Farm 108:** Well-preserved archaeological heritage remains were documented on the slopes of the barrier dunes overlooking the Abalone Factory in Portion 21-3 of Farm 108. The remains have been rated as having medium-high local significance.

**Fishing Lease 112:** Shellfish remains, mixed in with building rubble and stone, occurs in front of the Jacobsbaai Hotel guest suites, on an artificially raised platform overlooking the rocky shoreline. The shellfish may once have been part of a much larger midden which was destroyed during construction of the hotel.

The proposed development and associated activities will very likely impact negatively on potentially important archaeological heritage remains in Portion 21-1 and 21-3 of Farm 108.

Bulk earthworks and excavations for services may also expose (older) buried shell middens and unmarked human burials in the above erven.

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## 1. INTRODUCTION

### 1.1 Background and brief

Cape Lowlands Environmental Services, on behalf of One Vision (Pty) Ltd, requested that the Agency for Cultural Resource Management conduct a Phase 1 Archaeological Impact Assessment for a proposed housing development on Portion 21-1 of Farm 108, Portion 21-2 of Farm 108, Portion 21-3 of Farm 108 and Fishing Lease 112, in Jacobsbaai, in Vredenburg-Saldanha Bay.

The affected erven are currently zoned Resort Zone I, but an application to rezone the subject erven, to Resort Zone II is pending. The number of units, p/erven has not yet been established. The results of the archaeological heritage study will be used to compile an Environmental Constraints Plan to guide the proposed development.

The extent and sensitive nature of the proposed development falls within the requirements for an archaeological impact assessment as required by Section 38 of the South African Heritage Resources Act (No. 25 of 1999).

The aim of the study is to locate and map archaeological heritage sites and remains that may be negatively impacted by the planning, construction and implementation of the proposed project, to assess the significance of the potential impacts and to propose measures to mitigate against the impacts.

## 2. TERMS OF REFERENCE

The terms of reference for the archaeological study were:

1. to determine whether there are likely to be any archaeological sites within the proposed sites;
2. to identify any sites of archaeological significance within the proposed sites;
3. to assess the sensitivity and conservation significance of archaeological sites;
4. to assess the status and significance of any impacts resulting from the proposed development; and
5. to identify mitigatory measures to protect and maintain any valuable archaeological sites that may exist within the proposed site.

### 3. THE STUDY SITE

A locality map is illustrated in Figure 1.

An aerial photograph of the proposed site is illustrated in Figure 2.

**Portion 21-1 of Farm 108:** The proposed site is located alongside the gravel road leading to the Jacobsbaai Hotel and directly south of the Jacobsbaai Abalone Factory. The slightly elevated, flattened, pie-shaped site comprises the remains of a sand dune that has been severely disturbed, probably as a result of construction of the gravel road several years ago, but more recently, by construction of a service trench and the laying of a water pipeline that links to several properties on the peninsula (Figures 3-5). The extent of the site is 1087 m<sup>2</sup>.

**Portion 21-2 of Farm 108:** The proposed site is located on the flat, well vegetated, rocky peninsula, about 150 m north-west of the Jacobsbaai Hotel. Several gravel roads and tracks intersect the site. The site is fairly degraded and much material has been deposited onto the site as a result of tidal wash ups. Sporadic outcroppings of granite occur over the remainder of the site. Large numbers of light (volcanic) pumice stone, and crushed and fragmented shell cover the entire site and the surrounding area (Figures 6-8). The extent of the site is 6071 m<sup>2</sup>.

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**Portion 21-3 of Farm 108:** The proposed site is located on a barrier dune directly overlooking the Jacobsbaai Abalone Factory. The dune is well vegetated, but open spaces occur on the sandy east-facing slopes. Some disturbance occurs in the southern portion of the site, where a sandy track leading to several new holiday houses, has bisected a portion of the dune (Figures 9 & 10). The extent of the site is 7358 m<sup>2</sup>.

**Fishing Lease 112:** The proposed site is located on the rocky peninsula directly in front (i.e. south west) of the Jacobsbaai Hotel. The site is severely degraded. Several concrete platforms, footpaths and viewing benches have been constructed on the rocky shoreline. The upper portion of the site has been raised and landscaped. The remains of older concrete structures are also evident on the site (Figures 11-13). The extent of the site is 1287 m<sup>2</sup>.

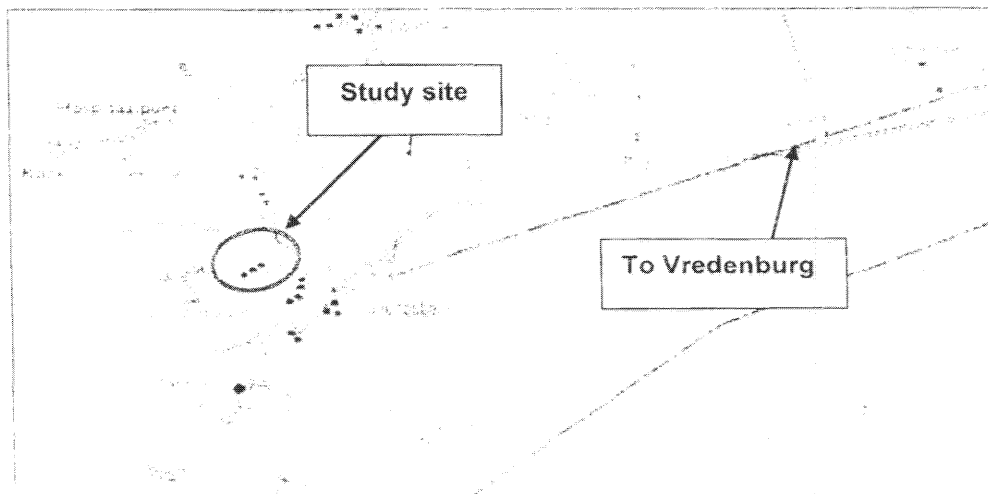


Figure 1. Locality Map (3217 DB & DD Vredenburg)

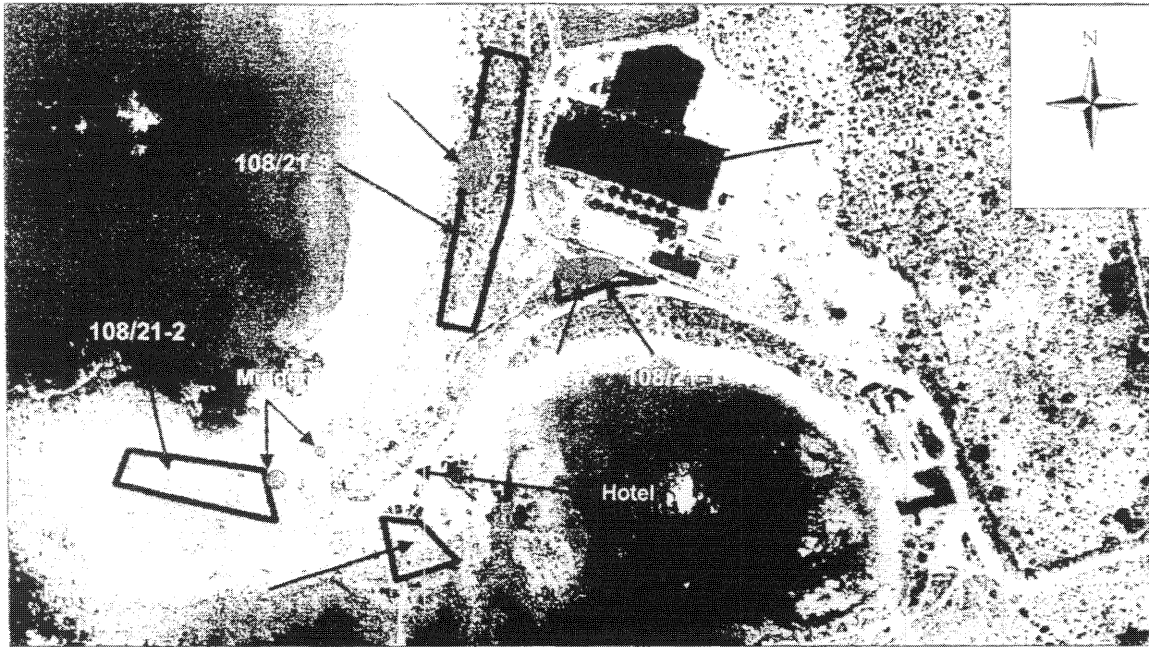


Figure 2. Aerial photograph of the study site



Figure 3. 108/21-1 View of the site facing east



Figure 4. 108/21-1 View of the site facing west

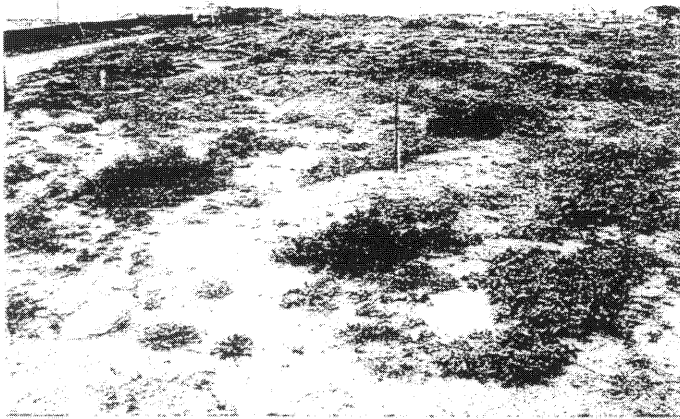


Figure 5. 108/21-1. View of the site facing east

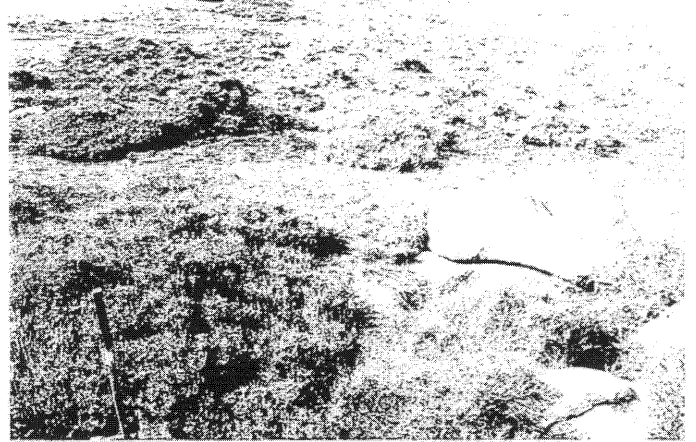


Figure 8. 108/21-2 View of the site facing east



Figure 6. 108/21-2 View of the site facing west



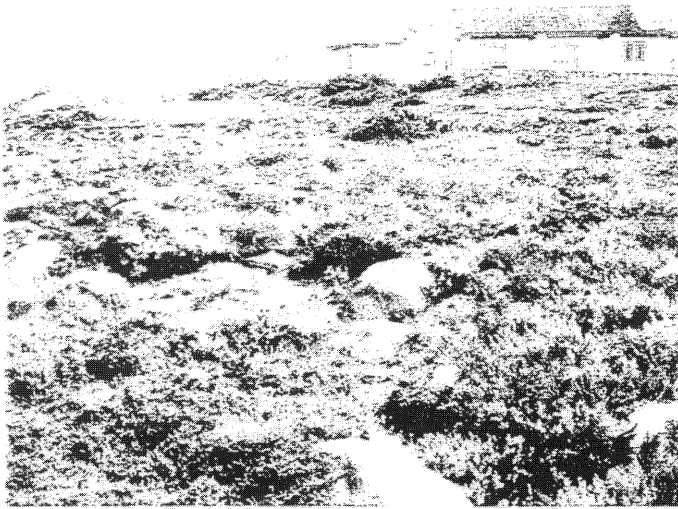
Figure 9. 108/21-3 View of the site facing north



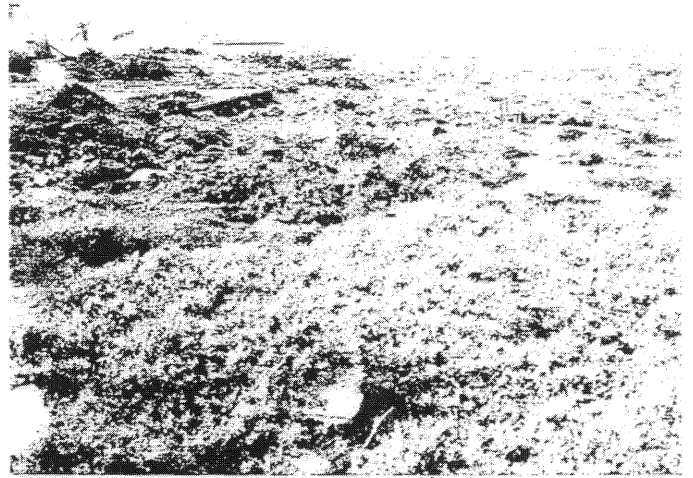
Figure 7. 108/21-2 View of the site facing west



Figure 10. 108/21-3 View of the site facing south



**Figure 11. Fishing Lease 112 View of the site facing north west**



**Figure 13. Fishing Lease 112. View of the site facing east**



**Figure 12. Fishing Lease 112. View of the site facing east**



## 4. STUDY APPROACH

### 4.1 Method

The approach followed in the archaeological study entailed a detailed foot survey of each of the subject erven.

Archaeological heritage remains were recorded and given a co-ordinate using a Garmin Gecko 201 GPS unit set on map datum wgs 84.

The site visit and assessment took place on the 10<sup>th</sup> May, 2007

A desktop study was also undertaken.

### 4.2 Constraints and limitations

There were no constraints or limitations associated with the study.

### 4.3 Identification of potential risks

- Potentially important archaeological heritage remains in Portions 21-1 and 21-3 of Farm 108 may be negatively impacted by the proposed development.
- Unmarked human burials may also be exposed or uncovered during earthmoving operations in Portions 21-1 and 21-3 of Farm 108.

### 4.4 Results of the desk top study

The Vredenburg Peninsula is exceptionally rich in archaeological sites (Kaplan 1993; Sadr *et al* 1992). Sites have been recorded at Tabakbaai, Tooth Rock, Mauritzbaai, Jacobsbaai and Swarriet (Thackeray & Cronin 1975; Parkington & Poggenpoel 1987; Avery 1987; Kaplan 2003a, b, 2004a, 2005a, b, 2006a, b, 2007; Yates & Henshilwood n.d.). Its richness is determined largely by its unique rocky shoreline formation which was favoured by both Later Stone Age (LSA) hunter-gatherers and Khoi herders in the past, as it offered greater opportunities for the exploitation of marine foods, while the local shales and granites provided vital nutrients for domestic stock. An ancient tidal fish trap has also been reported in Mauritzbaai (Avery 1987).

At Jacobsbaai, substantial concentrations of shell middens are clustered immediately inshore of the rocky shoreline. It is here that large quantities of shellfish species were stripped from the rocks, or collected at low tides, processed, and consumed by LSA hunter-gatherers.

A Khoisan burial was reportedly uncovered from the Jacobsbaai perlemoen factory in 2005, during the course of bulk excavations, but this has not been confirmed and no burial has been found, despite efforts to locate it.

Unfortunately, severe disturbance of archaeological sites at Jacobsbaai and Mauritzbaai has taken place over the last few years, due mainly to an increase in residential development, in the area and related physical and human pressures. The majority of the

Jacobsbaai/Mauritzbaai archaeological sites have already been severely disturbed and damaged as a result of these activities.

Archaeological shovel testing in Erf 85 and Erf 86 Jacobsbaai, has shown that fairly substantial shellfish deposits, and modest amounts of bone, stone tools, ostrich eggshell and pottery occur in the shoreline area (Kaplan 2004b,c).

A single radiocarbon date of  $3300 \pm 50$  (BP) calibrated to 1604 - 1489 BC, was obtained from a shellfish sample from Erf 6 Jacobsbaai (Kaplan 2005c), on the opposite side of the bay from the subject even. The date is the first to have been obtained from an archaeological site in Jacobsbaai.

It is also well established that vertebrate fossils and archaeological occurrences in the Langebaan Limestone (calcrete) formations in the Vredenburg-Saldanha Bay region are valuable sources of information on the sedimentary, chronological, palaeoenvironmental and palaeoecological context of the development of modern human behaviour during the Middle Stone Age (MSA) and perhaps even the Early Stone Age (ESA) (Avery 1997).

Middle Pleistocene occurrences and the recovery of human remains in the Langebaan Limestone deposit at Sea Harvest, in Saldanha Bay, for example, has provided some of the earliest evidence we have in the world for the human exploitation of coastal resources, more than 100 000 years ago (Grine & Klein 1993; Volman 1978).

Beside evidence of well preserved bone, ostrich eggshell, ochre and MSA stone implements, the Hoedjiespunt limestone sediments in Saldanha Bay also contains evidence of early modern human about 125 000 years ago (Berger & Parkington 1995).

200-250 000 year old vertebrate fossil remains, including a possible human humerus, have also been found by the archaeologist embedded in limestone deposits in the shoreline area at Swartriet, a few kilometers north of Jacobsbaai (Kaplan 2005b)

A 10 million year old vertebrate fossil of a Civathere (a large, short-necked giraffe) found recently by a Jacobsbaai resident in a nearby borrow pit suggests that other important vertebrate fossils may occur in the limestone deposits which cap and underlie some of the large vacant properties in the Jacobsbaai area (Dave Roberts Council for Geoscience pers. comm.).

The reasons for the abundance of fossil archaeological and palaeontological remains in the Saldanha - Vredenburg area is in part related to the highly calcareous character of the aeolianites (fossil dunes) and shallow marine sediments. Bones and implements are readily preserved by the rapid carbonate cementation of the strata in which they become entombed.

## 5. LEGISLATIVE REQUIREMENTS

### 5.1 The National Heritage Resources Act (Act No. 25 of 1999)

...any development or other activity which will change the character of a site exceeding 5 000m<sup>2</sup>, or the rezoning or change of land use of a site exceeding 10 000 m<sup>2</sup>, requires an archaeological impact assessment in terms of the National Heritage Resources Act (No. 25 of 1999).

The relevant sections of the Act are briefly outlined below.

### 5.2 Archaeology (Section 35 (4))

No person may, without a permit issued by the SAHRA or Heritage Western Cape, destroy, damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.

### 5.3 Burial grounds and graves (Section 36 (3))

No person may, without a permit issued by SAHRA or Heritage Western Cape, destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.

## 6. FINDINGS

### 6.1 Portion 21-1 of Farm 108 (S° 32 57 808 E° 17 53 118)

Archaeological heritage remains were documented in Portion 21-1 of Farm 108, but the remains have been severely disturbed as a result of the construction of a service trench and, laying of a water pipeline through the property. As indicated above, the site was probably also damaged during construction of the gravel road leading to the hotel (and the abalone factory). No shellfish was noted in the cuttings alongside the road.

Large numbers of shellfish have been deposited alongside the now buried pipeline (Figures 14 and 15). The majority of the shellfish comprises the limpets *Scutellastra argenvillei*, *Cymbula granatina*, *Scutellastra cochlear*, and some *Cymbula miniata*. Small amounts of Black Mussel (*Choromytilus meridionalis*) and even smaller amounts of perlemoen (*Haliotis*) also occur. Only one silcrete flake was found, while no ostrich eggshell or pottery was documented.

Some shellfish does occur in large, open patches of sand in the back portion of the site. The thin surface scatters are dominated by limpet species with some black mussel also occurring. No cultural remains were found.

The archaeological heritage remains have been rated as having low-medium local significance



Figure 14. 108/21-1. View facing west. Note the shellfish in the foreground of the plate



Figure 15. 108/21-1. View facing south. Note the shellfish in the foreground of the plate

**6.2 Portion 21-2 of Farm 108 (S° 32 57 890 E° 17 52 995)**

Archaeological heritage remains were documented in Portion 21-2 of Farm 108. These comprise mainly bits of fragmented shellfish (limpets), mixed with large numbers of pumice stone<sup>1</sup>, pebbles, crushed, and fragmented shell. Most, if not all of the shellfish is marine derived, and not as a result of pre-colonial human activity. No cultural remains such as stone tools, pottery or ostrich eggshell was found on the proposed site.

Archaeological heritage remains are mainly concentrated outside the boundary of the proposed site on the south west facing slopes of a vegetated sand dune overlooking the subject property (Figure 16 & refer to Figures 2 & 6). Shellfish remains are also visible in a deflated dune on the sea-facing side of the above dune.

**The archaeological heritage remains within the subject property have been rated as having low local significance.**

<sup>1</sup> The presence of the pumice stone is related to the eruption of the massive shield volcano of Krakatoa in Indonesia in 1883, that spewed millions of tons of lava, ash and pumice from its underground batholith

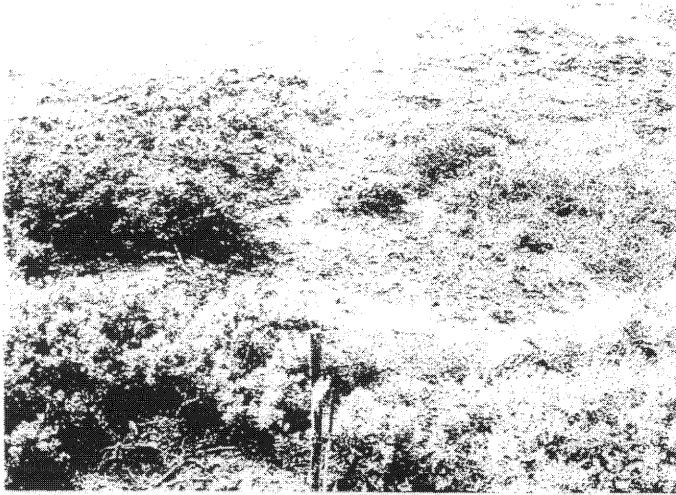


Figure 16. 108/21-2. Shellfish remains occur on the dunes outside the footprint of the subject property

It should be noted that trial excavations of shell midden deposits on the rocky beach cordon at Mauritzbaai/Jacobsbaai (a similar context to the above site), generated very little *in-situ* archaeological heritage remains. The underlying deposits were dominated by large numbers of beach cobbles, some dispersed shellfish remains and a few pieces of weathered bone (Kaplan 2004 c).

6.3 Portion 21-3 of Farm 108 (S° 32 57 800 E° 17 53 079)

Well-preserved archaeological heritage remains were documented in Portion 21-3 of Farm 108. The remains occur on the mid and upper slopes of the barrier dune, in open patches of sand overlooking the Abalone Factory (Figures 17 and 18). The compact surface shellfish (suggesting that in-situ deposits occur underneath) covers an area measuring about 8 x 15 m in extent and is dominated by limpets *S. argenvillei*, *S. cochlear*, *S. longicosta*, and *C. granatina*. Some black mussel also occurs. No stone, bone, pottery or ostrich eggshell was found.

A GPS reading for the site is S° 32 57 755 E° 17 53 092.

The archaeological heritage remains have been rated as having medium-high local significance.



Figure 17. 108/21-3. Shell midden deposits



Figure 18. 108/21-3. Shell midden deposits

#### 6.4 Fishing Lease 112 (S° 32 57 909 E° 17 53 063)

Archaeological heritage remains were documented in Fishing Lease 112. Shellfish deposits occur immediately in front of the Jacobsbaai Hotel guest suites, on the artificially raised platform overlooking the rocky shoreline. The shellfish is mixed in among building rubble and stone and there is no integrity to the 'site'. The shellfish may once have been part of a much larger shell midden which was destroyed during construction of the hotel, as there is evidence of archaeological deposits in the surrounding area. It is also not unlikely that the shell and stone was brought in from elsewhere when constructing the guest suites.

The archaeological heritage remains have been rated as having low local significance.

#### 7. IMPACT STATEMENT

The impact of the proposed development on archaeological heritage remains is likely to be high in Portion 21-1 and Portion 21-3 of Farm 108 Jacobsbaai.

The impact of the proposed development on archaeological heritage remains is likely to be low in Portions 21-2 and Fishing Lease 112 Jacobsbaai.

Bulk earthworks and excavations for services in Portions 21-1 and 21-3 of Farm 108 may expose or uncover unmarked human burials. It is worth noting that a burial was uncovered when conducting earthmoving operations for the Jacobsbaai Abalone Factory.

#### 8. RECOMMENDATIONS

With regard to the proposed development of Portion 21-1, 21-2 and 21-3 of Farm 108, and Fishing Lease 112, Jacobsbaai, the following recommendations are made.

- Shovel testing, shellfish sampling and dating of the archaeological deposits is required in Portion 21-1 and 21-3 of Farm 108. If some of the surface scatters are found to have depth and undisturbed deposits, they will have to be sampled by way of controlled archaeological excavation.
- Bulk earthworks and excavations in Portion 21-1 and Portion 21-3 of Farm 108 must be monitored by a professional archaeologist. It is very likely that shell midden deposits will be exposed during the Construction Phase of the proposed projects.
- Should any unmarked human remains be disturbed, exposed or uncovered during excavations and earthworks for the proposed project, these should immediately be reported to the South African Heritage Resources Agency (Mrs Mary Leslie (021) 462 4502), or Heritage Western Cape (Mr N. Ndlovu (021) 483 9685). Burial remains should not be disturbed or removed until inspected by the archaeologist.

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## Appendix I

It is important to report that there is ongoing destruction and disturbance of archaeological heritage remains in the immediate surrounding area, at Jacobsbaai.

Shell scatters are present, and sections of shell midden deposits have been exposed, in wind-deflated and eroded dunes immediately north-west of the hotel, where several erven have already been sold (Figures 1 and 2).

The construction of a new house alongside Portion 21-3 of Farm 108 has also exposed shell midden deposits in foundations about 1.0 m below the surface of the dunes (Figures 3 and 4). Shellfish remains are also present on large sand dumps removed when preparing the site for construction (Figure 5).

Shell midden deposits are also present in the road cuttings leading to the hotel site (Figure 6).

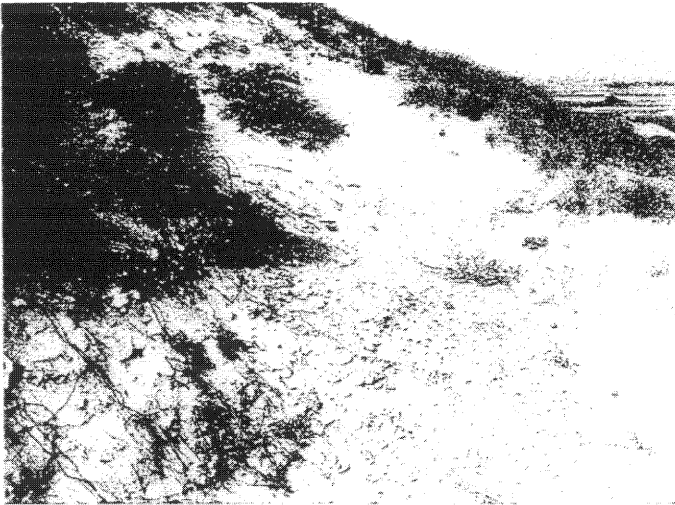


Figure 1. Shell middens at Jacobsbaai

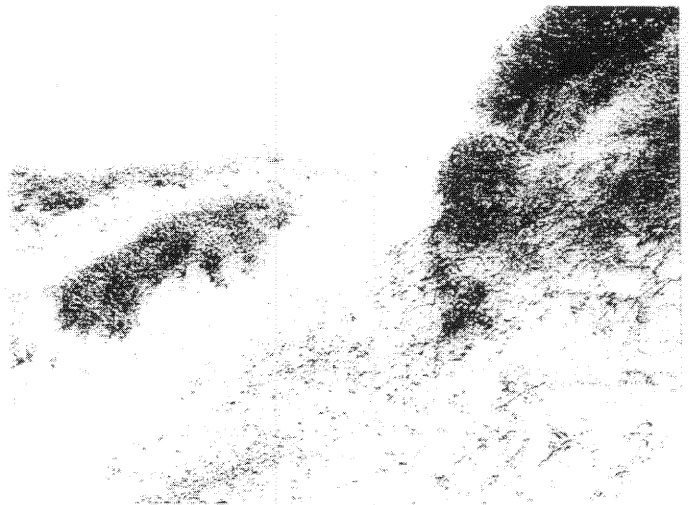


Figure 2. Shell midden at Jacobsbaai

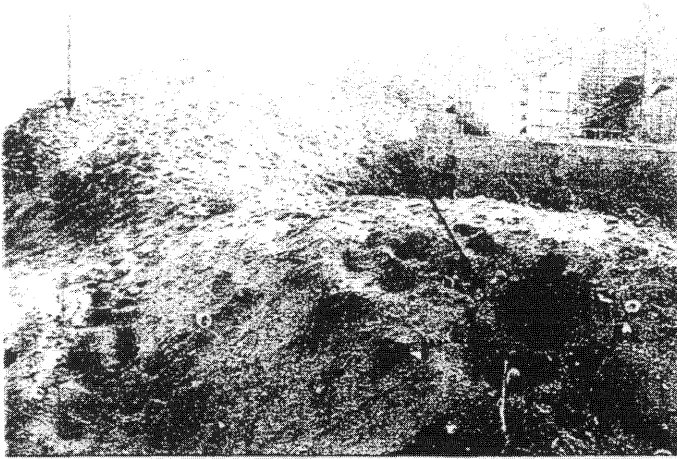


Figure 3. Shell middens on spoil dumps. Arrow indicates shell

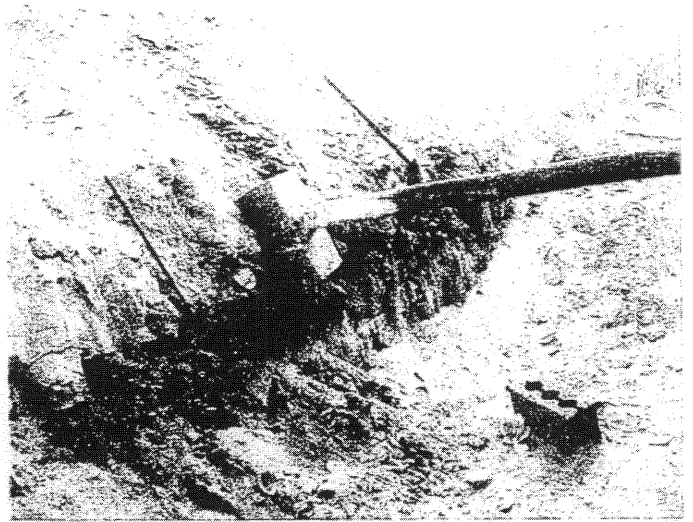


Figure 5. Shell midden deposits in excavation cuttings. Arrow indicates shellfish

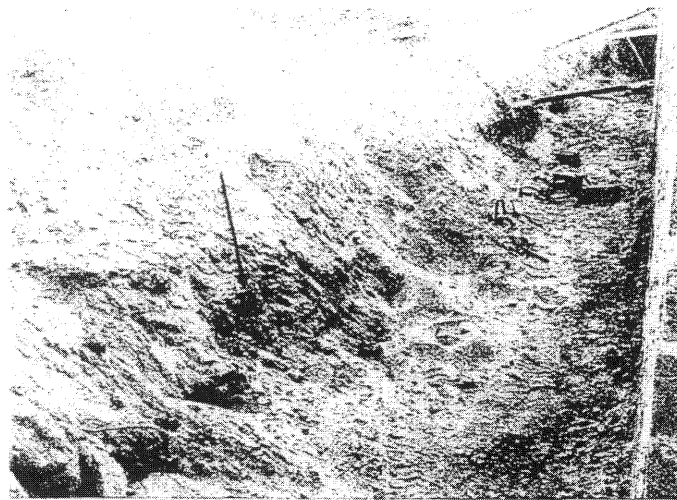


Figure 4. Shell midden deposits in excavations cuttings. Arrow indicates shellfish



Figure 6. Shell midden in road cuttings