PHASE 2 MITIGATORY ARCHAEOLOGICAL EXCAVATIONS AT LEENTJIESKLIP 3 CLUB MYKONOS, LANGEBAAN

Prepared for

Club Mykonos Langebaan

February 2001



Prepared by

Tim Hart

Archaeology Contracts Office Department of Archaeology University of Cape Town Private Bag Rondebosch 7701

Phone (021) 650 2357 Fax (021) 650 2352 Email TJG@beattie.uct.ac.za

CONTENTS

1. PREFACE	3
1.1 BACKGROUND HISTORY OF THE WESTERN CAPE	3
1.1.1 The Early Stone Age (ESA	3
1.1.2 The Middle Stone Age (MSA)	3
1.1.3 The Late Stone Age (LSA)	4
1.1.4 The colonial period	4
2. INTRODUCTION	6
2.1 PREVIOUS WORK IN THE LANGEBAAN AREA	6
3. LEENTJIESLKIP 3 ARCHAEOLOGICAL SITES	9
3.1 LYNCH POINT 9	9
3.2 LYNCH POINT 10	10
3.3 LYNCH POINT 11	11
3.4 LYNCH POINT 12	11
3.4.1 Cultural remains	12
3.4.1.1 Stone artefacts	12
3.4.1.2 Ostrich eggshell beads and pieces	14
3.4.1.3 Shell scrapers	14
3.4.1.4 Worked bone	14
3.4.2 Food remains	14
3.4.2.1 Shellfish	14
3.4.2.2 Fauna	14
4. DISCUSSION	15
5. RECOMMENDATIONS	16
6. REFERENCES	16
7. TABLES	19

1. PREFACE

1.1 BACKGROUND HISTORY OF THE WESTERN CAPE

A simplified summary of the main characteristics of the various historical periods of the region is presented below. These summaries will help to place the findings of the archaeological investigation in context.

1.1.1 The Early Stone Age (ESA

In 1911, an amateur archaeologist discovered some ancient stone artefacts on the banks of the Eerste River in Stellenbosch. Among these was an artefact type, which he recognised as the handaxe and suggested that they were of extreme age. Modern research has shown that these artefacts were made by people who lived between 200 000 and 1 000 000 years ago. Sites containing these characteristic Early Stone Age artefacts have been found throughout Africa, parts of Europe and the Far East (Sampson 1974) and locally, sites of this period have been found throughout South Africa. The makers of Early Stone Age artefacts are believed to be the hominid type known as *Homo erectus*. Although the population of these hominids was probably relatively small, the sheer depth of time over which they roamed the landscape has resulted in large numbers of sites found in widely differing ecological zones from the coast to the mountainous regions. The raw material favoured for the production of Early Stone Age tools was quartzite. It is no coincidence therefore that ESA sites are often found next to river beds where large quantities of water worn quartzite cobbles can be found.

1.1.2 The Middle Stone Age (MSA)

Large cave sites discovered in the Kalk Bay mountains on the Cape Peninsula in the 1920s, contained deep deposits with large numbers of more refined stone artefacts in the lower parts of the sequences. These were recognisably different from ESA artefacts and had many similarities to artefacts found in the Palaeolithic sites of Europe. Similar kinds of artefacts have since been found on many open sites and on rare occasions, in the deposits of caves throughout South Africa. A larger selection of fine grained raw material was used for the manufacture of artefacts as new techniques of production, and secondary working into intricate tools, required more predictable flaking properties. Research has shown that these artefacts belong to a period known in South Africa as the Middle Stone Age and date to the period between 40 000 and 200 000 years. In some very rare instances where circumstances allow, fossil animal bone and marine shells have been found in association with the artefacts giving some indication of the diet. MSA people are thought to have been an early form of modern humans (Homo sapiens) who were capable of hunting large animals. Current theory is that early Homo sapiens evolved in Africa and migrated to Europe and the Middle East some 40 000 years ago (Klein 1989). It is believed that these new migrants may have been responsible for the demise of the Neanderthal populations in Europe.

1.1.3 The Late Stone Age (LSA)

So far, all the archaeological sites that have been investigated by members of the Archaeology Contracts Office on the coast of the lagoon north of Langebaan fall into the period known as the Late Stone Age. Late Stone Age people lived in southern Africa from 40 000 years ago up to the arrival of European colonists at the Cape, and co-existed with them for some time. Late Stone Age people were the ancestors of the San (Bushmen) and Khoi Khoi (Hottentots) who were present throughout the south-western and northern Cape during the colonial period. Throughout most of the Holocene (last 10 000 years) southern Africa was inhabited by small groups of San hunter-foragers who were highly mobile. They hunted with bows and arrows, snared small animals and, where groups lived close to the shore, gathered shellfish and other marine resources, a habit which resulted in the use of the term "Strandlopers"¹. They used digging sticks, often weighted with bored stones, to find a variety of vegetable foods, particularly bulbs below the soil.

Not only did the San have a prodigious knowledge of the animals and plants around them, but they also had a complex belief system, aspects of which are represented in many of the rock painting and engraving sites of the northern and western Cape. It is now broadly accepted by archaeologists that shortly after 2000 years ago, a new economic system was introduced to southern Africa. Certain groups of people (the Khoi Khoi) who had adopted transhumant pastoralism (in this case with herds of fat-tailed sheep and later cattle) appeared in southern Africa (Smith 1987, Sealy and Yates 1994). While the San groups seem to have co-existed with the pastoralists, it has been suggested that hunter-foragers were marginalised moving into areas where the grazing opportunities were less attractive to pastoralists (Parkington et al 1986). The advent of pastoralism seems to have been accompanied by the technology of making clay pottery. The precise origin of early stock keeping and ceramic technology in southern Africa is still unclear but it is suggested that stock keeping was introduced from the north.

1.1.4 The colonial period

When the Dutch colonists arrived to set up a replenishment station at the Cape in 1652, they encountered several Khoi Khoi groups. Some of these lived on the Cape Peninsula while the larger groups grazed herds of sheep and cattle in the Tygerberg Hills and Cape Flats. First contact between Europeans and indigenous southern African pastoralist groups had occurred much earlier when Portuguese mariners sailing down the coast in the 15th and 16th centuries had bartered supplies of meat from the Khoi that they encountered at places such as Saldahna Bay (Smith 1985). With the increase of shipping rounding the Cape, it was inevitable that some would be wrecked. The survivors of such wrecks, often recounted meeting and trading with the indigenous groups (Smith 1985, Raven-Hart 1967) so that by the time that Van Riebeeck arrived, a history of contact had already been established. Although it is not entirely clear from the writings of the early settlers, it appears that some San groups still existed in the Cape. They still seemed to be pursuing a largely hunting and foraging lifestyle and were often encountered in the more mountainous regions where there was less possibility of conflict with either the Khoi or Dutch settlers (Parkington et al 1986).

¹ It has not been proven that there were indigenous groups who lived exclusively at the coast and entirely on marine foods, although hunter-foragers may have become more dependant on them when access to traditional food sources was limited by the influx of first Khoi pastoralists and later European settlers.

At first the relationship between the Dutch and the Khoi Khoi was one of co-operation, with a great deal of bartering taking place primarily to get regular supplies of fresh meat. However, as the colony grew and free burghers were granted lands further away from Cape Town, grazing lands previously available to the Khoi Khoi were encroached upon. The conflict for land began a process of attrition which when accompanied by several deadly smallpox epidemics broke down the indigenous population and it's political structures. Those who survived were pressed into service as farm labour or settled around several large mission stations that had been established in the Cape. Namaqualand was one of the least desirable parts of South Africa for the colonists and meant that San and Khoi Khoi people were able to continue many aspects of their traditional ways of life in this area until they were displaced during the last century. The accounts of several early travelers who passed through Namaqualand, most notably that of Robert Jacob Gordon in 1779, clearly attest to the presence of indigenous hunter-forager and pastoralist groups in the area (Raper & Boucher, 1988). The Nama, originally one of the Khoi Khoi groups, still practice transhumant pastoralism in reservations in Namaqualand today.

2. INTRODUCTION

The Archaeology Contracts Office (ACO) of the University of Cape Town was commissioned by Club Mykonos Langebaan Ltd to undertake archaeological excavations at Leentjiesklip 3 just to the north of the town of Langebaan, Western Cape Province, South Africa (Figure 1). A preliminary survey of sites in the area (Parkington and Poggenpoel 1987) revealed that there were a number of occurrences of archaeological material on Leentjiesklip 3, which would potentially be impacted by development activities. As plans for the development of the area are soon to be implemented, the client is intending to obtain clearance from the South African Heritage Resources Agency to develop the area and thereby disturb the remaining archaeological material.

The ACO has a long history of involvement with Cub Mykonos having completed the initial heritage impact assessment of the area in 1987 with subsequent excavations to mitigate the loss of archaeological material being completed in 1988. In 1991 the ACO was commissioned by Mr R. Ellis of Club Mykonos to undertake a progam of excavations at Leentjiesklip 3 under the provision of the National Monuments Act 25 of 1969 (as amended). Club Mykonos was declared insolvent before the project was completed, with the result that the material has been in storage (along with the original photographs and field reports) at UCT for the past 9 years. Club Mykonos has now requested that the Leentjiesklip 3 project be brought to a state of completion. The report that follows describes the excavations, analysis and curation of the resulting material.

2.1 PREVIOUS WORK IN THE LANGEBAAN AREA

When Parkington and Poggenpoel (1987) conducted a general Phase 1 investigation of land to be developed by Club Mykonos they located 40 archaeological sites. Some of these were considered to be important, requiring excavation before development activities were to begin.

The first major excavations that took place along the eastern shore of the Langebaan Lagoon were conducted in 1988 when the Archaeology Contracts Office was commissioned to sample archaeological material that was to be impacted by the development of the Club Mykonos resort. Three sites were excavated, (Parkington, Poggenpoel and Hart 1988) providing enough information and radio carbon dates to construct a preliminary local sequence of Late Stone Age. The oldest site excavated was LP 16 situated at what is known as Leentjiesklip 4. This small buried encampment demonstrated that occupation of area dated back to over 3500 years ago (shell date 4150 \pm 60 BP (Pta-5036)). Site LP 18 was rather more recent dating to mainly the pottery period of the Late Stone Age after 2000 years ago. The youngest layers of this particular site dated to within the last 200 years showing that agents of midden accumulation were active in this area until historic times.

In 1991 The Archaeology Contracts Office was once again commissioned to excavate archaeological material on Leentjiesklip 3, (completion postponed). A further series of excavations was completed in 1998 at Paradise Beach and Leentjiesklip 2 with the excavation of sites LP 41, 42, 28. 29 (Paradise Beach) and sites LP 1, 2.





In general, the pattern of occupation of the Langebaan area involves people locating themselves at the coast where they ate large quantities of marine food including seals and fish. Furthermore there is good evidence to suggest that they may have been scheduling their coastal visits to collect low tide species of limpets and perlemoen, which were found on most sites. Unlike many coastal sites that have been studied in the Western Cape, terrestrial foods were important with tortoises birds, and small antelope playing an important role in the diet. The general prevalence of sites that do not contain ceramics indicating that the people who were living in the area, may well have been San hunter gatherers.

3. LEENTJIESLKIP 3 ARCHAEOLOGICAL SITES

Leentjiesklip 3 is one of 4 granite promontories on the eastern shore of the Langebaan Lagoon between the town of Langebaan and the Club Mykonos resort. Between each of the rocky promontories are shallow bays and stretches of sandy beach. The granite boulders on the shoreline in front of the promontories currently support colonies of shellfish, the same species of which were exploited by prehistoric people in the past. Partially vegetated dunes have accumulated over the highest points of the promontory creating a mound. This raised area is elevated above the surrounding landscape to the east and overlooks sandy beaches to the north and south. Parkington and Poggenpoel (1987) located 4 archaeological sites (LP 9-12) in the area of Leentjiesklip 3. These were situated in windblown sands on top of the outcrop and dune cordon above the beach to the north.

3.1 LYNCH POINT 9

This site lies on and around a large hillock of dune sand associated with Leentjiesklip 3. Parkington and Poggenpoel (1987) have described the site as being the remains of a very large shell midden or scatters of shell (mussels and limpets) that have been disturbed by vehicles and campers. Shells trailing down gullies on the western slope of the hillock were considered to be a possible indicator that *in-situ* material could exist undisturbed within the dune body.

The archaeological investigation of this area has been directed towards establishing whether undisturbed material existed, and thereafter the exposure, documentation and sampling of such.

Two test excavations areas were identified. The first of these was the west slope of the dune, the second was the disturbed area on top that has recently been used as a road and car park. The first area (the west slope of the dune immediately above the rocks of Leentjiesklip 3) was extensively tested by digging four trial excavations in parts of the dune where midden material appeared to be eroding out onto the slope. All of these tests failed to produce any evidence of undisturbed material. An extensive step excavation extending down to almost the entire depth of the dune showed that this was a single sand body containing compacted and semi-calcreted sand in places. Only the top 20 cm of the

dune contained disturbed and eroded mixture of fragmented shell and ash deposit so churned and contaminated that we did not consider this worthy of extended archaeological examination. Consequently we have concluded that shell scattered on the west edge of the dune is a result of a process of disturbance and erosion of the midden caused by offroad vehicles.

Our second trial excavation involved the testing of the disturbed deposit in the centre of the dune top. This involved the positioning of a 3m trench oriented in an east-west direction in the informal "parking" zone on the dune top. Since the deposit here was quite dense, the excavation was conducted in accordance with normal archaeological procedure. The westernmost square (a1) produced some 15 cm of dense but highly fragmented dark deposit containing very few whole shells. This graded into virtually sterile sand at a depth of 19-15 cm. The small amount of material in the lower sand body was clearly the result of actions of burrowing animals. The easternmost square penetrated a dense lens of highly fragmented shell and small amounts of bone. We interpret this as what was once a dense pile of ash and dumped prehistoric kitchen remains. Unfortunately, although this dump lies partially towards the eastern edge of the parking zone, it too has been churned into a fragmented homogeneous mass by vehicle movement. We nevertheless sampled the lens should the need arise to run radiocarbon dates and analyse the midden content.

Some stone was recovered from LP 9. This includes one quartz flake and one hornfels flake and chunk in the waste category, one quartzite grooved stone in the utilised category and one silcrete scraper in the formal tool category.

We would agree with the initial finding that the area described as LP 9 is the remains of what was once a substantial prehistoric midden that capped a large dune body that has accumulated opposite Leentjiesklip 3. Recent human activity has resulted in the destruction of the midden to the extent that very little of the archaeological material is worth salvaging.

3.2 LYNCH POINT 10

This site consists of a small wind deflated scatter of mussel shell and some burned calcrete chunks that lie on the top and western sides of the coastal dune cordon 50 m to the north of Leentjiesklip 3. A well-used path that ran over the top of the dune has been responsible for the dispersion of some material down the western slope of the dune cordon.

The purpose of trial excavations on the site was to test for undisturbed material under the surface of the dune cordon. Five trial holes excavated to a depth of 2m were positioned in parts of the dune to test for lenses of *in-situ* material. All of these including a large step excavation that bridged the crest of the dune and continued down the west side, failed to produce sub-surface archaeological material of significance. Shell fragments evident on the surface are considered to be the result of the wind deflation of ephemeral scatters that may have existed on the dune cordon. This site does not require further mitigation before development takes place.

3.3 LYNCH POINT 11

This is a fragmented site strung out along a blown out hollow in the crest of the dune cordon that lies between the road and the lagoon. Amounts of fragmented black mussel shell, limpets and burned chunks of limestone are indicators of prehistoric activities. Three trial excavations stepped into the edges and base of the deflation hollow failed to produce undisturbed deposit or *in-situ* shell layers. The combined effects of recent trampling of the dune and wind erosion have destroyed the spatial integrity of the site thus reducing its information content. As with LP 10, development of this area may proceed as planned.

3.4 LYNCH POINT 12

Like LP 11 the site lies in a wind deflated hollow in the top of the dune cordon. The visible shell has been disturbed by motorcycles and wind erosion. Parkington and Poggenpoel (1987) reported the existence of a number of fire cracked calcrete chunks from old fireplaces. Also noted were small quantities of ostrich eggshell including a fragment from a water bottle, large amounts of black mussel shell and some limpets. A number of stone artefacts and a fragment of pottery were also seen on a visit to the area in 1990. Trial excavations were dug into the bottom of the deflation as well as into the surrounding dunes that make up the east and west edges. All but one of the five trial trenches placed along the 50 m north-south axis of the hollow proved to be sterile. A single trench on the northwest side of the deflation produced evidence of a layer of undisturbed shell, which warranted further investigation.

Extensive clearing of the dune produced a very well preserved single lens midden, which to all intents and purposes, would not have been found without extensive shovel testing. It is not clear if the lens is related to the surface material originally located in 1987. Fifteen square metres of the dune overburden were removed so as to reveal as much of the lens as possible. This allowed the insertion of a 1m² grid system over the exposed portion of the scatter (for establishment of spatial control during the excavation process). Some nine square metres were excavated, water sieved and bulked for sorting and examination at the University Of Cape Town, Department Of Archaeology. It became evident during the excavation that this buried site has some unique qualities in terms of its state of preservation and content. We resolved to rescue the site in its entirety and focus our efforts on its analysis.

The lens discovered at LP 12 is essentially an ash pile (Figure 3) left by a group of huntergatherer people who lived on the crest of the dune (we estimate) between two and three thousand years ago. It is likely that the people themselves would have camped around or very close to the dump (midden). Hearths and individual family camps sites associated with such dumps have been found on rare occasions. In this particular instance we were unable to find any intact hearths indicating the presence of associated camping areas, and suspect that the dynamics of dune movement may have resulted in the loss of broader aspects of the site. The midden, which is of varying thickness, (single stratigraphic unit) extends over some 12 m². The eastern and southern edges dwindle into the sterile sand of the dune body. The western and northern edges disappear suddenly indicating that a portion of the midden has been lost in the past - possibly as a result of natural erosion or disturbance. The upper surface of the midden was discreetly separate from the dune body. The sand under the main portion of the lens contained some archaeological material that we believe to have shifted down from the main lens as a result of animal burrowing, root action and trampling.

We suspect that the LP 12 occupation site once capped a dune top. At some unknown time in the past erosion processes have resulted in the partial destruction of the north and east parts of the midden as well as any hearth features that may have existed. Wind blown sand has subsequently covered the main bulk of the midden to a depth of 1-1.5 m in places. This has protected the site until its discovery in 1991.

3.4.1 Cultural remains

Cultural remains from the site include a variety of stone artefacts as well as an upper and lower grinding surface. The lower grinding surface, which is deeply grooved, is similar to others excavated from herder sites on the Vredenburg Peninsula. The ostrich eggshell beads are small, and consistent in size with the general pattern of beads that are older than 2000 years. Another artefact of interest is a fragment of a bone point made from the longbone shaft of a mammal.

3.4.1.1 Stone artefacts

Of the stone artefacts recovered from LP 12, 93% were waste pieces (Table 1). These include flaking debris such as chips, chunks, unmodified flakes and cores. Fewer utilised artefacts occur. These include grindstones, an elliptical grooved stone, and a hammerstone. Only three formal tools were recovered from the excavations. These include two thumbnail scrapers and one miscellaneous backed piece.

The raw material frequencies for the different artefact categories are presented in Table 2. In the waste category, the majority of the artefacts were made from quartz followed by hornfels, quartzite and silcrete. In the utilised category quartzite is in the majority, followed by quartz. In the south-western Cape quartzites are the raw material most commonly employed in the utilised category, where they are used as grindstones, hammerstones and grooved stones. Elliptical grooved stones from Kasteelberg, a herder site in the Vredenburg Peninsula, contain traces of ochre, suggesting that these implements were used to grind ochre for painting, burnishing pots, or ritual purposes (Smith pers comm.). In the formal tool category all of the artefacts are made from quartz. Stone artefacts from shell midden sites are usually thinly dispersed. This is because the rate of deposition of midden sites is fairly rapid; such sites representing essentially food collecting and processing stations. The stone artefacts recovered from LP 12 are considerably numerous in comparison with the other excavated Lynch Point sites. In those sites only a few unmodified flakes, chips and chunks were recovered. No formal tools or utilised artefacts were recovered. The relatively high stone artefact counts from LP 12 might be related to the large faunal assemblage recovered, where the stone artefacts may be associated with meat processing or extraction activities. The utilised artefacts may be linked to the grinding of ochre, smoothing of ostrich eggshell beads, and flaking of stone. No pottery was recovered from LP 12.



SITE LP 12 EAST SECTION (central)



SITE LP 12 - PLAN VIEW



SITE LP 12 SOUTH SECTION



3.4.1.2 Ostrich eggshell beads and pieces

Seven ostrich eggshell beads, one incomplete bead and 85 pieces of ostrich eggshell were recovered from LP 12. Beads, in the ethnographic record, are used as forms of decoration or for exchange. The broken pieces from LP 12 may have been used for the manufacture of beads, or represent broken water containers.

3.4.1.3 Shell scrapers

Two white mussel (*Donax serra*) scrapers were recovered from LP 12. *Donax* scrapers have been found from numerous sites in the southwestern Cape, where they date from as early as 8000 BP at Elands Bay, to as late as 300 years ago at the Dutch colonial outpost at Oudepost on the Churchhaven peninsula. Scrapers in stone and shell are thought to represent skin-cleaning implements

3.4.1.4 Worked bone

A fragment of a bone point made from the longbone shaft of a mammal was recovered from LP 12. Bone points were used as awls, piercing tools and projectile points hafted onto composite arrows.

3.4.2 Food remains

3.4.2.1 Shellfish

A sub-sampling strategy was employed in analysing the shell remains from LP 12 for information on diet and shell preferences. This involves analysing all the shell from a single metre square. In past studies of shell middens the total excavated sample was processed and analysed. With a sub-sampling strategy statistically similar conclusions concerning diet are reached. The shells from LP 12, square 1 C were analysed. All the shell remains, however, were sorted for stone, bone and cultural remains

Black mussel (*Choromytilus meridionalis*) was the preferred shellfish of the hunterforagers who were responsible for LP 12, followed by limpets and whelks (Table 3). These shellfish are available from the intertidal zones at low and mid tides and form a very dependable food resource. Of the limpets, *Patella granatina* is the preferred species, followed by *Patella argenvillei, Patella granularis, Patella cochlear, Patella barbara, Patella oculus* and *Patella miniata* (Table 3).

3.4.2.2 Fauna

A wide range of animals including fish and bird were recovered from LP 12 (Table 4).

Of all sites excavated in the Lynch Point area since 1988, the faunal content of the midden at LP 12 are of particular interest. The fact that the midden does not contain the remains of pottery or domestic stock (sheep) suggests that the site is of hunter-gatherer origin, predating the advent of the herding way of life which is known to have occurred in the Cape some 2000 years ago. Although the site is geographically close to the coast, the remains of unusually large amounts of terrestrial animals indicate that land based foods were particularly important here. Most coastal sites reflect virtually exclusive usage of marine foods including seals, fish, shellfish and marine birds. Although all these animals are reflected at LP 12, the faunal collection includes unusually large amounts of terrestrial bone. At least 5 steenbok were hunted and brought to the site for butchery - their craniums broken open to extract the brains. Other mammals include terrestrial carnivores as well a hartebeest (?). Tortoises (at least 147 individuals) formed a very important part of the diet in that the meat weight from these animals appears to be comparable with that obtained from shellfish. Ostrich eggs were heavily utilised. Bird remains are fairly rare included among these are the remains of penguins, ducks and a pelican sized bird. Fish was minimally exploited. This may have reflected local abundance.

4. DISCUSSION

- It is now known that the Leentjiesklip and Lynch Point areas of the Langebaan lagoon have been a focus of prehistoric occupation for almost 4000 years. Lynch Point and the Leentjiesklip outcrops is one of the few areas in the lagoon where rocky shorelines and moderate wave action have created an environment that will support colonies of easily exploitable shellfish - a ready food source that could be harvested by prehistoric people.
- Most of the sites excavated in Lynch Point area (LP 16, 18 19, 20, 28, 29, 41, 42) reflect high utilisation of marine foods as compared with terrestrial fauna. It is possible that these sites reflect the fact that people were making short trips to the coast for the sole purpose of gathering shellfish. Furthermore, it is of interest to note that the sites LP 18, 19, 20, 41, 42 on Lynch point appear to date to after 2000 BP (Hart & Jerardino 1998) whereas the sites LP 16, 12, 1 (Hart and Gribble 1998) associated with the Leentjiesklip outcrops appear to be consistently older possibly circa 3000-4000 BP.
- Both LP 1 (Hart & Gribble 1998) & LP 12 show that terrestrial fauna were an important source of food, although people used marine foods gathered from the rocky shores. An interesting trend is that the older sites appear to contain a larger and greater diversity of animal bone than those that postdate 2000 BP. It is possible that people during the later occupation were able to rely on the products of domestic stock, and unlike the earlier occupants did not need to rely on wild animals to the same extent.
- Although we consider LP 12 to be a food dump relating to a single occupation, it is
 possible that the finds reflect the possibility that people were occupying this site for
 an extended period of time. It would have required a number of weeks to achieve a
 build up of terrestrial bone such that found on LP 12. We would therefore suggest

that this site accumulated not as a result of short-term occupation for the sole purpose of collection of sea food, but instead reflects the activity of a group of hunter-gatherers who lived on the dune top for a number of weeks. They enjoyed a generalised subsistence strategy that involved hunting and collection of locally abundant terrestrial animals, plants as well as immediately available marine foods.

5. RECOMMENDATIONS

- The sites of LP 9, 10, 11, 12 have been archaeologically tested. Of these, LP 12 produced material that is of archaeological interest, virtually all of which has been excavated and curated.
- The client should be aware that the National Monuments Act of 1969 (act 25) has now been replaced by the South African Heritage Resources Act of 1999. This is a tighter and more comprehensive legislation that redefines not only the range of heritage resources that are protected, but also requirements for their management and mitigation. It is strongly advised that the client obtain a copy of the legislation for future reference.
- The client must submit a copy of this report along with an application for a permit to destroy the remaining archaeological material at Leentjiesklip 3. Mary Leslie, archaeologist at the South African Heritage Resources Agency (phone 021 4624502) is the relevant contact person.

6. REFERENCES

- Deacon, J. & Lancaster, N. 1988. Late quaternary palaeoenvironments of southern Africa. Oxford: Oxford University Press.
- Elphick, R.H. 1977. Kraal and castle. Khoikhoi and the founding of white South Africa. New Haven: Yale University Press.
- Hart, T.J.G. & Jerardino, A.M. 1998. Phase 2 archaeological sampling of Late Stone Age archaeological sites at Paradise Beach, Club Mykonos. Unpublished report prepared for CML Developers. ACO. UCT.
- Hart, T.J. G and Gribble J. 1998. Phase 2 archaeological sampling of Late Stone Age middens, Leentjiesklip 2, Langebaan. Unpublished report prepared for Langebaan Waterfront Pty Ltd. ACO. UCT.
- Jerardino, A.M., Yates, R., Morris, A.G. and Sealy, J. 1992. A dated human burial from the Namaqualand coast: observation on culture, biology and diet. *South African Archaeological Bulletin* 47: 75-82.

Klein, R.G. 1989. The human career. University of Chicago Press: Chicago & London.

- Manhire, A.H. 1987. Sandveld deflation hollows: a study of open site assemblage in the south-western Cape. In: Parkington, J.E. & Hall, M. (eds) Papers in Prehistory of the of the western Cape, South Africa: British Archaeological Reports International Series 332: 326-349.
- Morris, A.G. 1995. The Einiqua: an analysis of the Kakamas skeletons. *in* Einiqualand: Studies of the Orange River frontier. UCT Press Rondebosch
- Parkington, J.E. and Poggenpoel, C.E. 1987 Phase 1 archaeological assessment of Club Mykonos, Langebaan. Unpublished report prepared for Club Mykonos, Langebaan.
- Parkington J.E., Poggenpoel, C.E. and Hart, T.J.G 1988, Report on the first phase of excavations at Lynch Point, Langebaan. Unpublished report prepared for Club Mykonos, Langebaan.
- Parkington, J.E., Jerardino, C., Yates, R., Halkett, D., Hart, T. & Kaplan, J. in prep. Mid -Holocene deposits at Doorspring 16.
- Parkington, J.E., Yates, R., Manhire, A. & Halkett, D. 1986. The social impact of pastoralism in the south western Cape. *Journal of Anthropological Archaeology* 5: 313-329
- Raper, P.E. & Boucher, M. eds. 1988. Robert Jacob Gordon-Cape Travels, 1777 to 1786. Vol 2. Brenthurst Press: Houghton.
- Peringuey, L. 1911. The Stone Ages of South Africa as represented in the collection of the South African Museum. Annals of the South African Museum 8:180-201.
- Raven-Hart, R. 1967. Before Van Riebeeck. Cape Town: Struik.
- Rudner, J. 1968. Strandloper pottery from South and South West Africa. Annals of the South African Museum 49: 441-663
- Sampson, C.G. 1974. Stone age archaeology of southern Africa. New York Academic Press
- Sealy, J. & Yates, R. 1994. The chronology of the introduction of pastoralism to the Cape, South Africa. Antiquity 68: 58-67
- Smith, A.B. 1985. Excavations at Plettenberg Bay, South Africa of the campsite of the survivors of the wreck of the Sao Gancalo 1630. International Journal of Nautical Archaeology and Underwater Exploration 15.1: 53-63
- Smith, A.B. 1987. Seasonal exploitation of resources on the Vredenburg Peninsula after 2000BP. in Parkington, J.E. and Hall, M.J. (eds) Oxford: BAR International series 332 (ii).

- Smith, A.B., Sadr, K., Gribble, J., & Yates, R. 1991. Excavations in the south-western Cape, South Africa, and the archaeological identity of prehistoric huntergatherers in the last 2000 years. South African Archaeological Bulletin 46: 71-91.
- Webley, L. 1992. Early evidence for sheep from Spoeg River Cave, Namaqualand. Southern African Field Archaeology 1: 3-13
- Yates, R. in prep. Ostrich eggshell beads and the appearance of pastoralism: a study of size changes in the southern and south-western Cape, and Namibia. M.A. thesis: University of Cape Town.

7. TABLES

TABLE 1

LP 12 - STONE ARTEFACT CATEGORIES (ALL LEVELS)

Category	n	% category	% total
Waste			
Chips, chunks and flakes	166	89.7	
Irregular cores	15	8.1	
Single platform cores	4	2.2	
TOTAL	185		94.8
Litilised			
Grindstone (lower)	3	42.9	
Grooved stone	1	14.3	
Hammerstone	1	14.3	
Miscel. Ground stone	1	14.3	
Manuport	1	14.3	
TOTAL	7		3.6
Formal			
Scraper	2	66.7	
Miscellaneous backed piece	1	33.3	
TOTAL	3		1.5

TABLE 2LP 12 - STONE ARTEFACT RAW MATERIAL USE

Material	Qu	artz	Qua	artzite	Silo	crete	Ног	nfels	0	ther
	n	%	n	%	n	%	n	%	n	%
Waste	176	95.1	4	2.2	1	0.5	4	2.2		
Utilised	1	14.3	5	71.4					1	14.3
Formal	3	100								
Totals	180	92.3	9	4.6	1	0.5	4	2.1	1	0.5

TABLE 3

LP 12 - SHELLFISH

SPECIES	%
Black mussel (Choromytilus meridionalis)	75.3
Limpets (Patella sp)	20.4
Whelks (Burnupena sp)	4.4
Patella species breakdown	
P.granatina	44.6
P. argenvillei	26.2
P. granularis	12.8
P. cochlear	8.8
P. barabara	7.4
P. oculus	0.1
P. miniata	0.1
TOTAL OBSERVATIONS = 4855	

TABLE 4.

LP 12 - MINIMUM NUMI	BER OF INDIVIDUAL	_ MAMMALS, BIRDS	, REPTILES

Species	MNI
Cape Fur Seal (Arctocephalus pussilus)	3
Steenbuck (Raphicerus campestris)	5
Mongoose (Herpestes sp.)	1
Dune Mole Rat (Bathyergus suillus)	2
Small carnivore	1
Hartebeest (Alcephalus sp)	1
Black Backed Jackal/Dog (Canis mesomelas/Canis familiaris)	1
Sheep (Ovis aries)	0
Microfauna	1
Tortoise (<i>Chersina angulata</i>)	147
Cape Cormorant (Phalacrocorax capensis)	1
Jackass Penguin (Spheniscus demersus)	1
Wild Duck/Goose (Anatidae)	3
?Greater Flamingo (Phoenocopterus ruber roseus)	1
Pelican (Pelecanus onocrotalus)	1
Medium bird	1
Cravfish (Jasus Jallandii)	1