

**A REPORT ON THE  
ARCHAEOLOGICAL MITIGATION PROGRAM  
AT DE BEERS NAMAQUALAND MINES,  
AUGUST TO SEPTEMBER 2004**

Prepared for

**De Beers Consolidated Mines NM**

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# 1. INTRODUCTION

The Archaeology Contracts Office was appointed by De Beers Consolidated Mines NM to conduct a Phase 2 program of excavations at various locations in their Namaqualand mines. The sites excavated were mostly located and recorded during the June 2004 Phase 1 program (Orton & Halkett 2004), but for reasons that will be explained in the relevant sections below, three other sites not recorded in June 2004 were also excavated or sampled. In the Buffels Marine Complex (BMC) the mitigation was in preparation for planned prospecting trenches and drilling operations, while in the Koingnaas Complex (KNC) the work entailed mitigation of trench sites and blocks due to be mined in the near future. The excavations were carried out in August and September 2004.

The excavations varied in nature according to the content of the sites. Some only had a very limited area excavated in order to obtain shellfish samples that might be used in comparative analyses, while others were extensively excavated. In the latter sites, we often attempted to cover as much area as possible in order to maximise the amount of information obtained. All excavations were conducted under Permit No. 80/02/02/008/51 issued by the South African Heritage Resources Agency (SAHRA). Three human leg bones were found in a disturbed context in block LK\_R1C in the Koingnaas Complex. Since the block was due to be mined, they were collected and a retrospective permit has been applied for. On receipt of this permit from SAHRA, a separate report will be prepared describing the find.

Altogether, 34 sites were excavated, 17 in each of the BMC (Table 1.1; Figure 1.1) and KNC (Table 1.2; Figure 1.2) mines. During past field seasons in the BMC mine, all sites excavated were quite far inland (Halkett 2003). Many of the sites excavated during the field season reported on here, however, are located quite near the coast. As a result, a greater proportion of sites with high research potential were excavated. Two of these (TP2004/004 & DP2004/014) will be studied further by Genevieve Dewar in the course of her PhD research. Tables 1 and 2 list the excavated sites along with their mitigation status. Only two sites, both in the BMC, were deemed to require more excavation than was possible during the scheduled field season. One of these (DP2004/014) will be continued by G. Dewar as part of her PhD. The other (TP2004/014) should either receive further excavation or be protected during the prospecting operations. Note that the recording and excavation status of all sites located during 2004 is given in Appendix A.

A large amount of material was excavated during the field season and much of it has already been analysed. Analysis is mostly limited to the smaller sites with a few of the larger ones only briefly described here. The material from these larger sites will be analysed in the near future and incorporated into further academic research.

It should be emphasised that the aims of archaeological mitigation are to ensure that sites are not "lost" and that their research potential is maintained once they are destroyed by mining. The sites excavated in Namaqualand are important for establishing the overall history of the area and will be incorporated into further research as much as possible. To this effect, Genevieve Dewar is the first to conduct post-graduate research (in her case a PhD) using sites excavated from the De Beers Namaqualand mines.

SITE	FIELD NUMBER	FURTHER MITIGATION
DP2004/009	DR8C	No
DP2004/010	DR8D	No
DP2004/012	DR8F	No
DP2004/013	T008A	No
<b>DP2004/014</b>	<b>T008B</b>	<b>Yes*</b>
DP2004/015	T008C	No
DP2004/016	T009A	No
DP2004/017	T009B	No
TP2004/003	DR12B	No
TP2004/004	DR12C	No
TP2004/006	DR12H	No
TP2004/007	DR12I	No
TP2004/008	DR13A	No
TP2004/009	DR13B	No
TP2004/010	DR13C	No
TP2004/011	DR13D	No
<b>TP2004/014</b>	<b>DR14A</b>	<b>Yes</b>

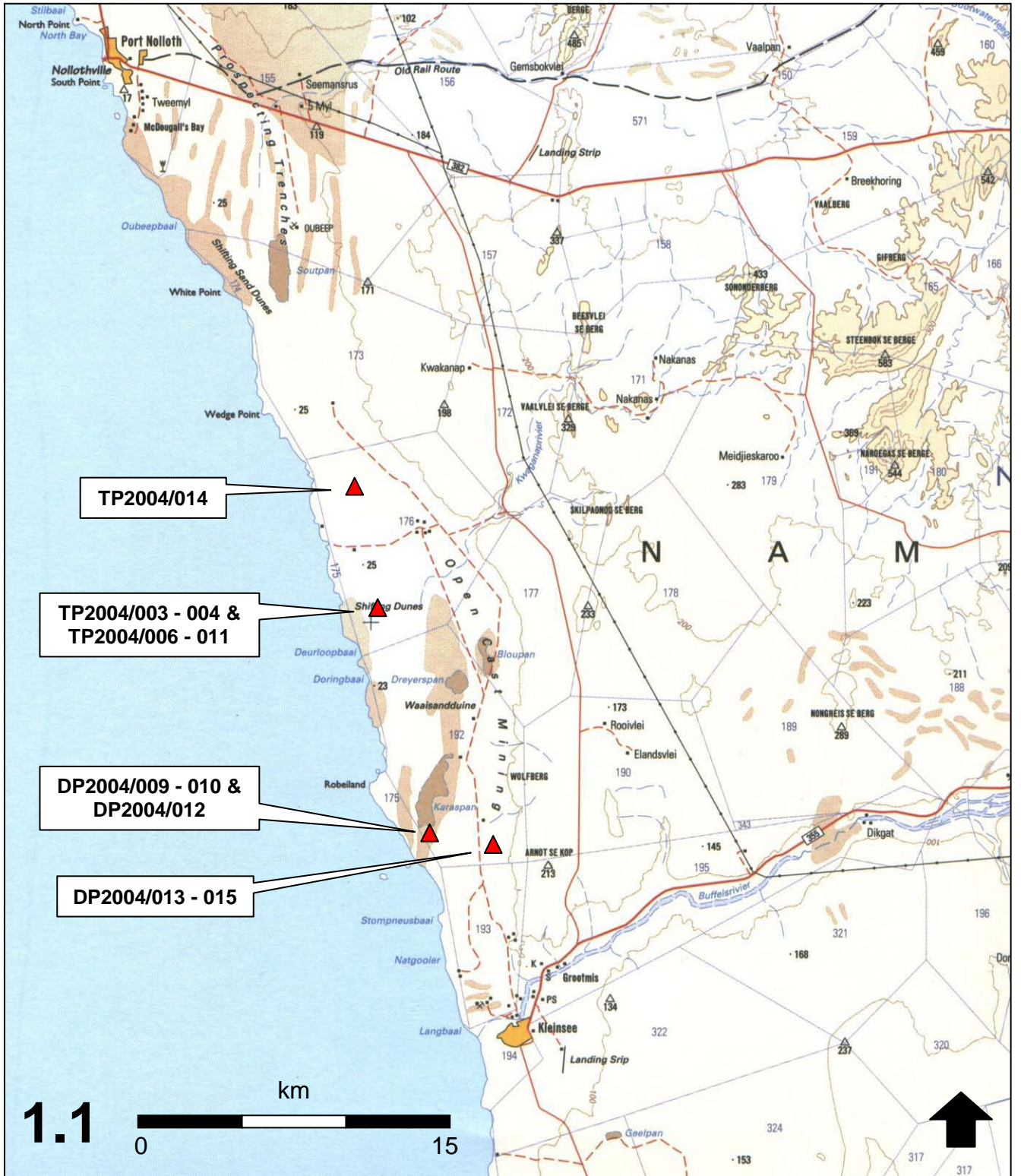
\* This site will be continued by G. Dewar during her PhD research.

**Table 1.1:** Sites excavated in the BMC as part of the archaeological mitigation program.

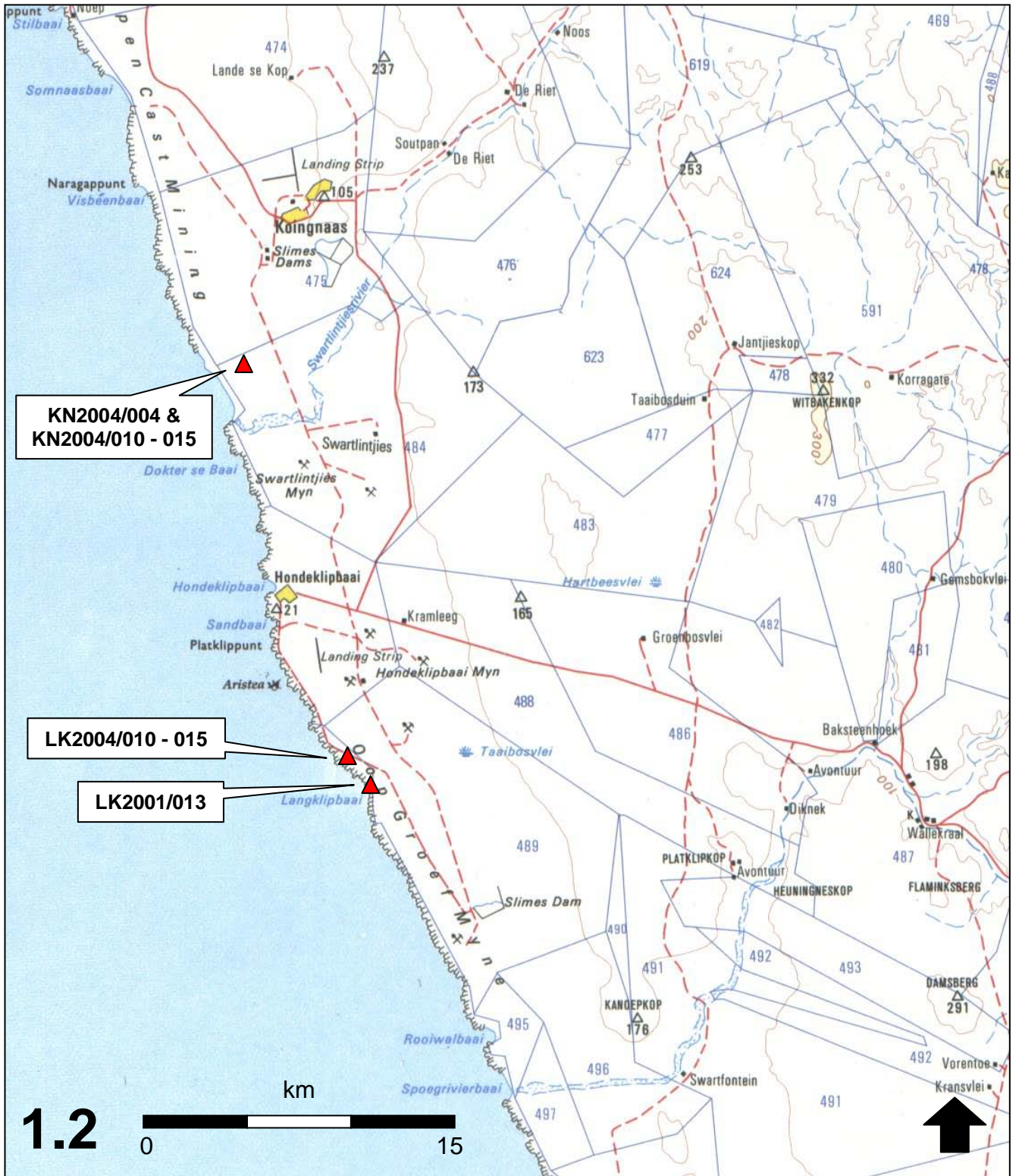
SITE	FIELD NUMBER	FURTHER MITIGATION
KN2004/004	K7D	No
KN2004/010	K8A	No
KN2004/011	K8B	No
KN2004/012	K8C	No
KN2004/013	K8D	No
KN2004/014	K8E	No
KN2004/015	K8F	No
KN2004/030	KN260	No
KN2004/034	Not previously recorded	No
KN2004/035	Not previously recorded	No
LK2001/013*	LK5-1	No
LK2004/010	LKR1A	No
LK2004/011	LKR1B	No
LK2004/012	LKR1C	No
LK2004/013	LKR1D	No
LK2004/014	LKR1E	No
LK2004/016	Not previously recorded	No

\* This site was first excavated in 2002 but further work was undertaken in 2004 towards G. Dewar's PhD research.

**Table 1.2:** Sites excavated in the KNC as part of the archaeological mitigation program.







## 2. METHODS

Standard archaeological excavation procedures were followed. The position of all sites was recorded on a hand-held GPS receiver using the WGS84 datum. While most of the GPS locations were taken during the Phase 1 work, some sites needed to have further points taken. Photographs were taken of each site before and/or during excavation in order to record the landscape in which the sites are located as well as specific features of the sites when appropriate.

Excavation proceeded in squares of 1 m<sup>2</sup> or 0.25 m<sup>2</sup> depending on what degree of spatial resolution was deemed appropriate. All material was sieved to recover finds. A 1.5 mm sieve was always used in combination with a 3 mm sieve first in order to check for the presence of very tiny artefacts. On certain sites a decision was made to proceed with the 3 mm sieve only as no finds were recovered from the 1.5 mm material. These were generally the sites from which only shell bulks were required. On some sites the deposit was too wet to go through the 1.5 mm sieve and on such occasions we were forced to proceed with the 3 mm sieve only. Most of the sorting was done on site as this allows fragile small finds to be given special care during the packing and storage of the material. Sometimes 1.5 mm material containing many tiny artefacts and fragments of food debris was bulked for sorting in the laboratory. This saves time in the field and allows an increased recovery rate. Final sorting of all material took place in the laboratory at the University of Cape Town (UCT). All material will be stored at UCT until all relevant analysis and publication has been done, whereafter it will be curated by the McGregor Museum, Kimberley.

Presentation of the results takes the following form:

**Site No.:** XXYYYY/ZZZ where XX is the abbreviated farm name, YYYY the year in which the site was first recorded, and ZZZ is the site number for that year on that particular farm.

**Field No.:** Temporary number used in the field and later replaced with the site number.

**Geographical location:** GPS co-ordinates on the WGS84 datum.

**Mining area:** A / B where A is the mine name and B either a mining block, prospecting trench or drilling line as appropriate.

**Farm name:** The full name of the farm on which the site is located.

**Date of excavation:**

**Description of local environment and site:** Information on the area around each site which supplements the photographs.

### Methods

**Area excavated:** This is given in m<sup>2</sup> and does not necessarily represent continuous area.

**Approximate percentage of site excavated:** A rough estimate of how much of the site was excavated. This is easily determined in open, deflated sites, but some sites that are partially buried or disturbed are more difficult to assess.

**Stratigraphy:** A summary of the excavation layers. Most sites are single layer sites.

**Excavation units:** The size of the grid squares used in excavation – either 1 m<sup>2</sup> or 0.25 m<sup>2</sup>.

**Sieve size:** Indicates the sieve size(s) used in each excavation.

**Shell sampling:** Indicates the approach taken to shell sampling. Due to storage constraints we have to be careful how much shell is retained. Based on a visual examination of each site and the first few excavated squares a decision was made on where and when to retain shell

samples. With dense midden sites samples were limited to ¼ m<sup>2</sup> quadrants. These are labelled 'a' to 'd' clockwise from the northwest corner.

**Radiocarbon sample(s):** Indicates what material was retained for future radiocarbon dating and the number of samples taken. The number of samples varies based on the spatial patterning and size of each site.

### **Site summary information**

**Analysis:** Details work done on the material to date. Note that specialist faunal analyses have not been conducted on most sites, but where possible a brief attempt has been made to identify species present.

**Stone, Pottery, OES, Shellfish, Kreef, Fauna, Special finds:** Any information already on record is presented for each category of finds (OES = ostrich eggshell). Usually numeric data are inappropriate to this level of reporting and only the presence or absence of items is recorded. Sometimes further detail is provided in tables. Note that the new limpet species names as listed by Ridgeway *et al.* (1998) have been used in this report. They replace the old genus name "*Patella*".

**Comments:** Any other information that is relevant to our understanding of the sites.

**Estimated age:** A rough estimate of age based on the presence of pottery, the types of stone tools and the size of any beads recovered. Pottery occurs on sites younger than 2000 years, certain formal tools indicate a mid to late-mid Holocene age, and beads are often bigger on the more recent sites. Furthermore, sites older than 2000 years more frequently contain mussels and whelks in reasonable numbers.

**Further mitigation:** Indicates what mitigation measures are still required if appropriate.



### 3. FINDINGS

#### 3.1 Site No.: DP2004/009

**Field No.:** DR8C

**Geographical location:** S 29° 35' 54.7" E 17° 01' 48.2"

**Mining area:** BMC / Drilling Line 8

**Farm name:** Dreyerspan

**Date of excavation:** 14 September 2004

**Description of local environment and site:** The site lies at the eastern (inland) edge of a dunefield (Plate 1) and a few hundred meters southwest of Karaspan. The area to the east contains small hummock dunes. The site itself is a deflated scatter of shell, kreek and stone artefacts, part of which goes beneath the edge of the dunes. Friable calcrete bedrock occurs some 3 to 5 cm below surface with the archaeological material being in the overlying windblown sand. Exposures of palaeobeach occur nearby and many cobbles are present in the area.

#### **Methods**

**Area excavated:** 10 m<sup>2</sup>

**Approximate percentage of site excavated:** 70%

**Stratigraphy:** Single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** All shell retained except from O14 and O15.

**Radiocarbon sample(s):** None taken. Shell can be taken from the shell samples.

#### **Site summary information**

**Analysis:** Sorted and analysed in full.

**Stone:** Quartz and CCS common, small thumbnail and siderscrapers present, 5 formal tools, all made in CCS.

**Pottery:** None.

**OES:** Small amount.

**Shellfish:** Low density and very fragmented. The composition is very broad, with five species being common. Usually one only finds two or three species dominating. Table 3.1 provides the species composition for the site as a whole (9 m<sup>2</sup> total). Note the abundance of whelks and mussels which one generally associates with sites older than 2000 years.

**Kreek:** Numerous.

**Fauna:** Very small quantity of bone, most likely unrelated to site.

**Special finds:** 1 OES bead (Outside diameter = 4.2, Aperture = 1.55).

**Comments:** This site shows no spatial information and is probably very heavily deflated. There appears to be older, possibly natural quartz and quartzite which is not always possible to tell apart from the artefactual material.

**Estimated age:** 2000 to 3000 BP

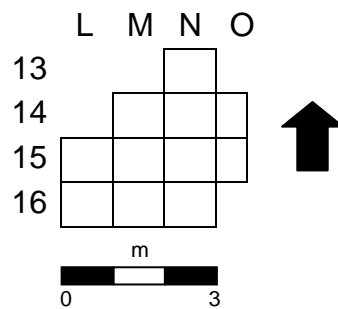
**Further mitigation:** No further mitigation required.

<i>Cymbula granatina</i>	112
<i>Scutellastra granularis</i>	108
<i>Scutellastra argenvillei</i>	68
<i>Scutellastra barbara</i>	2
<i>Crepidula capensis</i>	3
indeterminate limpet	8
<i>Burnapena</i> sp.	103
<i>Choromytilus meridionalis</i> L/R	101 / 87
barnacle	present

**Table 3.1:** Shellfish composition at DP2004/009.



**Plate 1:** DP2004/009



**Figure 3.1:** Grid layout at DP2004/009.

### 3.2 Site No.: DP2004/010

**Field No.:** DR8D

**Geographical location:** S 29° 35' 54.7" E 17° 01' 49.8"

**Mining area:** BMC / Drilling Line 8

**Farm name:** Dreyerspan

**Date of excavation:** 14 – 15 September 2004

**Description of local environment and site:** The site lies east (inland) of a large dunefield and some 200 m southwest of Karaspan. It is among small hummock dunes. The site is a shell midden which has formed a small mound surrounded by lower density shell scatter (Plate 2). A second area of shell scatter located some 15 m to the south was excavated on the same grid.

#### Methods

**Area excavated:** 14 m<sup>2</sup> (main midden) + 5 m<sup>2</sup> (smaller scatter)

**Approximate percentage of site excavated:** 50%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** Main midden: shell retained from H15b only. Smaller scatter: shell retained in I30, J30, K30 and L30.

**Radiocarbon sample(s):**

#### Site summary information

**Analysis:** Sorted, not yet analysed.

**Stone:** Little. None on southern shell scatter.

**Pottery:** Some. More common on the southern shell scatter.

**OES:** Common. None on southern shell scatter.

**Shellfish:** Shell midden is almost exclusively *C. granatina* and *S. granularis* with occasional *S. barbara*, *Burnapena* sp. and barnacle. Smaller scatter has only sparse, fragmented shell.

**Kreef:** Numerous.

**Fauna:** Mostly small animals, but seal teeth and one whale bone were noted. No bone was found on the southern shell scatter.

**Special finds:** Approximately 20 beads in the main midden area.

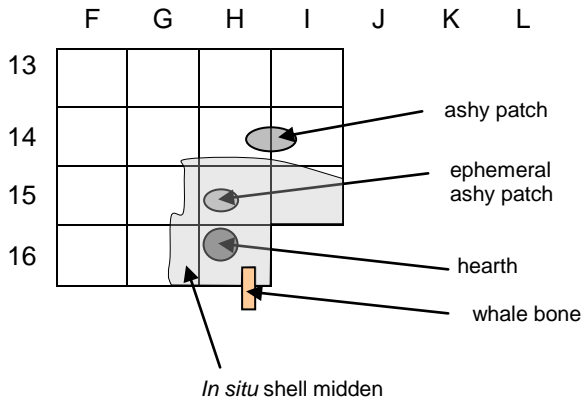
**Comments:** The main midden has a hearth in square H16 and the midden edge was clearly definable (Figure 3.2). The site is fairly rich in terms of the density of archaeological material and it is expected that some spatial patterning in the finds will be present around the hearth. It is interesting that the associated shell scatter to the south has nothing but pottery with it. This may suggest that it is in fact unrelated to the main midden area.

**Estimated age:** < 2000 BP.

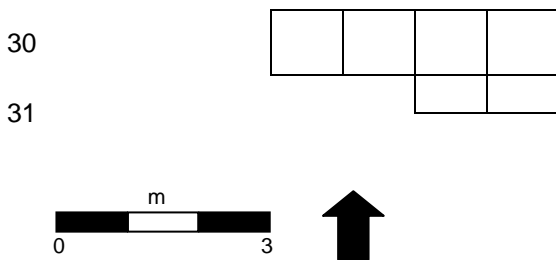
**Further mitigation:** No further mitigation required.



**Plate 2:** DP2004/010



**Plate 3:** DP2004/010 - Hearth and whale bone in H16.



**Figure 3.2:** Grid layout at DP2004/010.

### 3.3 Site No.: DP2004/012

**Field No.:** DR8F

**Geographical location:** Patch 1: S 29° 35' 53.1" E 17° 01' 54.4"  
Patch 2: S 29° 35' 53.8" E 17° 01' 54.2"  
Patch 3: S 29° 35' 52.6" E 17° 01' 54.4"

**Mining area:** BMC / Drilling Line 8

**Farm name:** Dreyerspan

**Date of excavation:** 14 September 2004

**Description of local environment and site:** The site lies east (inland) of a large dunefield and some 20 to 50 m southwest of Karaspan. It lies on the old pan surface (Plate 4) and consists of several scatters of stone and shell. Due to the presence of bushes and the distances between scatters, separate grids were used with each having independent GPS co-ordinates. Furthermore, the stone scatters and shell scatters are clearly unrelated. The Aeolian sand around the pan lies some 25 to 35 m south of Patch 2.

#### **Methods**

**Area excavated:** Patch 1: 7 m<sup>2</sup>, Patch 2: 6 m<sup>2</sup>, Patch 3: 1 m<sup>2</sup>

**Approximate percentage of site excavated:** unknown

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm. The floury pan silts precluded the use of the 1.5 mm sieve.

**Shell sampling:** Patch 2 only: all shell retained.

**Radiocarbon sample(s):** Patch 2 only: shell can be taken from the shell samples.

#### **Site summary information**

**Analysis:** Sorted, not yet analysed.

**Stone:** Lots on Patches 1 and 3, almost all quartz but occasional silcrete. Very little on Patch 2. A lone hand-axe made on silcrete was collected some 60 m WNW of Patch 1.

**Pottery:** None.

**OES:** Present on Patch 2 only.

**Shellfish:** None on Patches 1 and 3. Fragmented shell scatters on Patch 2.

**Kreef:** Present on Patch 2 only.

**Fauna:** One bone fragment on Patch 2.

**Special finds:** None.

**Comments:** The stone scatters seem to be quite old and have no other associated finds. The shell scatters, on the other hand, are probably quite recent and seem to represent a series of small camps (perhaps individual huts) along the southern margin of the pan.

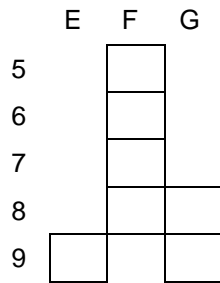
**Estimated age:** Patches 1 and 3: > 2000 BP; Patch 2: < 2000 BP.

**Further mitigation:** No further mitigation required.

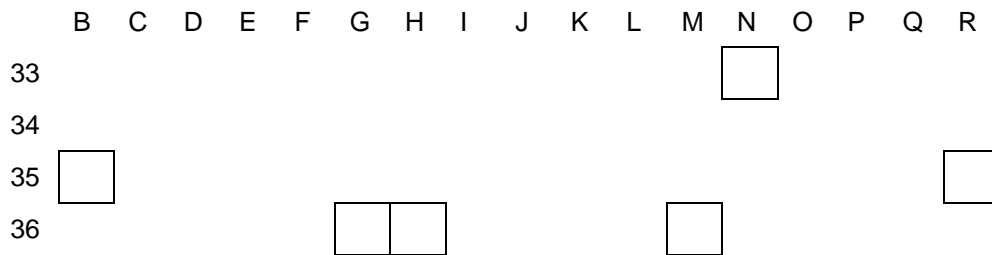




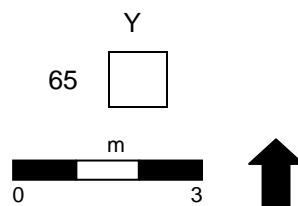
**Plate 4:** DP2004/012 : Environment of the sites. Patch 1 is the white area to the right in the photograph.



**Figure 3.3:** Grid layout at DP2004/012, Patch 1.



**Figure 3.4:** Grid layout at DP2004/012, Patch 2.



**Figure 3.5:** Grid layout at DP2004/012, Patch 3.



### 3.4 Site No.: DP2004/013

**Field No.:** T008A

**Geographical location:** S 29° 36' 02.5" E 17° 02' 57.1"

**Mining area:** BMC / Trench 8

**Farm name:** Dreyerspan

**Date of excavation:** 16 September 2004

**Description of local environment and site:** The area around the site is very flat with only tiny hummock dunes some 20 to 40 cm high occurring in the immediate area (Plate 5). The site lies on a vague ridge which forms a slope break behind which the terrain is far more flat. Small, low bushes occur in the area. The site was only visible as a very low density shell scatter on the surface and hardly looked worth sampling until a test hole showed there to be a subsurface shell midden.

#### Methods

**Area excavated:** 5 m<sup>2</sup>

**Approximate percentage of site excavated:** Unknown

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm. The 1.5 mm was checked but nothing was being recovered from it.

**Shell sampling:** Shell retained from J10 only.

**Radiocarbon sample(s):** *S. granularis* taken from K10.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Minimal. Quartz and silcrete present. A manuport with a groove suggestive of rounding beads during their manufacture is present in square I11 (Plate 5).

**Pottery:** None.

**OES:** Many small unworked fragments as well as numerous unfinished beads in various states of completion.

**Shellfish:** Square J10 was kept as the shell sample. It is dominated by *S. granularis* (60.2%) and *C. granatina* (33.8%) with *S. argenvillei* making up most of the remainder (5.4%). One *Bullia* sp. is present. The granularis shells from this site appear to be particularly large.

**Kreef:** Some present.

**Fauna:** Various small fragments including rodent, snake and tortoise.

**Special finds:** Bead-making debris including broken beads in varying states of completion were recovered. No complete beads were found.

**Comments:** The shell distribution is interesting. While J10 has a large shell volume, very little shell was recovered from any of the surrounding squares excavated. This site seems to be part of a complex of sites occurring across the ridge on which beads were made, and consists only of food and bead-making debris. The grooved stone artefact that may have been used for the rounding of beads is quite unique.

**Estimated age:** < 2000 BP

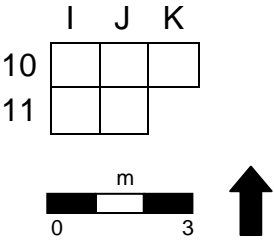
**Further mitigation:** No further mitigation required.



**Plate 5:** DP2004/013 : Environment of the site.



**Plate 6:** DP2004/013 : Grooved stone artefact possibly used for rounding beads.



**Figure 3.6:** Grid layout at DP2004/013.

### 3.5 Site No.: DP2004/014

**Field No.:** T008B

**Geographical location:** S 29° 35' 58.8" E 17° 02' 58.2

**Mining area:** BMC / Trench 8

**Farm name:** Dreyerspan

**Date of excavation:** 15, 16 and 18 September 2004

**Description of local environment and site:** The area around the site is very flat with only tiny hummock dunes some 20 to 40 cm high occurring in the immediate area (Plates 7 – 9). The site lies on the same ridge as DP2004/013. Small, low bushes occur in the area and a mine trench has truncated the northern part of the site (Plate 7). The site was only visible as a low density shell scatter in the vicinity of rows 14 to 21 and a medium density scatter in the vicinity of rows 6 and 7. A substantial amount of material was present deflating down the side of the mine trench.

#### Methods

**Area excavated:** 30 m<sup>2</sup>

**Approximate percentage of site excavated:** 40%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3mm. The 1mm sieve was tested with nothing being found.

**Shell sampling:** Several shell bulks were taken, sometimes from full 1 m<sup>2</sup> and sometimes from 0.25 m<sup>2</sup>, depending on the shell density.

**Radiocarbon sample(s):** Several shell samples were taken from different areas of the site.

#### Site summary information

**Analysis:** This site will be analysed in full by G. Dewar as part of her PhD research.

**Stone:** Some quartz present, mostly in squares M14 to M16.

**Pottery:** Not yet known.

**OES:** Fragments and unfinished beads in varying states of completion are present.

**Shellfish:** Primarily *S. granularis*, *C. granatina* and *S. argenvillei*, but occasional *S. barbara*, *Burnapena* sp., *Oxystele* sp. and *Conus* sp. were also noted. The latter are likely to have been collected for non-dietary purposes.

**Kreef:** Present.

**Fauna:** Good faunal remains including bovids and carnivores.

**Special finds:** Bead-making debris including broken beads in varying states of completion were recovered.

**Comments:** This site is the second of the set of sites assumed to form a complex in which beads were manufactured. This site seems to be the most extensive of the three reported on here (DP2004/013, DP2004/014, DP2004/015) and contains far more and a wider variety of food debris than either of the other two sites. Evidence of spatial patterning is evident in the presence of ashy patches around which flaked quartz artefacts were found. Such patterning is only evident in the southern part of the excavation where the site has not been deflated.

**Estimated age:** < 2000 BP

**Further mitigation:** Due to its nature and extent, this site requires more work. G. Dewar has agreed to study this site in her PhD and further fieldwork will be done by her in due course. It is anticipated that after another season of work the site may be considered fully mitigated.



**Plate 7:** DP2004/014 : The deflated northern part of the site before excavation.

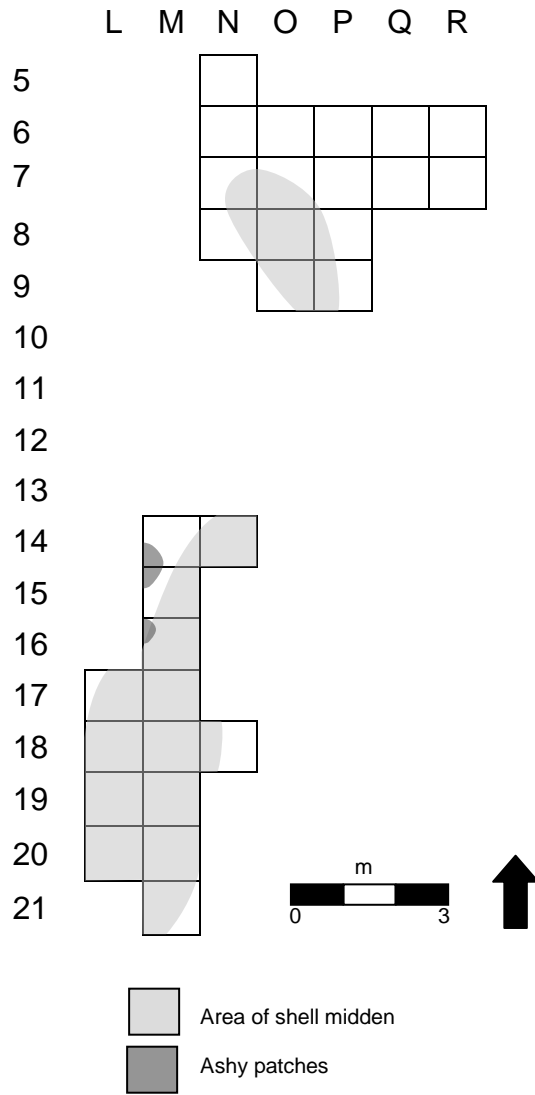


**Plate 8:** DP2004/014 : The southern part of the site during excavation.



**Plate 9:** DP2004/014 : The southern part of the site during excavation. Note the ephemeral nature of the surface shell scatter.





**Figure 3.7:** Grid layout at DP2004/014.

### 3.6 Site No.: DP2004/015

**Field No.:** T008C

**Geographical location:** S 29° 35' 59.0" E 17° 02' 56.5

**Mining area:** BMC / Trench 8

**Farm name:** Dreyerspan

**Date of excavation:** 18 September 2004

**Description of local environment and site:** The area around the site is very flat with only tiny hummock dunes some 20 to 40 cm high occurring in the immediate area. The site lies on the western edge of the same ridge as DP2004/013 and 014 but some 30 m west of the latter. Small, low bushes occur in the area and a mine trench has removed most of the site. A significant amount of material was present deflating down the side of the mine trench.

#### Methods

**Area excavated:** Due to the disturbed nature of the site, no formal grid was laid out.

**Approximate percentage of site excavated:** Unknown

**Stratigraphy:** single layer

**Excavation units:** not applicable

**Sieve size:** 3 mm

**Shell sampling:** Shell from one bucket of *in situ* material was retained.

**Radiocarbon sample(s):** Shell was taken from the *in situ* material.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Some quartz present.

**Pottery:** None.

**OES:** Numerous unworked fragments and several broken and whole, unfinished beads.

**Shellfish:** The shell is dominated by *C. granatina* (57.6%) with *S. granularis* (30.1%) and *S. argenvillei* (11.9%) making up most of the remainder. A single *Conus* sp. shell was also recovered in the shell bulk.

**Kreef:** A few present.

**Fauna:** A small faunal sample containing tortoise, dune molerat, snake and probable small bovid bones was recovered.

**Special finds:** Bead-making debris including broken beads in varying states of completion were recovered.

**Comments:** Due to the disturbed nature of the site, little comment can be made. The site is, however, clearly part of the complex with DP2004/013 and DP2004/014.

**Estimated age:** < 2000 BP

**Further mitigation:** No further mitigation required.



### 3.7 Site No.: DP2004/016

**Field No.:** T009A

**Geographical location:** S 29° 36' 12.0" E 17° 03' 06.5

**Mining area:** BMC / Trench 9

**Farm name:** Dreyerspan

**Date of excavation:** 21 September 2004

**Description of local environment and site:** The site is a small and relatively ephemeral shell scatter located in a flat, open area with low bushes (as for DP2004/017; Plate 10). It is only a few square meters in area.

#### Methods

**Area excavated:** 2 m<sup>2</sup>

**Approximate percentage of site excavated:** 30%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** Shell retained from both excavated squares.

**Radiocarbon sample(s):** Shell from one of the shell samples can be used.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Quartz and silcrete present in very small amounts.

**Pottery:** None.

**OES:** A few fragments are present.

**Shellfish:** Shell is sparse and very fragmented. The shellfish is dominated by *S. granularis* (48.4%) with *C. granatina* (32.8%) and *S. argenvillei* (6.25%) making up the remainder. Due to fragmentation, 12.5% could not be identified.

**Kreef:** Fragments present only.

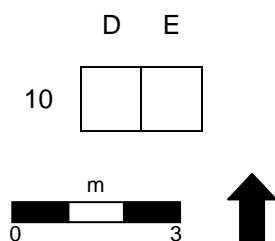
**Fauna:** none.

**Special finds:**

**Comments:** This site is of very poor quality and offers little meaningful information.

**Estimated age:** Probably < 2000 BP.

**Further mitigation:** No further mitigation required.



**Figure 3.8:** Grid layout at DP2004/016.

### 3.8 Site No.: DP2004/017

**Field No.:** T009B

**Geographical location:** S 29° 36' 13.2" E 17° 03' 01.4" (Differs from point given in Orton & Halkett 2004.)

**Mining area:** BMC / Trench 9

**Farm name:** Dreyerspan

**Date of excavation:** 21 September 2004

**Description of local environment and site:** The site is a small shell midden of some 5 m by 6 m located in a flat, open area with low bushes (Plate 10). Note that there was rather little shell evident at the original GPS point and that a new point was taken to mark the excavation carried out and reported on here.

#### Methods

**Area excavated:** 1 m<sup>2</sup>

**Approximate percentage of site excavated:** 5 - 10%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 1.5 mm

**Shell sampling:** Shell retained from the single excavated square.

**Radiocarbon sample(s):** Shell from the shell sample can be used.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Quartz and silcrete present.

**Pottery:** None.

**OES:** Present.

**Shellfish:** The shell is dense and in quite good condition. It is dominated by *C. granatina* (46.5%) and *S. granularis* (45.2%) with *S. argenvillei* (5.5%) and *S. barbara* (0.2%) making up the remainder. A further 2.6% are of indeterminate species.

**Kreef:** Present.

**Fauna:** A few small bone fragments were recovered. Two tiny fish vertebrae were found.

**Special finds:**

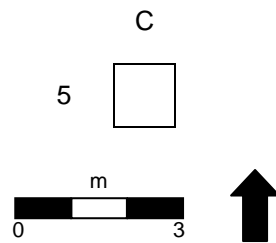
**Comments:** A small shell midden which offers rather little information other than the shellfish data.

**Estimated age:** Probably < 2000 BP.

**Further mitigation:** No further mitigation required.



**Plate 10:** DP2004/017 : The site after excavation of a single square meter of deposit.



**Figure 3.9:** Grid layout at DP2004/017.

### 3.9 Site No.: TP2004/003

**Field No.:** DR12B

**Geographical location:** S 29° 29' 52.7" E 16° 59' 55.8"

**Mining area:** BMC / Drilling Line 12

**Farm name:** Tweepad

**Date of excavation:** 21 September 2004

**Description of local environment and site:** The site is approximately 40 by 15 m in extent and lies in a shallow depression along the western side of a dune ridge (Plate 11). The ground is very open with only very small bushes present. Although the shell scatter is fairly continuous across the area of the site, there are patches where the shell is slightly more dense, and these were targeted for sampling.

#### Methods

**Area excavated:** 9 m<sup>2</sup>

**Approximate percentage of site excavated:** 3 - 5%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (1.5 mm sieve tested on T12 and S19 but nothing found).

**Shell sampling:** Shell was retained from squares T12, S19, S20, U28 and P32.

**Radiocarbon sample(s):** Shell from the shell samples can be taken for dating.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Quartz only. Two small backed tools present.

**Pottery:** None.

**OES:** A few fragments are present, two of them decorated.

**Shellfish:** The shellfish is very weathered, probably mostly from when the shells were still in the sea. As such there are a very high number that do not retain enough features to allow identification. *C. granatina* (21.6%), *S. granularis* (25.1%) and *S. argenvillei* (3.5%) comprise the identifiable sample while 49.6% are of indeterminate species. A single *Bullia* sp. is present.

**Kreef:** A few are present.

**Fauna:** None.

**Special finds:** Two fragments of decorated OES (Figure 3.10). The pattern is fairly typical of what we have seen in Namaqualand in the past.

**Comments:** Evidence of spatial patterning exists. The quartz is concentrated in the central area and the shell is denser in some areas than others. All finds other than the stone artefacts are very weathered suggesting long term exposure to the elements. Although only two stone tools are present, it is likely that the industry at this site is similar to that described for LK2001/003 and LK2001/004 (Orton *et al.* in prep.).

**Estimated age:** > 2000 BP

**Further mitigation:** No further mitigation required.

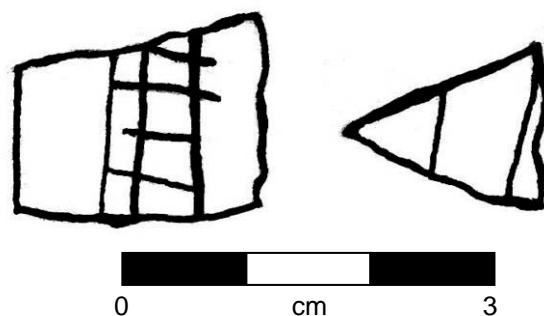


Figure 3.10: The decorated OES fragments from TP2004/003.

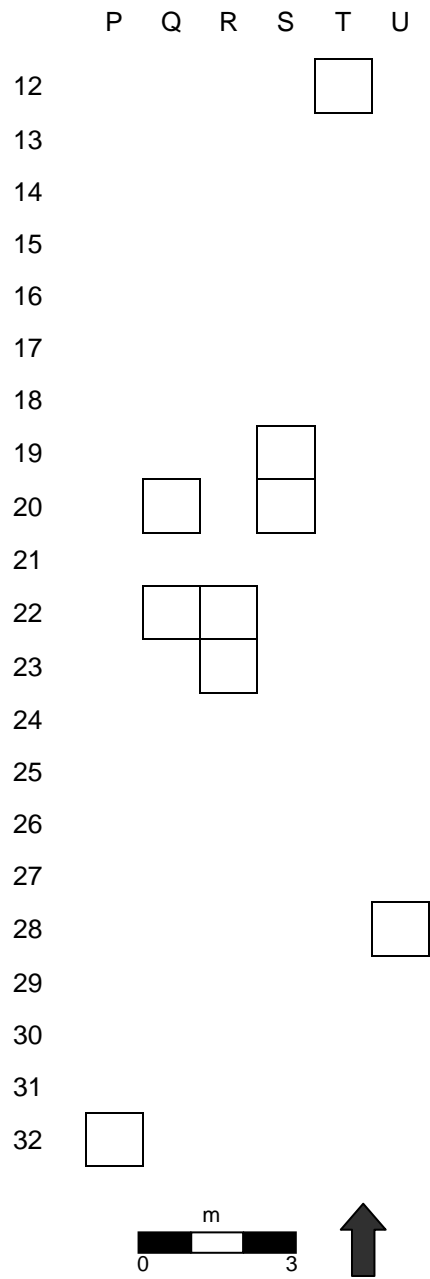




**Plate 11:** TP2004/003 : The site lying to the west of a dune ridge.



**Plate 12:** TP2004/003 : Part of the shell scatter.



**Figure 3.11:** Grid layout at TP2004/003.



### 3.10 Site No.: TP2004/004

**Field No.:** DR12C

**Geographical location:** S 29° 29' 53.2" E 16° 59' 53.0"

**Mining area:** BMC / Drilling Line 12

**Farm name:** Tweepad

**Date of excavation:** 21 September 2004

**Description of local environment and site:** This site is located some 40 m to the west of TP2004/003. It is on the inland side of the dune ridge (Plate 13) which forms the western edge of the hollow in which that site is found. A fair amount of open sand is present but slightly larger bushes also occur. The site is comprised of about three shell patches stretching north-south along the side of the ridge and has an overall area of approximately 20 by 30 m.

#### Methods

**Area excavated:** 12.25 m<sup>2</sup>

**Approximate percentage of site excavated:** 5%

**Stratigraphy:** single layer

**Excavation units:** 1m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** Shell was retained from squares F41, E43, I22d and H12.

**Radiocarbon sample(s):** Dating shell samples retained.

#### Site summary information

**Analysis:** This site will be analysed in full by G. Dewar as part of her PhD research.

**Stone:** Very little stone was recovered.

**Pottery:** 5 decorated rim sherds and several body sherds were found in the central area.

**OES:** A few fragments are present.

**Shellfish:** The shellfish is composed of *C. granatina*, *S. granularis* and *S. argenvillei* in varying proportions across the site. A single *Conus* shell was recovered from square H12.

**Kreef:** Common, but variable. Most dense in the southern area. Plenty of very fresh carapace was found in the southern midden suggesting a recent age for the site.

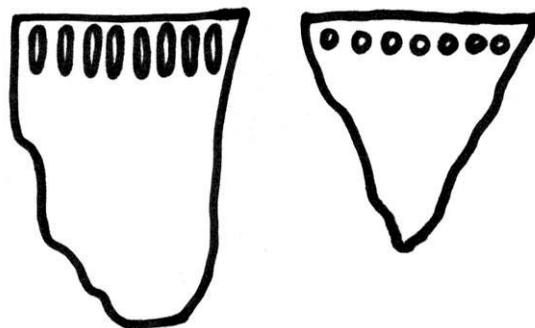
**Fauna:** Many fragments of smashed up bone, probably from large or medium sized bovids were recovered from the central area and a big bovid tooth was present in F44.

**Special finds:** The 5 decorated potsherds show a single type of decoration, but in two different styles (Figure 3.12).

**Comments:** The site displays some spatial patterning with certain finds (e.g. pottery) being concentrated in particular areas. The southern midden contained much charcoal suggesting that fires were made near to this midden.

**Estimated age:** < 1000 BP

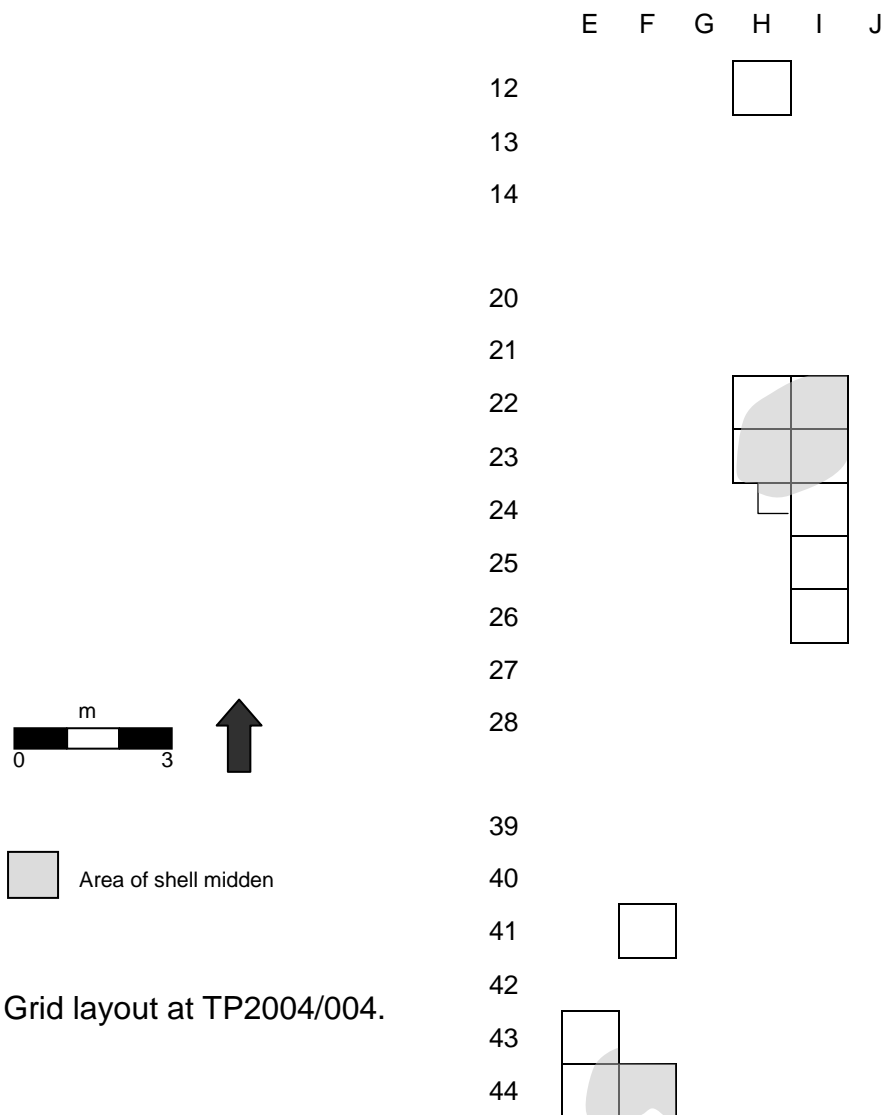
**Further mitigation:** No further mitigation required.



**Figure 3.12:** Schematic representation of the two pottery decoration styles at TP2004/004.



**Plate 13:** TP2004/004 : The site lying on the eastern side of the crest of a dune ridge.



**Figure 3.13:** Grid layout at TP2004/004.

### 3.11 Site No.: TP2004/006 & TP2004/007

**Field No.:** DR12H & DR12I

**Geographical location:** DR12H: S 29° 29' 51.9" E 16° 59' 48.9"  
DR12I: S 29° 29' 51.1" E 16° 59' 48.4"

**Mining area:** BMC / Drilling Line 12

**Farm name:** Tweepad

**Date of excavation:** 17 and 21 September 2004

**Description of local environment and site:** This site is a series of shell and stone artefact scatters covering the northern aspect and top part of a dune ridge (Plate 14). There are several different areas of concentration of shell and stone across the site. Ground visibility was very good here with only sporadic small bushes and tufts of grass present (Plate 15). In general the site is probably only slightly deflated, but the area around AB38 (see below) seems to have been disturbed, since there was evidence of far more significant deflation there. Please note that, since one grid was used to cover the entire area within which TP2004/006 & 007 fell, only a single number (TP2004/007) is now used for this site. The original points were taken at about the J13 (007) and AB38 (006) areas.

#### Methods

**Area excavated:** 64 m<sup>2</sup> plus 3 m<sup>2</sup> sieved sample. Note that the 3 m<sup>2</sup> sample originates from an area located approximately around square AB85.

**Approximate percentage of site excavated:** 5 – 10 %

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 1.5 mm

**Shell sampling:** A total of 22 shell bulks were retained from various squares across the site.

**Radiocarbon sample(s):** Shell was taken for dating from various areas across the site.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Flaked artefacts are common and are primarily made in quartz and CCS. Although formal tools are fairly infrequent, several small scrapers (including one backed scraper) and a few backed tools (including one segment) were noted.

**Pottery:** None.

**OES:** Fragments are common on the site but are restricted in their distribution. One fragment is probably decorated but this is not certain.

**Shellfish:** The shells on this site are extremely fragmented and as a result are very difficult to identify. There is also a fair amount of burnt shell which only increases the unidentifiable count. *S. granularis* (42.0%), *C. granatina* (21.2%) and *S. argenvillei* (5.9%) comprise most of the shell. Just one *Burnapena* sp. and four *S. barbara* were seen among the 22 shell bulks. Unfortunately the shell is very poorly preserved and must have been lying exposed for a long time. A fair quantity of shell is also burnt. Both these factors restrict the amount of identification possible and as a result 30.7% of the countable individual shells are unidentifiable limpets.

**Kreef:** Kreef mandibles are very common and their mean sizes are fairly average (left = 11.53 mm, right = 12.45 mm).

**Fauna:** Few identifiable fragments of bone remain on the site and tortoise, micromammal and fish were all that could be readily identified. Several tooth fragments were also present and these are probably bovid.

**Special finds:** Five beads were found on the site and all are smaller than 5 mm as expected on a pre-2000 BP site (Table 3.2).

**Comments:** This large site shows very clear spatial patterning with certain areas having many stone artefacts and others being dominated by food remains (shell and kreek). The small beads and presence of scrapers and backed tools suggest a pre - 2000 BP date for the site.

**Estimated age:** 2000 – 4000 BP

**Further mitigation:** No further mitigation required.

Outside diameter	Aperture diameter
3.75	1.45
3.75	1.5
4.2	1.35
4.35	1.45
4.75	1.6

**Table 3.2 :** TP2004/007 : OES bead diameters.

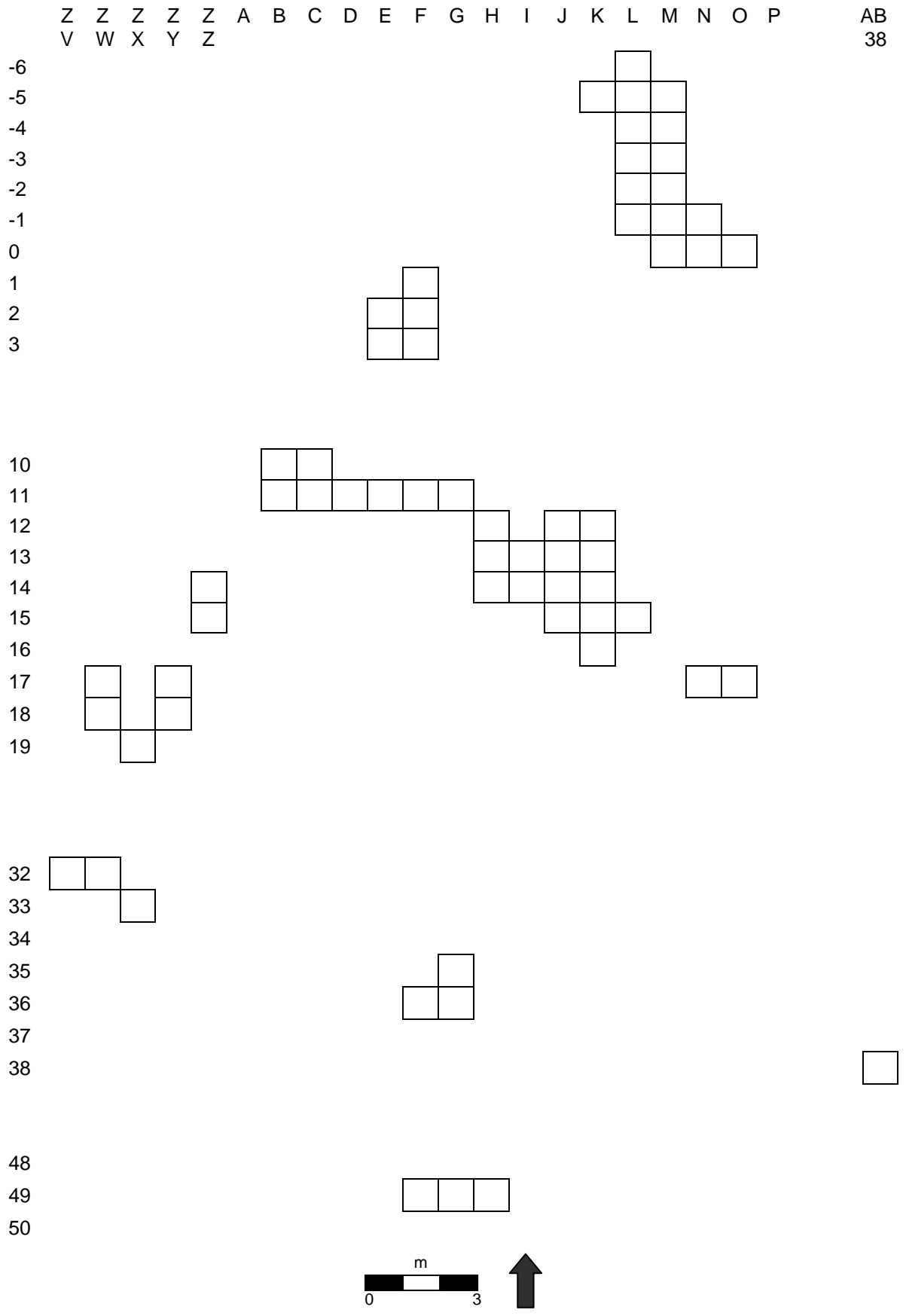




**Plate 14:** TP2004/007 : The site lying on the northern end of a dune ridge. The figure is standing at about O17 and the dune ridge extends southwards from the left edge of the picture.



**Plate 15:** TP2004/007 : Close-up showing the type of scatter encountered across most of the site.



**Figure 3.14:** Grid layout at TP2004/007.



### 3.12 Site No.: TP2004/008

**Field No.:** DR13A

**Geographical location:** S 29° 30' 00.3" E 16° 59' 46.3"

**Mining area:** BMC / Drilling Line 13

**Farm name:** Tweepad

**Date of excavation:** 20 September 2004

**Description of local environment and site:** The site lies on the eastern side of a vague dune ridge on which TP2004/009, 010 and 011 are also found. The ground is quite open with only very small bushes scattered around the area (Plate 16). The site is composed mainly of a fairly low density shell scatter some 10 m by 15 m in size, although a separate scatter of significantly lower density was noted in the vicinity of square A24. This latter area was not sampled.

#### **Methods**

**Area excavated:** 3 m<sup>2</sup>

**Approximate percentage of site excavated:** 3%

**Stratigraphy:** single layer

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (on testing, the 1.5 mm yielded nothing significant)

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** Shell can be taken from the shell bulks for dating.

#### **Site summary information**

**Analysis:** Sorted and analysed in full.

**Stone:** A small HS/UG was recovered from square K23, along with 1 quartz and three silcrete flaked artefacts.

**Pottery:** None.

**OES:** None.

**Shellfish:** The shellfish sample is strongly dominated by *S. granularis* (71%) with *C. granatina* comprising most of the remainder (21%). *S. argenvillei* and *S. barbara* also present.

**Kreef:** A few mandibles are present.

**Fauna:** Just one tiny fragment of bone was found (square K23).

**Special finds:**

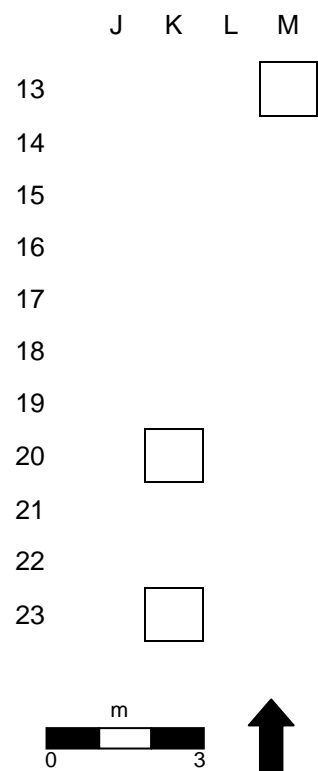
**Comments:** The site is primarily just a shell scatter from which little other than shellfish data can be obtained.

**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.



**Plate 16:** TP2004/008 : The site lying on the eastern side of a vague dune ridge.



**Figure 3.15:** Grid layout at TP2004/008.

### 3.13 Site No.: TP2004/009

**Field No.:** DR13B

**Geographical location:** S 29° 29' 59.2" E 16° 59' 47.1"

**Mining area:** BMC / Drilling Line 13

**Farm name:** Tweepad

**Date of excavation:** 20 September 2004

**Description of local environment and site:** The site is located on the eastern side of the same dune ridge as TP2004/008, 010 and 011. Again the ground is fairly open with good visibility (Plate 17). The site is essentially just a low density shell scatter with little else present.

#### **Methods**

**Area excavated:** 4 m<sup>2</sup>

**Approximate percentage of site excavated:** 5%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** Shell for dating can be taken from one of the shell samples.

#### **Site summary information**

**Analysis:** Sorted and analysed in full.

**Stone:** 1 quartz flake, 1 CCS flake.

**Pottery:** None.

**OES:** None.

**Shellfish:** Dominated by *S. granularis* (60.5%) with *C. granatina* (22.4%) and *S. argenvillei* (13.2%) making up most of the remainder.

**Kreef:** Very few present.

**Fauna:** None.

**Special finds:**

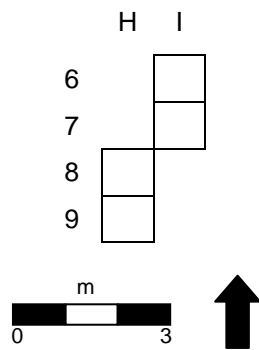
**Comments:** A low density shell scatter from which little other than shellfish data can be obtained.

**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.



**Plate 17:** TP2004/009 : The site lying on the eastern side of a vague dune ridge. The sea is beyond the skyline.



**Figure 3.16:** Grid layout at TP2004/009.

### 3.14 Site No.: TP2004/010

**Field No.:** DR13C

**Geographical location:** S 29° 29' 58.1" E 16° 59' 44.8"

**Mining area:** BMC / Drilling Line 13

**Farm name:** Tweepad

**Date of excavation:** 20 September 2004

**Description of local environment and site:** The site is located just on the eastern side of the crest of the dune ridge on which TP2004/008, 009 and 011 occur. It is some 25 m east of TP2004/011 but is still very near the top of the ridge. Ground visibility is good, although small bushes occur here and there (Plate 18). The site seems to be a cluster of about three low density shell scatters with two having been sampled (AA15 and S8 area). These two are about 4 m<sup>2</sup> and 12 m<sup>2</sup> respectively. The third scatter lay some 10 to 12 m NNE of the S8 area and the shell was very fragmented and ephemeral.

#### Methods

**Area excavated:** 4 m<sup>2</sup>

**Approximate percentage of site excavated:** 10%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** Shell for dating can be removed from the shell samples.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** 3 tiny fragments of sandstone were found, but no flaked artefacts.

**Pottery:** None.

**OES:** None.

**Shellfish:** Both the AA15 and S8 areas are composed entirely of *C. granatina* (76.5 and 61.4% respectively) and *S. granularis* (23.5 and 36.9 % respectively). Of the limpets in the S8 area, 1.7% are of indeterminate species. A single *C. compressa* was noted in an unexcavated part of the S8 area. The third scatter to the NNE seemed to contain the same two species.

**Kreef:** Very few, almost all in square AA15.

**Fauna:** None.

**Special finds:**

**Comments:** The site is a shell scatter with little else present.

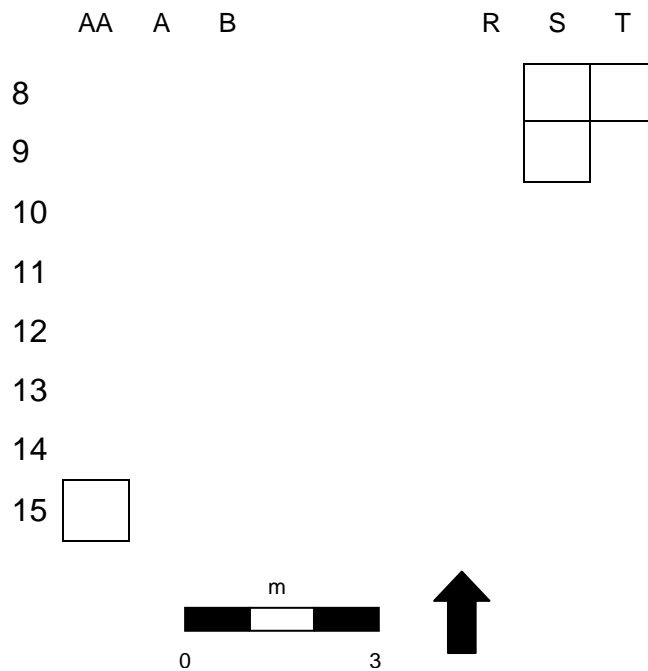
**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.





**Plate 18:** TP2004/010 : The site lying just east of the crest of a vague dune ridge. The sea is beyond the skyline.



**Figure 3.17:** Grid layout at TP2004/010.

**3.15 Site No.:** TP2004/011

**Field No.:** DR13D

**Geographical location:** S 29° 29' 58.6" E 16° 59' 43.5"

**Mining area:** BMC / Drilling Line 13

**Farm name:** Tweepad

**Date of excavation:** 20 September 2004

**Description of local environment and site:** This site is on the crest of the same dune ridge on which TP2004/008, 009 and 010 are found. Tiny hummock dunes and small bushes are present round about the area (Plate 19). The site is composed of a series of tiny shell scatters arranged around a larger, but less discrete central scatter (Figure 3.18).

#### **Methods**

**Area excavated:** 7 m<sup>2</sup>

**Approximate percentage of site excavated:** 10%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** Shell for dating can be taken from the shell samples.

#### **Site summary information**

**Analysis:** Sorted and analysed in full.

**Stone:** A small number of quartz flaked artefacts and some grindstone and manuport fragments were found.

**Pottery:** None.

**OES:** None.

**Shellfish:** The density of shellfish varies across the different patches. In all areas *C. granatina* dominates (mean 59.6%) with *S. granularis* (mean 33.2%) and *S. argenvillei* (mean 4.8%) comprising most of the remainder. Only in two squares (J25 and M27) do the *S. argenvillei* figures exceed 5%.

**Kreef:** Several mandibles were recovered, but most were from M30 and R23.

**Fauna:** None.

**Special finds:**

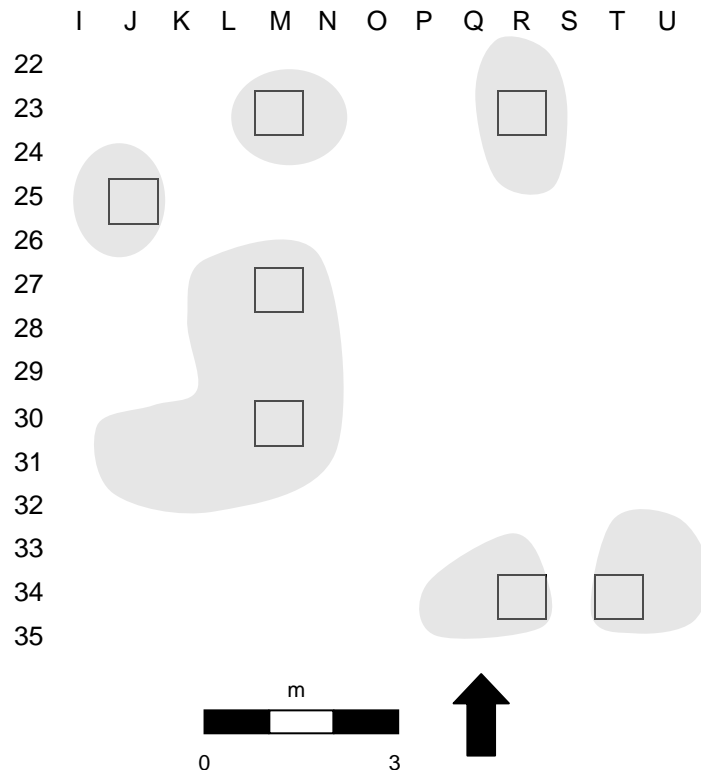
**Comments:** The shell scatters show some degree of spatial patterning and may be dumps related to the individual huts in an encampment. The scatters provide the only useful data from the site.

**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.



**Plate 19:** TP2004/011 : The site lying on the crest of a dune ridge.



**Figure 3.18:** Grid layout at TP2004/011. The shaded areas denote the approximate limits of the shell scatters.

### 3.16 Site No.: TP2004/014

**Field No.:** DR14A

**Geographical location:** S 29° 29' 06.7" E 16° 58' 33.8"

**Mining area:** BMC / Drilling Line 14

**Farm name:** Tweepad

**Date of excavation:** 20 September 2004

**Description of local environment and site:** This site is located on the top of a very wide, flat dune ridge several hundred meters from the sea. Owing to the distance from the sea, the landscape in this area is generally quite flat with only low rolling dune ridges (Plate 20). Ground visibility is fairly good, although small bushes are abundant. There are various shell scatters visible on the surface and in one area there is material extending to some 15 cm depth. In this area there is a slight concentration of shell near the surface, with much denser shell occurring between about 8 and 15 cm below the surface. A jeep track runs across the site and we excavated a number of squares in this track in order to avoid the bushes.

#### Methods

**Area excavated:** 18 m<sup>2</sup>, with 3 m<sup>2</sup> excavated deeper than a single layer.

**Approximate percentage of site excavated:** Unknown.

**Stratigraphy:** mostly single layer but two layers in one area.

Squares I44 and H44: 2<sup>nd</sup> layer called "LOW"

Square N37: 2<sup>nd</sup> and 3<sup>rd</sup> layers called "L2" and "L3"

**Excavation units:** 1m<sup>2</sup>

**Sieve size:** 1.5 mm or 3 mm depending on area.

**Shell sampling:** All shell was retained, except for H44 "LOW".

**Radiocarbon sample(s):** Shell for dating can be taken from the shell samples.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Abundant, but most dense in I44 and H44 "LOW". Formal tools are common in the F45 to J44 area but none occur anywhere else on the site. The types are typical of the mid-Holocene (Table 3.3). In the F45 to J44 area and in square N37, CCS comprises some 28% of the raw materials while across the rest of the site CCS forms less than 1%.

**Pottery:** Occurs only in the Z40 to AF45 area where a total of 10 fragments were found. Of these, 8 are very weathered.

**OES:** Very sparse, mostly in the F45 to J44 area.

**Shellfish:** Much variability in density, fragmentation and species composition occurs across the site. Shell density is quite low over all surface squares, while in H44/I44 and N37 the density increases steadily with depth. In all areas, however, *S. granularis* dominates, followed by *C. granatina*. *S. argenvillei* makes a very small contribution in all areas except in the AE43 to AF45 squares where it is common. A single *S. barbara* (N37 "L3") and a single *C. miniata* (Z40) were found. Table 3.4 provides the full frequency breakdown.

**Kreef:** A good scatter of kreef occurs throughout, but they are abundant in the sub-surface layers in squares H44, I44 and N37.

**Fauna:** Only tiny fragments, including some snake and micromammal. The latter two are probably natural intrusions.

**Special finds:** Two beads were recovered, one from N37 "L2" (6 mm diameter) and one from AC40 (5 mm diameter).

**Comments:** The site most likely represents a series of overlapping occupations from different time periods. The surface has a pottery period occupation in the area of squares Z40 to AF45 and a mid-Holocene occupation below surface in the I44/H44 area. The age of the N37 area is difficult to ascertain. If the latter areas are contemporaneous then the variable content of these squares may indicate spatial patterning during a mid-Holocene occupation.

**Estimated age:** Z40 to AF45 area: < 2000 BP  
 F45 to J44 area: 3500 – 5000 BP  
 N37 area: Cannot say for certain.

**Further mitigation:** The area around H44/I44 and N37 should be protected from damage unless further mitigation can be carried out. If complete destruction of the site were to take place, it would be ideal to excavate at least 20m<sup>2</sup> of the mid-Holocene material as sites dating to this period are rarely encountered at or near the surface.

Tool type	F45 to J44 area (surface)	I44 and H44 "LOW"	N37 "L2"
Backed scraper		2	
Misc. scraper	1	1	
Sidescraper		1	
Backed bladelet		2	
Curve backed bladelet		1	
Segment		1	
Misc. backed piece			1
Adiag. Backed piece		1	
MRP	2	3	

**Table 3.3:** TP2004/014 : Formal tools.

Area	No. squares	<i>C. granatina</i>	<i>S. granularis</i>	<i>S. argenvillei</i>	<i>S. barbara</i>	<i>C. miniata</i>	Indeterminate limpet	<i>Burnapena</i> sp.
F45 to J44 (surface)	6	28.3	60.0	X			11.7	
H44/I44 "LOW"	1	41.9	51.2	1.1	X		5.7	
N37 "L1"	1	24.0	60.0				16.0	
N37 "L2"	1	8.0	71.1	X	X		20.9	
N37 "L3"	1	15.4	67.6	0.8	0.3		15.7	0.3
Z40 to AE41	7	25.9	48.3	3.4		0.9	21.6	
AE43 to AF45	4	32.6	29.5	32.6			5.4	

**Table 3.4:** TP2004/014 : Shellfish species composition (%).

X = present, but no countable individuals.

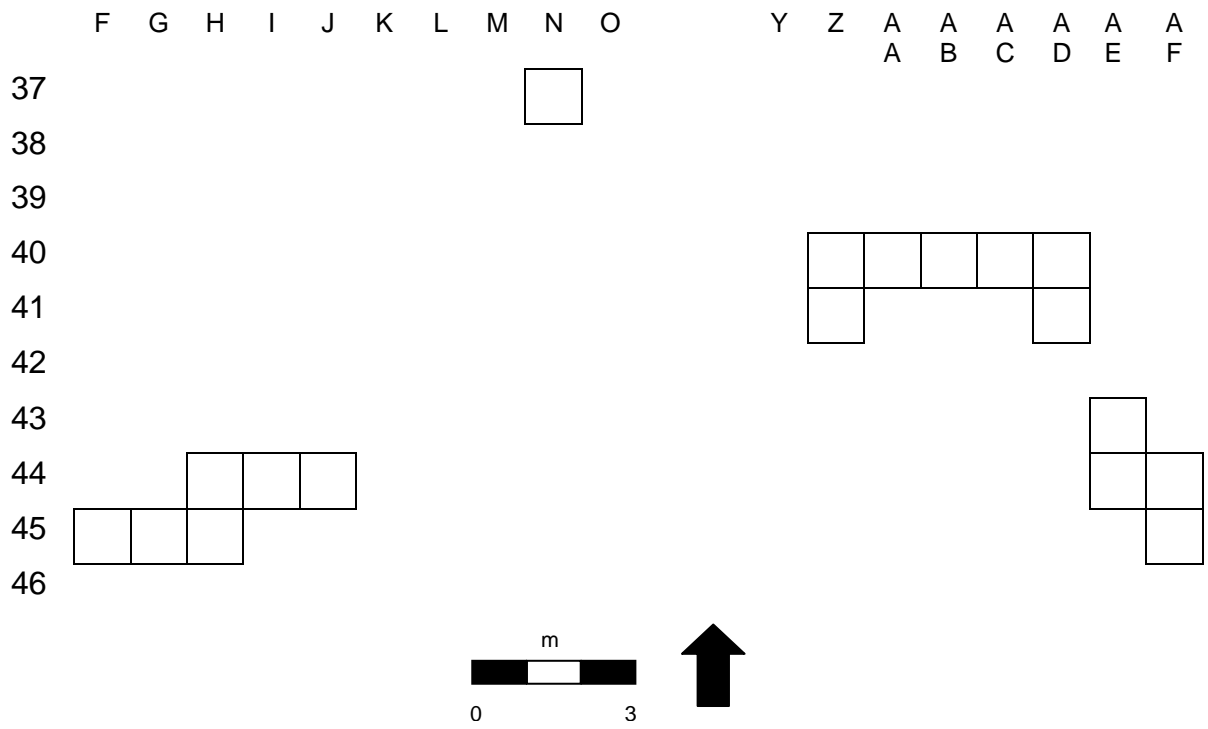




**Plate 20:** TP2004/014 : The site lying on the crest of a low dune ridge. The sea is just beyond the horizon.



**Plate 21:** TP2004/014 : In the foreground are squares I44 and H44 in which mid-Holocene deposits were excavated.



**Figure 3.19:** Grid layout at TP2004/014.

### 3.17 Site No.: KN2004/004

**Field No.:** K7D

**Geographical location:** S 30° 14' 05.1" E 17° 15' 03.0"

**Mining area:** KNC / Trench 7

**Farm name:** Koingnaas

**Date of excavation:** 30 August 2004

**Description of local environment and site:** The area around this site is characterised by hummock sand dunes and short dune ridges with open, relatively flat areas in between (Plate 22). The site is a small shell midden and is located in a slight hollow among the dunes. The immediate surrounds are quite bushy and this restricted excavation to the south. There are sand dunes to the south and west, some 10 m from the excavated area.

#### Methods

**Area excavated:** 5 m<sup>2</sup>

**Approximate percentage of site excavated:** 10%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (1.5 mm was tested with nothing found)

**Shell sampling:** Shell was retained from square G8.

**Radiocarbon sample(s):** *C. granatina* was retained from H8 for dating.

#### Site summary information

**Analysis:** sorted and analysed in full.

**Stone:** Only 9 flaked artefacts, all in quartz, were recovered from the excavation.

**Pottery:** 11 body sherds and one pierced lug were found.

**OES:** Several fragments, as well as unfinished beads and a water container mouth are present.

**Shellfish:** Strongly dominated by *C. granatina* (46.7%) and *S. granularis* (43.1%) with *C. argenvillei* (8.9%) and *C. barbara* (1.1%) making up most of the remainder. *Burnapena* sp. was present in G7.

**Kreef:** Although only 19 mandibles are present, the mean sizes are particularly large with lefts averaging 14.54 mm (n=11) and rights 16.22 mm (n=8).

**Fauna:** An analysis of the fauna by G. Dewar showed at least one individual of each of the following to be present: snake, tortoise, fish, seal, *Raphicerus* sp., small-medium bovid, small-medium mammal, bird, small mammal

**Special finds:** One piece of a water container mouth and a number of broken, unfinished beads were found.

**Comments:** This site is another of the selection of bead-manufacturing sites excavated this season. Although only a small excavation, the site yielded good fauna and bead debris.

**Estimated age:** < 2000 BP

**Further mitigation:** No further mitigation required.

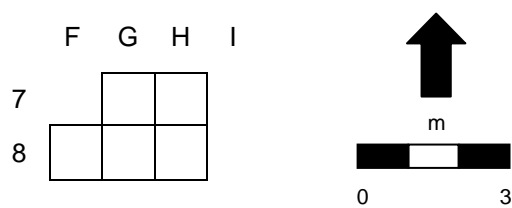




**Plate 23:** KN2004/004 : The site prior to excavation.



**Plate 22:** KN2004/004 : The surroundings of the site.



**Figure 3.20:** Grid layout at KN2004/004.

### 3.18 Site No.: KN2004/010

**Field No.:** K8A

**Geographical location:** S 30° 14' 10.9" E 17° 15' 00.1"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 31 August & 1 September 2004

**Description of local environment and site:** The area around this site is characterised by hummock sand dunes and short dune ridges with deflated areas in between (Plate 24). The site is a small, but dense shell midden and is located in a deflated area measuring some 15 m east/west and 25 to 30 m north/south. The midden itself is very thick in the middle, and looks to have formed in a small hollow. Site KN2004/011 is located some 8 m to the east in the same deflation and is excavated on the same grid. Two other small scatters lie in this deflation but were not deemed worthy of mitigation (Figure 3.21).

#### Methods

**Area excavated:** 6 m<sup>2</sup>

**Approximate percentage of site excavated:** 20 %

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (Unfortunately the site was too wet to allow use of the 1.5 mm sieve)

**Shell sampling:** A shell bulk was taken from square J33.

**Radiocarbon sample(s):** *C. argenvillei* retained from square H33.

#### Site summary information

**Analysis:** sorted and analysed in full.

**Stone:** Fairly large assemblage with about one third CCS and two thirds quartz. Formal tools include a backed bladelet and a backed scraper. All formal tools are made in CCS.

**Pottery:** None.

**OES:** Several unworked fragments and one bead were found.

**Shellfish:** The shell is very dense with 2022 shells counted in the bulk sample. A fairly wide variety of species is present but with *C. meridionalis* being surprisingly poorly represented. The full breakdown of species composition is provided in Table 3.4. Many of the shellfish at this site are unusually large. An interesting feature here is the large number (42) of juvenile *S. argenvillei* shells that are similar in size to the average *S. granularis* (these are not included in the figures in Table 3.5).

**Kreef:** Although only 34 mandibles are present, the mean sizes are quite large with lefts averaging 14.48 mm (n=12) and rights 14.52 mm (n=22).

**Fauna:** Fair amount of bone but most is very fragmented. One fish vertebra was noted.

**Special finds:** One OES bead with an outside diameter of 4.75 mm and an aperture diameter of 1.45 mm.

**Comments:** This site is an incredibly dense shell midden. A good lithic assemblage is present from the small excavation with formal tools suggesting a mid-Holocene age. The particularly large shellfish and kreef are notable.

**Estimated age:** 3 – 5000 BP

**Further mitigation:** No further mitigation required.

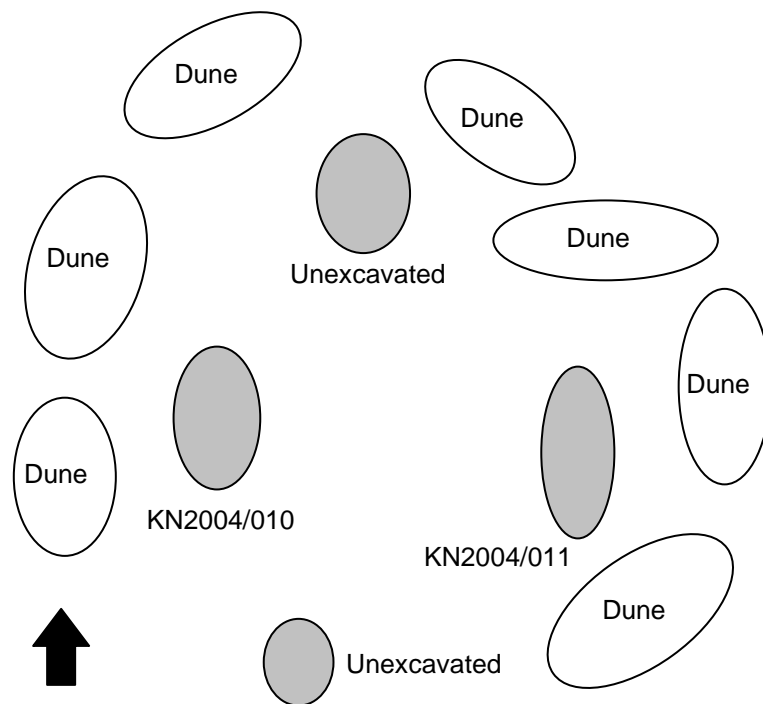


Area	<i>C. granatina</i>	<i>S. granularis</i>	<i>S. argenvillei</i>	<i>S. barbara</i>	<i>C. compressa</i>	Indeterminate limpet	<i>Burnapena</i> sp.	<i>Nucella</i> sp.	<i>C. meridionalis</i>
J33	46.1	31.4	13.6	0.4	0.1	1.5	6.5	0.05	0.3

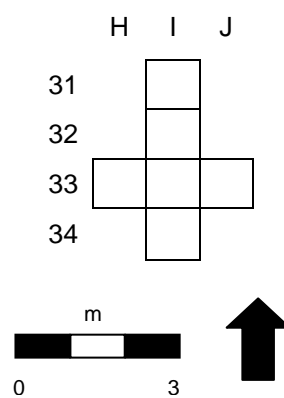
**Table 3.5:** KN2004/010 : Shellfish species composition (%).  
*C. meridionalis* based on left hinges.



**Plate 24:** KN2004/010 : The excavated shell scatter lies to the left of the right hand figure.



**Figure 3.21:** Schematic diagram of the deflation in which KN2004/010 and 011 lie.



**Figure 3.22:** Grid layout at KN2004/010.

### 3.19 Site No.: KN2004/011

**Field No.:** K8B

**Geographical location:** S 30° 14' 11.0" E 17° 15' 00.5"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 31 August 2004

**Description of local environment and site:** This site is located in the eastern part of the same deflation as KN2004/010 (Figure 3.21). Note that both sites are excavated on the same grid.

#### **Methods**

**Area excavated:** 5 m<sup>2</sup>

**Approximate percentage of site excavated:** 15%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (very few small finds were recovered from either sieve during testing of the 1.5 mm.)

**Shell sampling:** Shell was retained from squares R29, Q23 and Q25.

**Radiocarbon sample(s):** *S. argenvillei* taken from Q24.

#### **Site summary information**

**Analysis:** sorted and analysed in full.

**Stone:** A small assemblage of quartz and CCS with the former dominating. 1 CCS sidescraper is present.

**Pottery:** None.

**OES:** A few fragments are present.

**Shellfish:** Although the species composition remains constant, there is a marked difference in the proportions of each suggesting some spatial patterning between the two areas excavated (Table 3.6).

**Kreef:** Several mandibles are present. Most are small but some quite large specimens also occur.

**Fauna:** The bone is very fragmented but tortoise, fish, snake, micromammal and *Raphicerus* can be identified.

**Special finds:**

**Comments:** Some spatial patterning is evident in the shellfish remains. The strong presence of mussels and the sidescraper, although not definitive, suggest that the site dates to be older than 2000 years.

**Estimated age:** > 2000 BP

**Further mitigation:** No further mitigation required.





**Plate 25:** KN2004/011 : The shell scatter lies around the bush in the centre of the photograph. The excavated area is to the left (east) of the bush.



**Plate 26:** KN2004/011 : Close-up of the excavated area showing the relatively low density shell scatter.

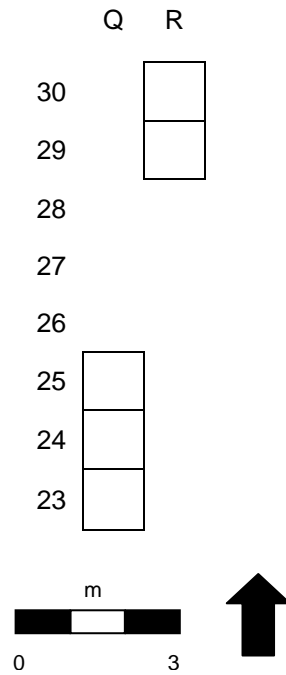


Figure 3.23: Grid layout at KN2004/011.

Area	<i>C. granatina</i>	<i>S. granularis</i>	<i>S. argenvillei</i>	<i>S. barbara</i>	<i>Fissurella</i> sp.	Indeterminate limpet	<i>Burnapena</i> sp.	<i>Bullia</i> sp.	<i>Oxystele</i> sp.	<i>C. meridionalis</i>	Barnacle
Q25 & Q25	17.1	51.5	6.9	1.0	0.1		0.9	0.4	0.1	21.8	X
R29	38.7	34.3	19.9	3.5		0.9	X			2.6	

Table 3.6: KN2004/011 : Shellfish species composition (%).  
*C. meridionalis* based on left hinges.



### 3.20 Site No.: KN2004/012

**Field No.:** K8C

**Geographical location:** S 30° 14' 09.5" E 17° 15' 00.6"

**Mining area:** BMC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 01 September 2004

**Description of local environment and site:** The site has small hummock dunes lying to the south, west and northwest of it with a large open area extending to the east and northeast (Plate 27, Figure 3.25). Much of this open area is well deflated and there is calcrete exposed in places. In the immediate area of the site there is some 5 to 10 cm of sand cover and the site lies within this sand layer. Excavation proceeded right down to the calcrete. A surface collection was taken from two small related patches to the north (Figure 3.25).

#### Methods

**Area excavated:** 11  $\frac{3}{4}$  m<sup>2</sup>

**Approximate percentage of site excavated:** 50%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (1.5 mm was tested but lots of calcrete was being trapped and nothing was found in the sieve.)

**Shell sampling:** Shell was retained from H16, I15, J15 and K15.

**Radiocarbon sample(s):** *S. granularis* and *S. argenvillei* were taken from square J16.

#### Site summary information

**Analysis:** sorted and mostly analysed (just two shell bulks remain unanalysed).

**Stone:** The flaked stone is almost all quartz with a few pieces of CCS noted. Several fragments of manuports and specularite were also found.

**Pottery:** Two decorated sherds were recovered, one a rim and the other a body sherd (Figure 3.24).

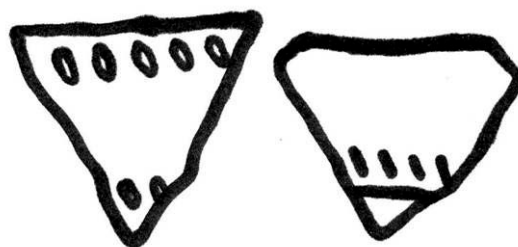
**OES:** A few fragments of unworked OES are present as well as three beads and four pendant fragments. All the OES fragments (worked and unworked) are very weathered suggesting they may be older than the bulk of the material recovered.

**Shellfish:** The site is very strongly dominated by *S. granularis* (81.5%) with *C. granatina* (17.3%) making up most of the remainder. *S. argenvillei* (0.7%), *S. barbara*, *Burnapena* sp., *Oxysteles* sp and *Helcion* sp. are also present.

**Kreef:** A fair number of kreef mandibles are present.

**Fauna:** There is a fair quantity of bone but unfortunately most is very fragmented. There is lots of tortoise bone and a few pieces of larger mammal bone are also present. Some bone is burnt.

**Special finds:** Two decorated pot sherds, three OES beads and four OES pendant fragments were recovered.



**Figure 3.24:** Schematic representation of the decorated body (left) and rim (right) sherds from KN2004/012

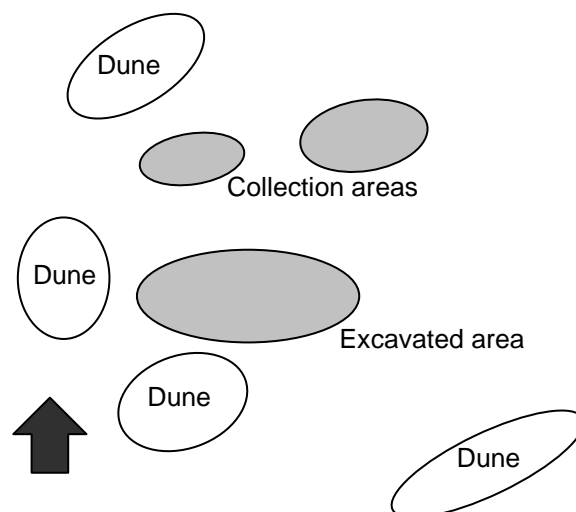
**Comments:** Although no ash was present, there were several dark stains in the sand indicating areas where fires must have been made. Along with the clearly definable shell dump, these produced good spatial patterning (Figure 3.26). Although the midden was not very deep, the fact that it is dominated so heavily by *S. granularis* means that it is very dense with a total of 3474 countable shells found in square H16 alone.

**Estimated age:** < 2000 BP

**Further mitigation:** No further mitigation required.



**Plate 27:** KN2004/012 : The area around the site. The excavated area lies just right of the figures.



**Figure 3.25:** Schematic diagram of the area around KN2004/012.

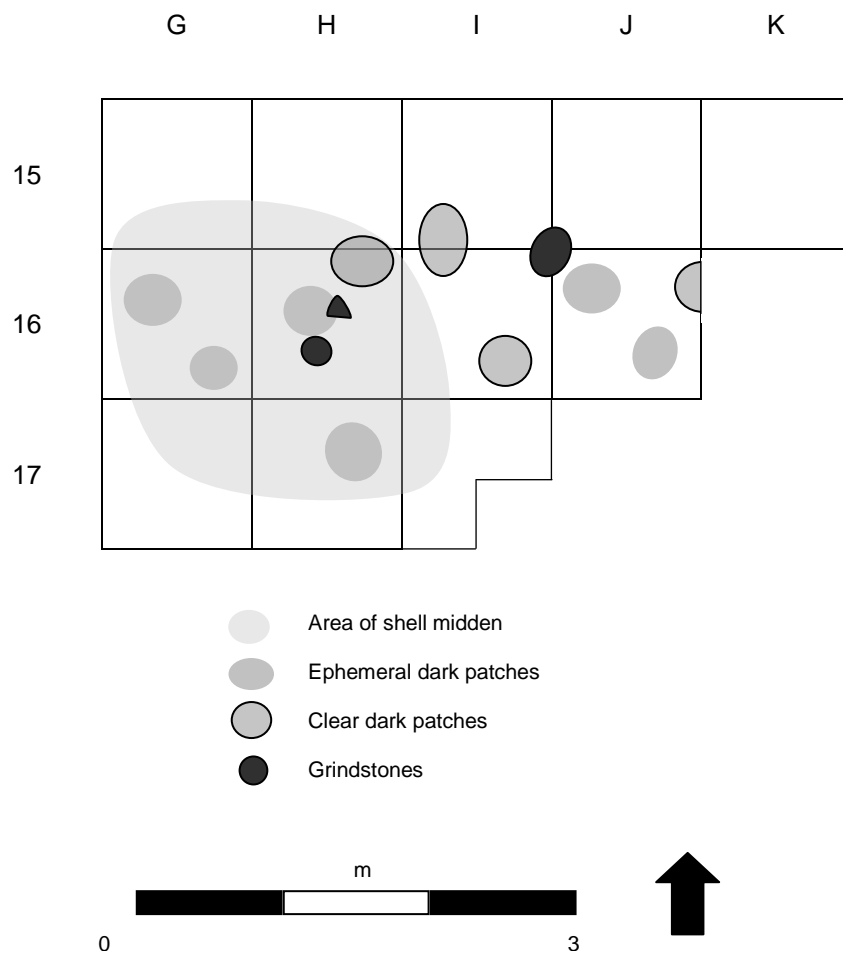




**Plate 28:** KN2004/012 : Close-up of square I15 showing the lower grindstone and one of the dark, ashy patches.



**Plate 29:** KN2004/012 : The site after excavation. The dark area at the back is the area where the shell midden was located.



**Figure 3.26:** Grid layout and site features at KN2004/012.

### 3.21 Site No.: KN2004/013

**Field No.:** K8D

**Geographical location:** S 30° 14' 10.4" E 17° 15' 01.6"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 30 August 2004

**Description of local environment and site:** The site is located in the northern end of a deflation bay between hummock dunes. The surface of the deflation is covered by large pink sand grains. The type of site phenomenon recorded here extends over a wide area here. A few fragments of metal indicate that early prospecting activities took place in this area in the past.

#### Methods

**Area excavated:** 3 m<sup>2</sup>

**Approximate percentage of site excavated:** Unknown

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (wet sand precluded the use of the 1.5 mm sieve.)

**Shell sampling:** Shell was retained in squares S10 and T10.

**Radiocarbon sample(s):** *S. argenvillei* taken from square R10 for dating.

#### Site summary information

**Analysis:** sorted and analysed in full.

**Stone:** Very small flaked assemblage mostly of quartz, but with a few pieces of CCS as well.

**Pottery:** None.

**OES:** A number of unworked fragments, one water container mouth and two beads are present.

**Shellfish:** *S. granularis* dominates (76.5%) with *C. granatina* (19.6%) and *S. argenvillei* (2.5%) comprising most of the remainder. *S. barbara*, *Burnapena* sp., *Crepidula* sp., *Oxysteles* sp. and *C. meridionalis* are also present but only in very small numbers.

**Kreef:** A number of kreef mandibles are present.

**Fauna:** Only a very small sample of bone was obtained and it is very fragmented. However, fish, tortoise and mammal bones are all present.

**Special finds:** Two OES beads with outside and aperture diameters measuring 4 mm and 1.55 mm, and 4.15 mm and 1.4 mm respectively, and an OES water container mouth were found.

**Comments:** The small size of the beads are the only clues as to a possible age for this site.

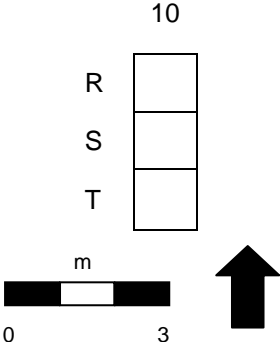
**Estimated age:** > 2000 BP

**Further mitigation:** No further mitigation required.





**Plate 30:** KN2004/013 : The area around the site. The pink sand grains can be seen on the surface of the deflated patches which extend back and to the right in the photograph.



**Figure 3.27:** Grid layout at KN2004/013.

### 3.22 Site No.: KN2004/014

**Field No.:** K8E

**Geographical location:** S 30° 14' 11.4" E 17° 15' 01.7"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 30 August 2004

**Description of local environment and site:** This site is in a similar location to KN2004/013, and it lies in another open, deflated area. Some small hummock dunes are present around the site and one extends over the thickest part of the shell midden.

#### Methods

**Area excavated:** 4 m<sup>2</sup> and a small surface collection

**Approximate percentage of site excavated:** unknown

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (1.5 mm was tested but it clogged up with the little pink sand grains making sorting impossible.)

**Shell sampling:** Shell was retained from squares M12, M14 and N14.

**Radiocarbon sample(s):** *S. argenvillei* was taken from square N13 for dating.

#### Site summary information

**Analysis:** sorted and analysed in full.

**Stone:** Small assemblage of quartz and a single CCS MRP.

**Pottery:** None.

**OES:** Several fragments are present and one bead.

**Shellfish:** Overall, *C. granatina* dominates (44.8%) with *S. argenvillei* (31.6%) and *S. granularis* (20.8%) making up the bulk of the remainder. *S. barbara* (1%), *Burnapena* sp. (1.3%) and *C. meridionalis* (0.2%) are also present. Interestingly, when the thick shell midden square (N14) is considered alone, *S. argenvillei* (43%) and *C. granatina* (40.7%) dominate with *S. granularis* (14.5%) comprising most of the rest.

**Fauna:** The small quantity of bone is very fragmented but a small horn core and several tooth fragments are identifiable.

**Special finds:** One bead with outside diameter 5.95 mm and aperture diameter 1.9 mm was found in the surface collection.

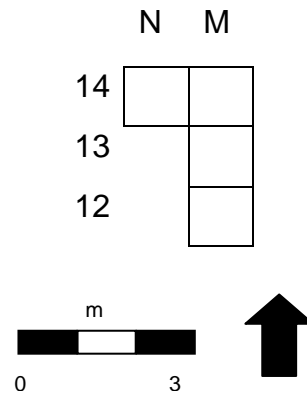
**Comments:** Seldom do we see a site in which *S. argenvillei* dominates. The large bead suggests an age of younger than 2000 years but this is by no means certain.

**Estimated age:** Possibly < 2000 BP.

**Further mitigation:** No further mitigation required.



**Plate 31:** KN2004/014 : The area around the site. The hummock dunes and pink sand grains on the deflated surface can be seen.



**Figure 3.28:** Grid layout at KN2004/014.

### 3.23 Site No.: KN2004/015

**Field No.:** K8F

**Geographical location:** GPS points are given for the five excavated patches and for the four points marked A to D on Figure 3.29. These points supersede the single point given in Orton & Halkett (2004).

Patch A	S 30 14' 10.1" E 17 14' 58.3"
Patch B	S 30 14' 10.4" E 17 14' 58.6"
Patch C	S 30 14' 11.0" E 17 14' 58.4"
Patch D	S 30 14' 09.5" E 17 14' 58.3"
Patch E	S 30 14' 09.4" E 17 14' 57.5"
A (North)	S 30 14' 08.9" E 17 14' 58.0"
B (West)	S 30 14' 10.2" E 17 14' 57.4"
C (East)	S 30 14' 10.3" E 17 14' 58.8"
D (South)	S 30 14' 12.2" E 17 14' 57.6"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 30 August 2004

**Description of local environment and site:** The site is located within a massive deflation area some 40 m by 100 m and is surrounded by dunes of varying size. Numerous patches of shell occur in this deflation and several were sampled during the excavation process (Figure 3.29). Due to the number and variety of shell scatters, this area is better referred to as a site complex. There are sporadic bushes but much of the area is quite open. Five areas were sampled and these are named Patch A, Patch B, etc. Each consisted of a shell scatter of varying density and size.

#### Methods

<b>Area excavated:</b>	Patch A	5 m <sup>2</sup>
	Patch B	1 m <sup>2</sup>
	Patch C	2 m <sup>2</sup>
	Patch D	1 m <sup>2</sup>
	Patch E	9.5 m <sup>2</sup> plus a surface collection

**Approximate percentage of site excavated:** Some 5 to 10% of each of Patches A to D and about 50% of Patch E was excavated. The total coverage of the entire deflation hollow as a whole, however, was very low.

**Stratigraphy:** Mostly a single layer only, but a lower layer ("Lower"; 0.5 m<sup>2</sup> only) and a dark lens ("Dark Patch") were taken from square N48 in Patch A.

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (Due to wet sand the 1.5 mm sieve could not be used.)

**Shell sampling:** Shell was retained for analysis from the following squares:

Patch A	M49, M50, N48 Dark Sand, N48 Lower
Patch B	R43
Patch C	B38
Patch D	P67
Patch E	WW75

**Radiocarbon sample(s):** Shell was retained from the following squares:

Patch A	M48 ( <i>S. argenvillei</i> and <i>C. granularis</i> )
Patch B	Shell can be taken from the shell bulk.
Patch C	C38 ( <i>S. argenvillei</i> )
Patch D	Q67 ( <i>S. argenvillei</i> )

Patch E WW72 (*C. granatina*)

### Site summary information

**Analysis:** Sorted and almost completely analysed.

#### Stone:

- Patch A Good quartz flaked assemblage but with no formal tools. Ochre and manuport fragments present.
- Patch B Small number of quartz, CCS and sandstone flaked artefacts, one CCS sidescraper, some ochre and manuport fragments present.
- Patch C Very few flaked artefacts present, mostly quartz and one CCS.
- Patch D Some quartz flaked artefacts and a black pigment fragment present. Also some manuport fragments.
- Patch E Lots of quartz and a little CCS. Quartz segment and scrapers in quartz and CCS are surprising inclusions. A quartz boulder (unused raw material; Plate 33) was also present.

#### Pottery:

- Patch A One tiny fragment.
- Patch B None.
- Patch C None.
- Patch D None.
- Patch E Fair amount of pottery present, including two undecorated rim sherds.

#### OES:

- Patch A Present. Beads present.
- Patch B None.
- Patch C None.
- Patch D Present. One bead present.
- Patch E Abundant. Beads also present.

**Shellfish:** Detailed shellfish composition is provided in Table 3.7. There is considerable variety among the shellfish proportions with some patches being dominated by *C. granatina* and others by *S. granularis*. The frequency of *S. argenvillei* also varies considerably.

#### Kreef:

- Patch A Very common.
- Patch B Present in small numbers.
- Patch C Present in small numbers.
- Patch D Present in small numbers.
- Patch E Present in moderate numbers.

**Fauna:** Bone is present in all patches, but only a few identifiable pieces are present. The following could be identified:

- Patch A tortoise, fish, possible seal, indet. mammal.
- Patch B tortoise, indet. tooth fragment.
- Patch C tortoise, bird.
- Patch E much tortoise present as well as some fish, micromammal and larger mammal bone fragments.

**Special finds:** Two large beads are present in Patch A, one small bead in Patch D and seven beads in Patch E (Table 3.8). The one from Patch D and most of those from Patch E are heavily worn.

**Comments:** There are clearly multiple occupations represented here and each patch can be regarded as a separate site. The presence of pottery and large beads in Patches A and E suggest these to be younger sites while the others are of uncertain age but most likely pre-date 2000 BP. The variability in the shellfish species composition suggests that the various



patches are not all related. Multiple occupations must have occurred in the deflation. Patch E is potentially an important site with regards to dating the introduction of pottery to the west coast. This site has the signature of an older site with formal tools and moderate sized beads but yet has a fair amount of pottery.

**Estimated age:** The age of the various scatters is variable.

- Patches A < 2000 BP.
- Patch B, C and D probably > 2000 BP.
- Patch E > 1600 BP but < 2100 BP

**Further mitigation:** No further mitigation required.

	<i>C. granatina</i>	<i>S. granularis</i>	<i>S. argenvillei</i>	<i>S. barbara</i>	<i>C. miniata</i>	indet. limpet	<i>Crepidula</i> sp.	<i>Fissurella</i> sp.	<i>Burnapena</i> sp.	<i>Oxysteles</i> sp.	<i>C. meridionalis</i>	Barnacle
Patch A	29.6	61.3	3.5	0.4		1.6		0.1	0.1	0.1	3.4	
Patch B	39.7	36.4	16.5	1.0		1.2	0.4		2.5		2.27	X
Patch C	41.4	38.2	17.8	0.5	0.5				1.6			
Patch D	28.1	45.5	20.4	2.0			0.5		0.5		3.1	
Patch E	67.0	30.7	1.5			0.4					0.4	

**Table 3.7 :** KN2004/015 : Shellfish species composition (%). *C. meridionalis* based on the most numerous hinge. X = presence only.

Patch	Outside diameter	Aperture diameter
A	6.6	2.75
A	6.6	2.8
D	3.95	1.8
E	4.35	1.15
E	4.6	1.9
E	4.65	1.5
E	4.7	1.7
E	4.75	1.9
E	5.4	1.85
E	6.1	1.6

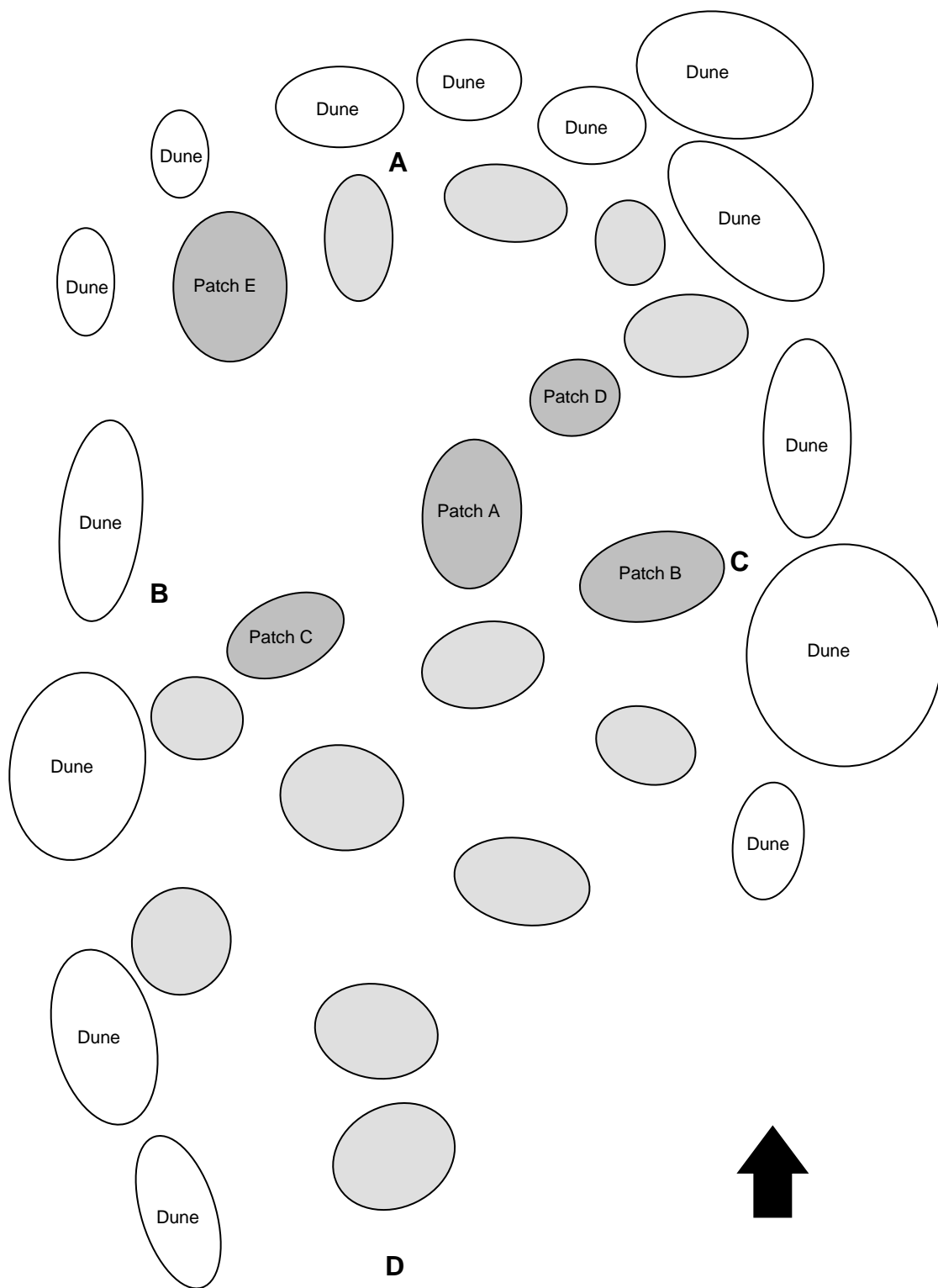
**Table 3.8 :** KN2004/015 : OES bead diameters.



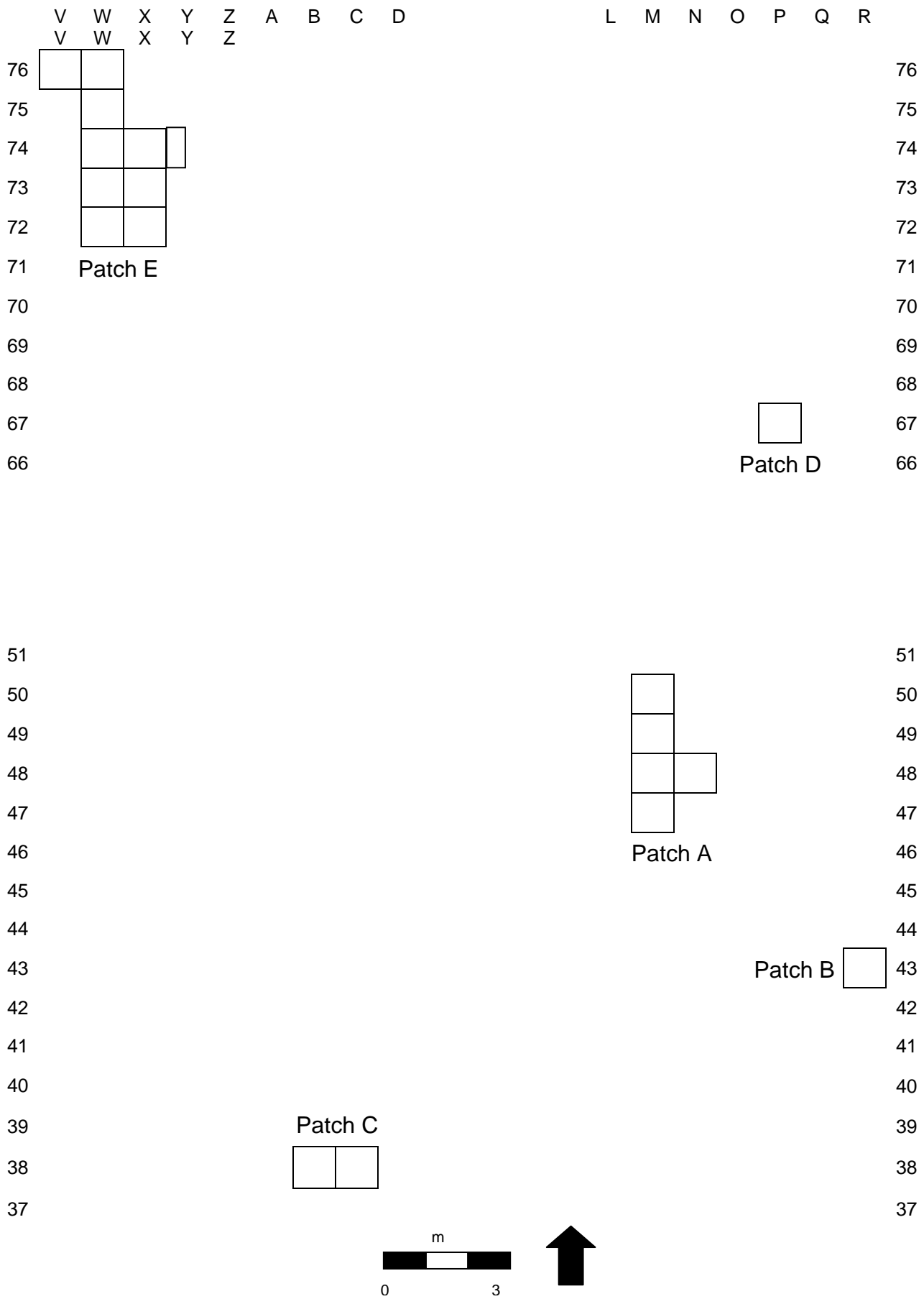
**Plate 32:** KN2004/015 : The large deflation in which the site complex lies.



**Plate 33:** KN2004/015 : Patch E located in the northwest corner of the deflation.



**Figure 3.29:** Schematic layout of all shell scatters in the KN2004/015 complex. GPS coordinates were taken at the points marked by the letters A to D.



**Figure 3.30:** Grid layout at KN2004/015.

### 3.24 Site No.: KN2004/030

**Field No.:** KN260A&B

**Geographical location:** S 30° 14' 52.7" E 17° 15' 26.8"

**Mining area:** KNC / Block KN\_6869\_5-P3

**Farm name:** Koingnaas

**Date of excavation:** 11 September 2004

**Description of local environment and site:** This site is a deflated scatter forming two low ridges of material on a deflated pavement of tiny pink-coloured grains (Plate 34). The material is very discrete and it now seems certain that it is from a disturbed context, possibly something related to prospecting activities. There is a bulldozed area to the west.

#### Methods

**Area excavated:** 6 m<sup>2</sup>

**Approximate percentage of site excavated:** 10%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** There is no point dating this occurrence, but shell could be taken from the shell bulks.

#### Site summary information

**Analysis:** Sorted but not analysed.

**Stone:** Mixture of fresh and weathered artefacts in quartz, silcrete and 'other'.

**Pottery:** None.

**OES:** Weathered OES fragments present, both burnt and unburnt.

**Shellfish:** Shell of varying ages, including some water worn shell of beach origin, most notably barnacle, is present. Other shell species include *C. granatina*, *S. granularis*, *S. argenvillei*, *C. meridionalis* and *Crepidula* sp.

**Kreef:** None.

**Fauna:** Some fossil bone is present, including some large shaft and tooth fragments

**Special finds:**

**Comments:** The fossil bone and water worn shell is the most obvious indicator that this is probably the deflated remains of an old prospecting exercise. This occurrence has no further research potential.

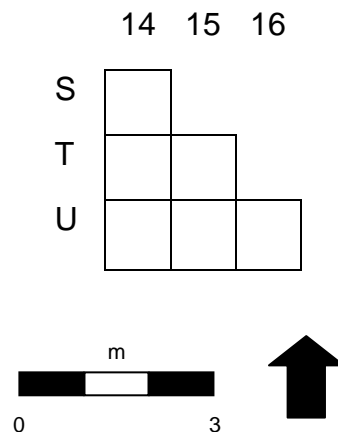
**Estimated age:** Mixed.

**Further mitigation:** No further mitigation required.





**Plate 34:** KN2004/030 : The main mound lies just right of the figure. The bulldozed area can be seen in the background.



**Figure 3.31:** Grid layout at KN2004/030.

### 3.25 Site No.: KN2004/034

**Field No.:** (not previously recorded)

**Geographical location:** S 30° 14' 09.4" E 17° 15' 02.1"

**Mining area:** KNC / Trench 8

**Farm name:** Koingnaas

**Date of excavation:** 30 August 2004

**Description of local environment and site:** This site was not found during the Phase 1 work (Orton 2004) so was recorded and collected during the Phase 2 season. It consists of a small, ephemeral scatter between hummock dunes to the northeast of KN2004/013.

#### **Methods**

**Area excavated:** surface collection only.

**Approximate percentage of site excavated:** not applicable

**Stratigraphy:** not applicable

**Excavation units:** not applicable

**Sieve size:** not applicable

**Shell sampling:** not applicable

**Radiocarbon sample(s):** *C. granatina* collected for dating.

#### **Site summary information**

**Analysis:** Analysed.

**Stone:** Quartz backed piece and a large silcrete flake probably of MSA origin are present. Otherwise only quartz flaked artefacts.

**Pottery:** None.

**OES:** Present, including one water container mouth fragment.

**Shellfish:** Virtually no shell present.

**Kreef:** None.

**Fauna:** None.

**Special finds:** One gunflint, probably made on imported flint, was found.

**Comments:** An interesting little accumulation of varied age.

**Estimated age:** Too ephemeral to say.

**Further mitigation:** No further mitigation required.

### 3.26 Site No.: KN2004/035

**Field No.:** (not previously recorded)

**Geographical location:** S 30° 14' 47.9" E 17° 15' 25.1"

**Mining area:** KNC / in or near to Block KN\_6869\_5-P3

**Farm name:** Koingnaas

**Date of excavation:** 11 September 2004

**Description of local environment and site:** The site lies in a very open area and is on a deflated surface characterised by the large pink-coloured sand grains often seen in deflated areas (Plate 35). The shell scatter is within the top 10 cm of sand and lies above a slightly yellow, compact surface. While not on the list of scheduled sites for this season, we were in need of something to do in the field after realising that site KN2004/030 was disturbed. We conducted a further search of the area around KN2004/030 and located KN2004/035 a little distance to the north. We are not certain of exactly where this site lies in relation to the edge of the mining block but it seemed near enough to merit sampling in case of accidental destruction.

#### Methods

**Area excavated:** 10.5 m<sup>2</sup>

**Approximate percentage of site excavated:** 50%

**Stratigraphy:** single layer only

**Excavation units:** 0.25 m<sup>2</sup>

**Sieve size:** 3 mm (Nothing was found in the 1.5 mm and far too much non-archaeological material was being trapped to be manageable.)

**Shell sampling:** All shell was retained.

**Radiocarbon sample(s):** Shell can be taken from a shell bulk.

#### Site summary information

**Analysis:** Sorted, but not yet analysed.

**Stone:** Quartz and CCS artefacts present.

**Pottery:** A few sherds are present.

**OES:** Not yet known, but scarce if present.

**Shellfish:** Shell dominated by *C. granatina*, *S. granularis* and *S. argenvillei*.

**Kreef:** Present.

**Fauna:** Not yet known, but very scarce if present.

**Special finds:**

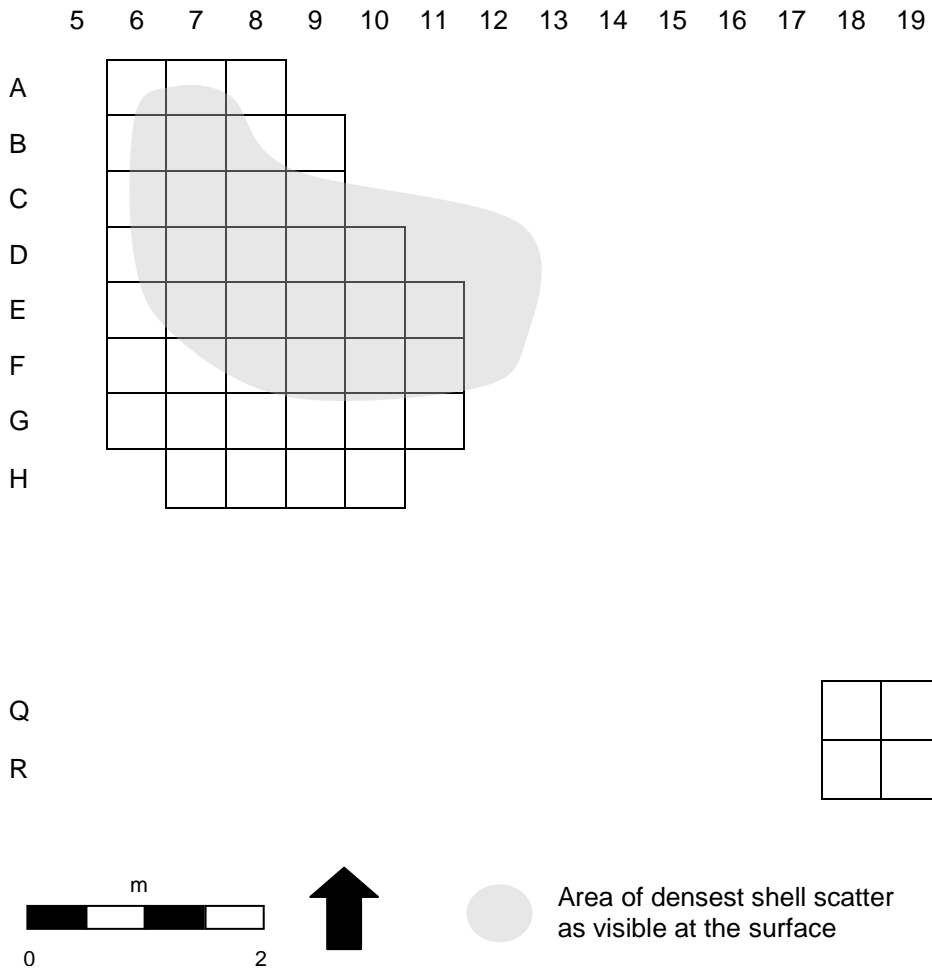
#### Comments:

**Estimated age:** < 2000 BP

**Further mitigation:** No further mitigation required.



**Plate 35:** KN2004/035 : The site on the deflated pink pavement.



**Figure 3.32:** Grid layout at KN2004/035.

### 3.27 Site No.: LK2001/013

**Field No.:** LK5-1

**Geographical location:** S 30° 22' 39.5" E 17° 18' 30.4"

**Mining area:** KNC / LKC1-7

**Farm name:** Langklip

**Date of excavation:** 02 September 2004

**Description of local environment and site:** This site lies on top of a backbeach dune and is described in Halkett (2003). Although initially excavated in 2002, further excavation was deemed desirable but not essential. G. Dewar has included this site within her PhD research and as a result it became possible to conduct further excavations. Upon arriving at the site we found that a large section had been disturbed by a mechanical excavator but some intact deposits still remained. We only worked on the north-western patch of deposit during this season.

#### Methods

**Area excavated:** 23 m<sup>2</sup> (2002), 7.75 m<sup>2</sup> (2004)

**Approximate percentage of site excavated:**

**Stratigraphy:** TOP: approximately 10 – 15 cm thick  
LAYER 2: approximately 10 cm thick (excavated in B5 only, thereafter ignored as it became archaeologically very poor).

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 1.5 mm (3 mm used for B5, Layer 2 due to wet sand.)

**Shell sampling:** Shell retained for layer "TOP" from squares C6, C8, E3 and A5 and for "Layer 2" from square B5.

**Radiocarbon sample(s):** Shell can be taken from the shell bulks.

#### Site summary information

**Analysis:** This site will be analysed in full by G. Dewar as part of her PhD research. Note that the comments offered here pertain only to the area excavated during the 2004 season.

**Stone:** A fair amount of quartz is present.

**Pottery:** None.

**OES:** Fragments present.

**Shellfish:** Dominated by limpets with mussels, whelks and periwinkles also present in small numbers. The species composition changes from square to square.

**Fauna:** Lots of tortoise bone and some fragments of other animals, including a small carnivore mandible, are present.

**Special finds:**

**Comments:** The content of the site in the vicinity of C7 and C8 seemed quite different to the C5 to F4 area and it seems likely that a separate occupation layer is present here. This layer probably was deposited very soon after the C5 to F4 area began getting buried. Also in C7 it was noticeable that the limpet layer was rising towards the southeast and was becoming far denser. Unfortunately this could not be explored much further due to the disturbance. There is good spatial patterning among the shellfish and tortoise bone suggesting microstructure within the dumped shells.

**Estimated age:** > 2000 BP but some time depth is likely.

**Further mitigation:** No further mitigation required.

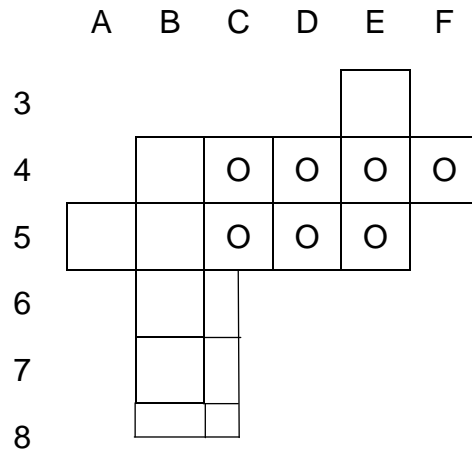




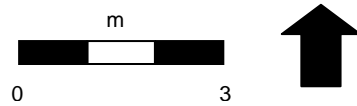
**Plate 35:** LK2001/013 : The site as viewed from the northeast. The dune and site have been cut through by the trench which lies on the right hand side in the photograph.



**Plate 36:** LK2001/013 : Excavating square B5.



O = squares excavated in 2001.



**Figure 3.33:** Grid layout at LK2001/013. Note that only the area worked on in 2004 is shown here.

### 3.28 Site No.: LK2004/010

**Field No.:** LKR1A

**Geographical location:** S 30° 22' 11.5" E 17° 18' 02.9"

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 03 - 06 September 2004

**Description of local environment and site:** This site lies on a raised flat area behind the beach and stretches along the side of a mine trench (Plate 37). Disturbance of the vegetation during the trench excavation would have resulted in the exposure of this site by the southerly winds (Plate 38). The site consists of a series of patches of shell with assorted other finds. Almost the entire site is deflated with only a tiny section of *in situ* midden still remaining. In this area a maximum depth of about 20 cm of shell was attained. Much of the site is presumed to have been lost to the trench, and surface collections were taken from the trench slump to retrieve some of this material. The site is very near the shoreline with the beach rocks lying some 30 to 35 m west of the westernmost part of the excavation.

#### Methods

**Area excavated:** 107.5 m<sup>2</sup>

**Approximate percentage of site excavated:** 80 % of what remained.

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 1.5 mm

**Shell sampling:** Shell was taken from several areas across the site with shell from a total of 32 m<sup>2</sup> having been kept.

**Radiocarbon sample(s):** Some shell samples were taken for dating but further samples can be taken from the shell bulks for wider coverage.

#### Site summary information

**Analysis:** sorted but not yet analysed.

**Stone:** Lithics are fairly common across most of the site, but are rare in the western part.

**Pottery:** None found.

**OES:** Fragments present as well as some beads.

**Shellfish:** The shellfish is composed almost entirely of *C. granatina*, *S. granularis* and *S. argenvillei*.

**Kreef:** Present.

**Fauna:** The bone is generally in poor condition as a result of deflation and exposure, but a good number of fragments are present across the site. The western part of the site, however, contains a somewhat denser scatter of bird and tortoise bone.

**Special finds:** Some fragments of decorated OES and several large beads were found.

**Comments:** Due to the deflation of the site, spatial patterning is not obvious. However, the variable amounts of different artefact types across the site do give some indication of spatial patterning. It seems that what we excavated was only the southern edge of what must originally have been a far larger site. The site may also represent several overlapping occupations that have deflated down to a single level.

**Estimated age:** > 2000 BP

**Further mitigation:** No further mitigation required.

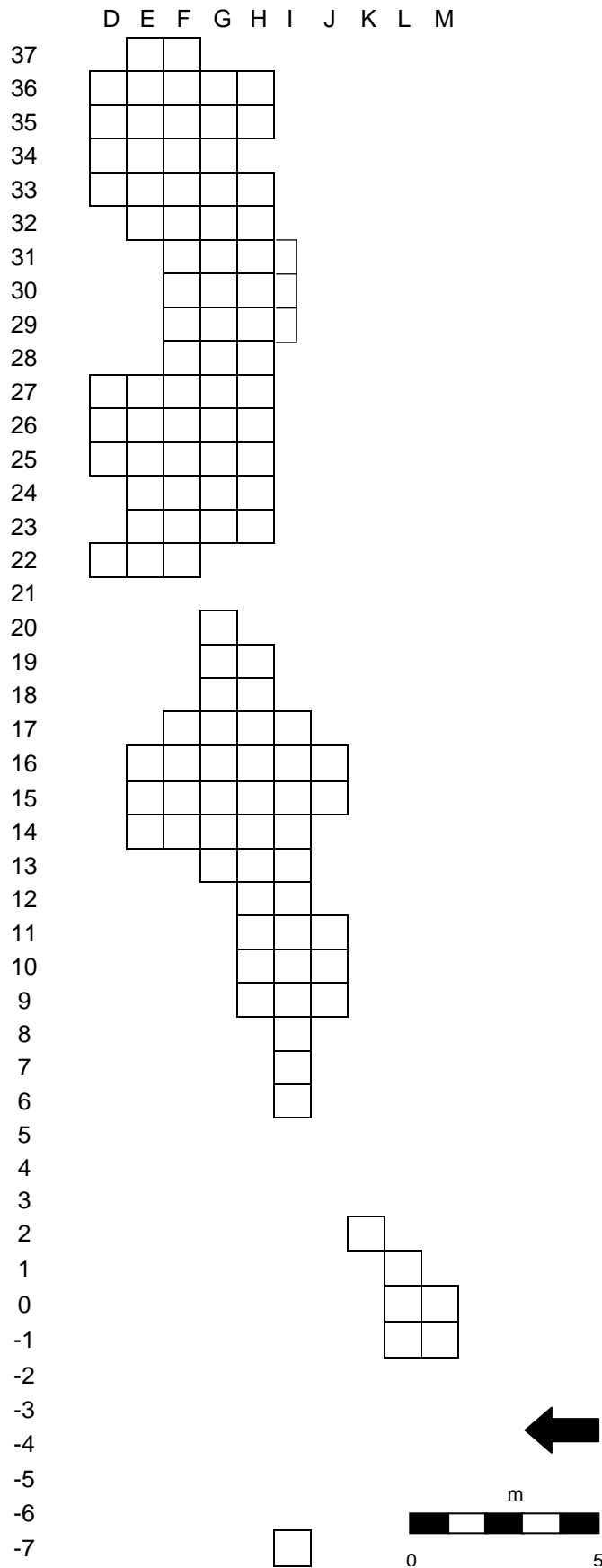




**Plate 37:** LK2004/010 : The site viewed from the north. The upper arrow indicates the surface on which the site lies while the lower one shows the position of the dorbank in the trench section, just below the red sand. Deflated and slumped material was collected from the area in between.



**Plate 38:** LK2004/010 : The deflated surface of the site running along the edge of the mine trench.



**Figure 3.34:** Grid layout at LK2004/010. The trench lies north of the excavation.



### 3.29 Site No.: LK2004/011

**Field No.:** LKR1B

**Geographical location:** S 30° 22' 10.1" E 17° 18' 01.7"

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 06 – 10 September 2004

**Description of local environment and site:** Due to the burial and subsequent deflation of this site is almost impossible to tell what sort of context it was originally in. Prior to the excavation of the mine trench that lies to the south (Plate 39), the site was probably beneath some 1 to 1.5 m of aeolian dune sand. The mine trench allowed the southerly winds to remove the overlying sand and has also caused much of the site to be deflated. Essentially, what remains lies in a massive deflation on the northern edge of the trench (Plate 40). A good area of *in situ* shell midden was, however, still present. The material collected from the northern surface collection area (Figure 3.35) probably all derives from the excavated area to the south, with the wind having moved items across the surface. The main body of shell midden lies some 100 to 120 m east of the seashore. It is thought that the setting of this site may have been similar to that of LK2001/003 (Halkett 2003; Orton *et al.*, in prep.).

#### Methods

**Area excavated:** 104.25 m<sup>2</sup>

**Approximate percentage of site excavated:** 90% of what remained.

**Stratigraphy:** Completely deflated areas were scraped from the surface and called 'DEFLATION'. Partly deflated areas were excavated as a single layer called 'TOP'. The *in situ* shell midden, although almost certainly representing only a single occupation, was broken into several layers to allow more detailed study. The surface material was removed as 'TOP', with the following layers being termed 'MIDDEN 1', 'MIDDEN 2' and 'MIDDEN 3' respectively. In general 'MIDDEN 1' and 'MIDDEN 3' were composed of white sand and shell, while 'MIDDEN 2' was black and seemed to be richer (Plate 43). 'Midden 2' usually formed some 60 – 70% of the total deposit depth. In areas immediately surrounding the *in situ* material it was not possible to divide the remaining midden and here the name 'MIDDEN 1-3' was used. The two hearths were excavated separately as 'HEARTH MATERIAL N44/N45' and 'HEARTH MATERIAL O43/P43'.

**Excavation units:** 1 m<sup>2</sup> and 0.25 m<sup>2</sup> depending on necessity.

**Sieve size:** 3 mm sometimes and 1.5 mm for the remainder (the sand was very wet so only the dry surface material could be sieved through the 1.5 mm sieve).

**Shell sampling:** Several shell bulks were taken from various parts of the site. Sampling procedure varied according to shell density. Sometimes only a quadrant (0.25 m<sup>2</sup>) was taken from a square and at other times the whole square was retained.

**Radiocarbon sample(s):** Several shell samples were taken from across the site, and charcoal was retained from the two hearths excavated.

#### Site summary information

**Analysis:** This site will be analysed in full by G. Dewar in the course of her PhD research.

**Stone:** A small amount of stone was recovered. Raw materials included quartz and a fine-grained black rock and a few quartz backed tools were noted.

**Pottery:** Not yet known.

**OES:** Fragments present in moderate numbers only. Some beads were also found.

**Shellfish:** The shellfish is composed primarily of *C. granatina*, *C. granularis* and *C. argenvillei*. Other species present include *C. meridionalis* and *Oxysteles* sp. of which the latter was rather more common than usual. In general the mussels seemed to be located more towards the base of the midden in layers 'MIDDEN 2' and 'MIDDEN 3'.

**Kreef:** Present in moderate numbers only.

**Fauna:** Tortoise and bird remains are abundant. The latter are provisionally thought to be penguin. Other animals are also present in small numbers and include some bovids ranging in size from small to large-medium.

**Special finds:** Several OES beads of varying size were recovered.

**Comments:** The *in situ* areas of this site produced good spatial patterning, with two hearths (Plate 41, Figure 3.36) being found. Tortoise and bird bones also seem to come from spatially discrete areas. The main midden area was very thick and black indicating a very organic deposit. Interestingly, very little charcoal was present in the deposit and hardly any shell or bone was burnt. This suggests that the blackness may have been introduced through the dumping of ash on the midden when hearths were cleaned out. The underlying sand was very uneven showing that mole activity was common beneath the midden. However, due to the density of the shell, the moles were unable to penetrate the midden itself such that the spatial integrity of the *in situ* deposits is clearly still intact. *Raphicerus* sp. breed at the same time every year and the presence of several young *Raphicerus* mandibles will allow the season of occupation to be determined (Dewar, pers. comm.). Overall, this site has produced probably the biggest faunal sample from any site in the De Beers property.

**Estimated age:** < 1000 BP.

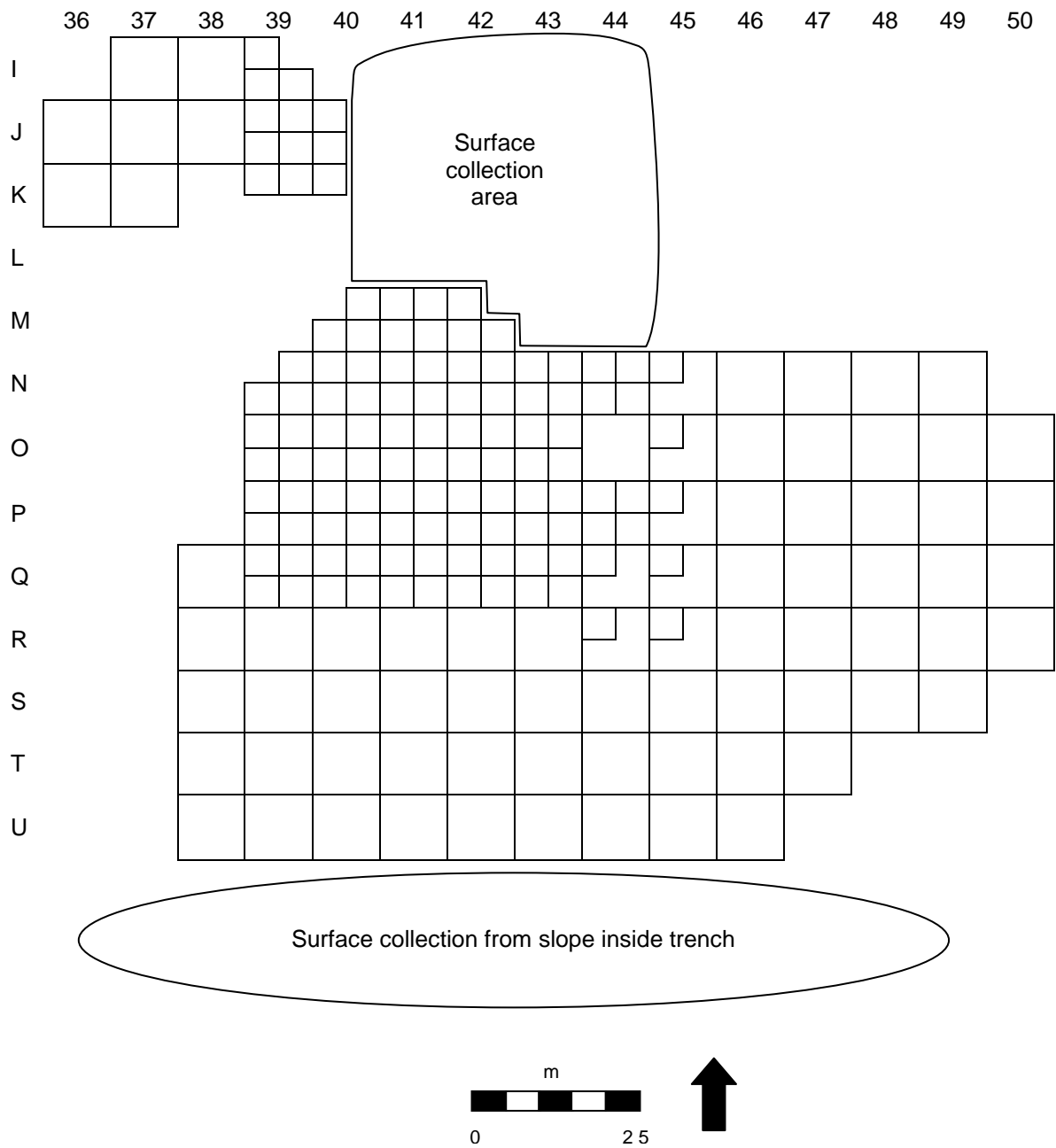
**Further mitigation:** No further mitigation required.



**Plate 39:** LK2004/011 : The deflation bay in which the site lies. The *in situ* shell midden extends north from the standing pile of shell visible in the centre of the photograph.



**Plate 40:** LK2004/011 : The deflation bay viewed from the south. The top of the red sand which underlies the white aeolian sand can be seen running diagonally across the centre of the photograph. The *in situ* shell mound is visible just right of centre, in the right hand side of the deflation.

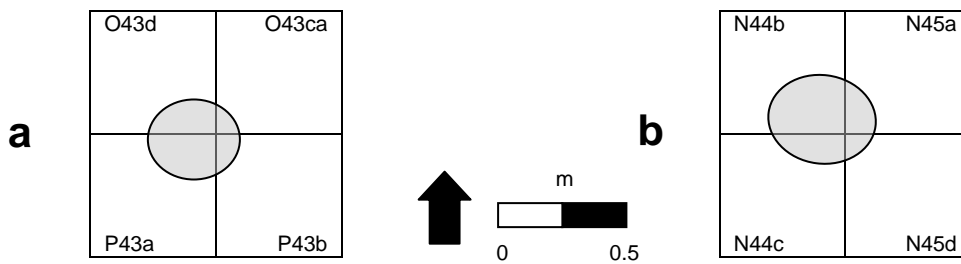


**Figure 3.35:** Grid layout at LK2004/011. The trench lies south of the excavation.





**Plate 41:** LK2004/011 : A hearth uncovered in squares P43 and O43.



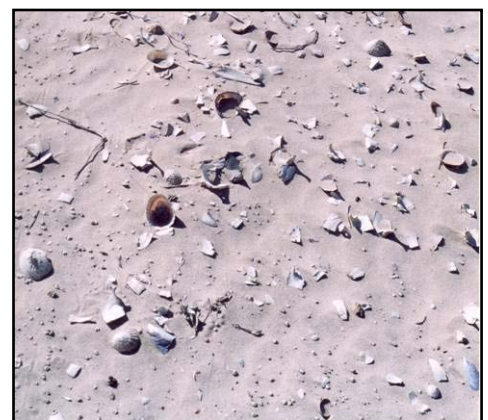
**Figure 3.36:** LK2004/011. The position of the hearths in (a) squares P43 and O43 and (b) N44 and N45.



**Plate 42:** LK2004/011 : The west section of squares Q46, P46 and O46.



**Plate 43:** LK2004/011 : Close up of the section shown in Plate 42. The dark layer of 'MIDDEN 2' is clearly visible to the right. Note the hollows in the sterile sand beneath the deposits. These are the result of mole activity.



**Plate 44:** LK2004/011 : Close up of the surface scatter showing shell and tortoise bone.



### 3.30 Site No.: LK2004/011B

**Field No.:** LKR1B

**Geographical location:** S 30° 22' 10.1" E 17° 18' 01.7" (Point taken at main excavation of LK2004/011 – the two sites are excavated on the same grid.)

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 10 September 2004

**Description of local environment and site:** This site may be related to LK2004/011 and must have occupied a very similar position on the landscape within the dunes. It subsequently got buried by aeolian sand and then re-exposed through excavation of the mine trench. The site lies some 70 to 80 m from the shore. It is thought that the setting of this site may have been similar to that of LK2001/003 (Halkett 2003; Orton *et al.*, in prep.). The position of the site can be seen just left of centre and left of the deflation in Plate 40.

#### Methods

**Area excavated:** 2.75 m<sup>2</sup> (formal excavation) + 1 m<sup>2</sup> (shovel test)

**Approximate percentage of site excavated:** Unknown

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup> and 0.25 m<sup>2</sup>

**Sieve size:** 1.5 mm for slope and 3 mm for formal excavation

**Shell sampling:** All shell was retained from the formal excavation.

**Radiocarbon sample(s):** Shell can be taken from the shell bulks for dating.

#### Site summary information

**Analysis:** sorted and analysed in full.

**Stone:** Flaked stone is almost exclusively quartz. Tiny backed tools are numerous with two segments being a notable inclusion.

**Pottery:** A single fragment was recovered from the slump in the trench.

**OES:** Many fragments present as well as several beads.

**Shellfish:** The shellfish is dominated by *S. granularis* (43.8) and *C. granatina* (42.5%) with *S. argenvillei* (9.8%) making up most of the remainder. *C. meridionalis*, *Burnapena* sp., *Bullia* sp. and *Oxysteles* sp. are also present.

**Kreef:** Not as common as might be expected. The mean sizes are larger than usual.

**Fauna:** A varied faunal assemblage is present with tortoise, bird, micromammal, dog or seal and probably three size classes of bovid represented. Tortoises are strangely less common than usual at this site.

**Special finds:** Sixteen OES beads were found with a spread of sizes being present (Table 3.8).

**Human Bone:** Three human bones were found in the trench slump some 10 m west of the excavated squares and, as mentioned in the introduction, they will be described in a separate report once a retrospective permit has been issued.

**Comments:** Unfortunately it seems that most of the site was lost, but sieving of the eroding deposits on the side of the trench allowed the recovery of a substantial lithic assemblage and several other finds. The lithic assemblage from this site has numerous small backed tools made from quartz and is similar in character to those excavated from LK2001/003 and LK2001/004. Those sites are radiocarbon dated to c. 580 and c. 2000 BP respectively (Orton *et al.*, in prep.). LK2004/011B is now the third site with this type of stone assemblage known from this coastline and along with DFM1 near Elands Bay (Orton 2002), these four sites form

an industry otherwise undescribed in the Western and Northern Cape and will be the subject of continuing research. The inclusion of a segment (typically a mid-Holocene form) in the assemblage suggests possible links to interior sites where these artefacts are found in more recent sites. Although only 2.75 m<sup>2</sup> of formal excavation was possible, spatial patterning was strongly displayed with half the lithics coming from just two of the eleven excavated squares. The distribution of bead sizes is interesting and does not provide a strong signature of either a pre- or post-pottery assemblage. The human bone is out of context and cannot be associated with any particular site.

**Estimated age:** < 2000 BP

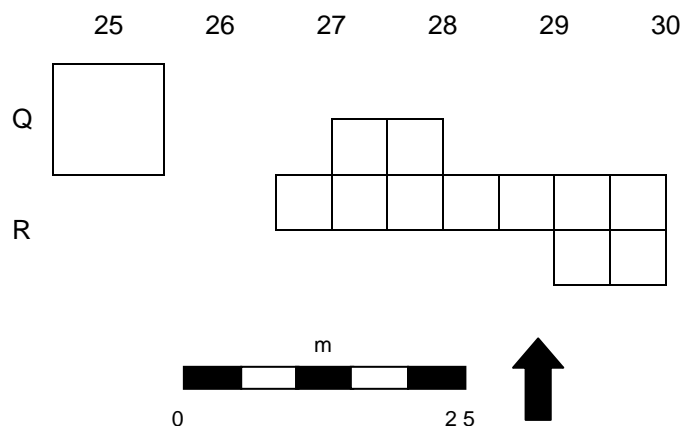
**Further mitigation:** No further mitigation required.

Outside diameter	Aperture diameter
4.35	2.0
4.5	2.3
4.8	2.2
4.8	2.1
5.45	2.1
6.0	2.6
6.15	2.4
6.25	2.4
6.25	2.15
6.5	2.5
6.5	2.4
6.7	2.3
7.05	2.25
7.1	2.2
7.2	2.3
7.6	3.65

**Table 3.8 :** LK2004/011B : OES bead diameters.



**Plate 45:** LK2004/011B : A small section of the remaining *in situ* shell lens.



**Figure 3.37:** Grid layout at LK2004/011B. The trench lies south of the excavation.

### 3.31 Site No.: LK2004/012

**Field No.:** LKR1C

**Geographical location:** S 30° 22' 13.8" E 17° 18' 03.8"

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 03 September 2004

**Description of local environment and site:** This site lies on the same high platform as LK2004/010 but is right at the top of the slope leading down to the beach (Plate 46). It lies about 30 m east of the rocks on the beach. The surface shell is very ephemeral, but below surface a fairly substantial midden was present. The site appeared to be some 8 m by 5 m in size.

#### Methods

**Area excavated:** 2 m<sup>2</sup>

**Approximate percentage of site excavated:** 5%

**Stratigraphy:** single layer only

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** P12 through 1.5 mm and O11 through 3mm as nothing found in the 1.5 mm.

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** A sample of *C. granatina* was collected from the area around the excavated squares.

#### Site summary information

**Analysis:** Sorted and analysed in full.

**Stone:** Fragments of manuports are present, but no flaked stone.

**Pottery:** None.

**OES:** None.

**Shellfish:** The site has quite a diverse shellfish assemblage dominated by *S. granularis* (54.5%). *C. granatina* (21.8%), *Burnapena* sp. (11.7%) and *C. meridionalis* (3.7%) make up most of the remainder, with *C. argenvillei*, *Crepidula* sp., *Bullia* sp. *A. ater* and barnacle also being present.

**Kreef:** Very few present.

**Fauna:** None.

**Special finds:**

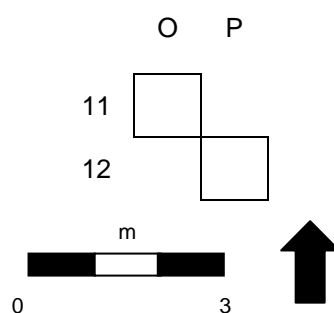
**Comments:** The shellfish composition here is noteworthy. Very seldom does one find sites with such low frequencies of *S. argenvillei* (1.0%) and such high frequencies of *Burnapena* sp. It is likely that this site is older than 2000 years. Unfortunately, with so few other finds, the site's importance does not extend beyond the shellfish.

**Estimated age:** > 2000 BP

**Further mitigation:** No further mitigation required.



**Plate 46:** LK2004/012 : The position of the site at the top of the slope that leads down to the beach.



**Figure 3.38:** Grid layout at LK2004/012. The trench lies south of the excavation.



### 3.32 Site No.: LK2004/013

**Field No.:** LKR1D

**Geographical location:** S 30° 22' 15.4" E 17° 18' 04.1"

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 03 September 2004

**Description of local environment and site:** This site is located at the base of the high platform described for LK2004/010 and LK2004/012, but lies a little to the south of the latter, where the flat area between the sea and the slope is somewhat wider (Plate 47). The site is a well deflated, low density shell scatter with a lower grindstone on the surface and is located some 30 m from the rocks at the back of the beach.

#### Methods

**Area excavated:** 7 m<sup>2</sup>

**Approximate percentage of site excavated:** 10%

**Stratigraphy:** single layer only

**Excavation units:** 1m<sup>2</sup>

**Sieve size:** 1.5 mm

**Shell sampling:** All shell retained.

**Radiocarbon sample(s):** Shell can be taken from the shell bulks.

#### Site summary information

**Analysis:** Sorted, but not yet analysed.

**Stone:** Only a few quartz flakes and chunks present.

**Pottery:** None found.

**OES:** One fragment found but it looks far older than the site.

**Shellfish:** The shellfish is dominated by *C. granatina* (39.0%) and *S. granularis* (40.7%) with *S. argenvillei* (4.9%) and indeterminate limpets (13.8%) making up most of the remainder. *Burnapena* sp., *C. meridionalis*, *Nucella* sp. and barnacles are also present. Some modern *C. meridionalis* fragments in square E14 is assumed to originate from gull drops.

**Fauna:** Only two small fragments of fossilised bone were recovered. These possibly originate from the mine dumps immediately east of the site.

**Special finds:**

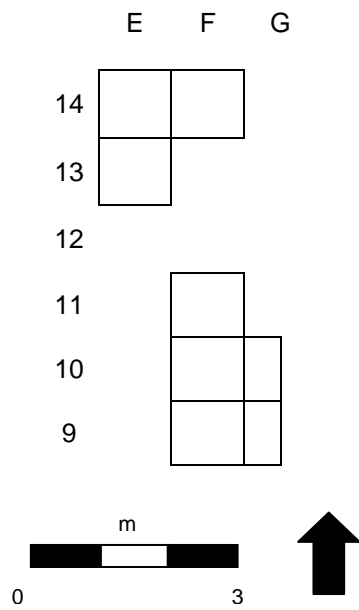
**Comments:** This site is very ephemeral and offers little research value.

**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.



**Plate 47:** LK2004/013 : The position of the site on the flat area behind the beach.



**Figure 3.39:** Grid layout at LK2004/013.

### 3.33 Site No.: LK2004/014

**Field No.:** LKR1E

**Geographical location:** S 30° 22' 09.3" E 17° 17' 55.1"

**Mining area:** KNC / LK\_R1C

**Farm name:** Langklip

**Date of excavation:** 03 September 2004

**Description of local environment and site:** This site is in a similar setting to LK2004/013 but is located some 200 m to the north. The flat area is wider with the site being about 70 m from the rocky shoreline (Plate 48). The shell is sparse on the surface but gets deeper lower down. The deposit seems to be substantially bioturbated and is probably also impacted by the jeep track that runs over the site.

#### Methods

**Area excavated:** 1 m<sup>2</sup>

**Approximate percentage of site excavated:** unknown

**Stratigraphy:** While the site was excavated in a single layer, several zones based on shell density could be differentiated. The top 15 cm contained relatively low density shell, while the following 5 cm were far more dense. From 15 cm to 35 cm there was again low density shell followed by sterile sand. It is felt that this structure is the product of substantial mole activity.

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm (deposit was too wet for the 1.5 mm)

**Shell sampling:** Shell was retained from the first 9 excavated buckets of deposit only.

**Radiocarbon sample(s):** Shell can be taken from the shell bulk.

#### Site summary information

**Analysis:** Sorted but not yet analysed.

**Stone:** Quartz artefacts are present.

**Pottery:** None.

**OES:** None.

**Shellfish:** The shellfish is dominated by *S. granularis* and *C. granatina*, with *S. argenvillei*, *S. barbara*, *Burnapena* sp. and *C. meridionalis* also being present.

**Kreef:** Present.

**Fauna:** Micromammal and snake are present.

**Special finds:**

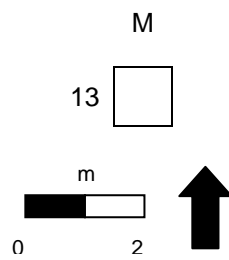
**Comments:** Excavation showed this site to be somewhat disturbed and as such its research potential is low.

**Estimated age:** Unknown.

**Further mitigation:** No further mitigation required.



**Plate 48:** LK2004/014 : The position of the site on the flat area behind the beach. The jeep track is faintly visible running from the figures towards the lower left corner of the photograph.



**Figure 3.40:** Grid layout at LK2004/014. The jeep track runs immediately to the east of the excavated square.



### 3.34 Site No.: LK2004/016

**Field No.:** Not previously recorded.

**Geographical location:** GPS point not taken.

**Mining area:** KNC / LKC1-7

**Farm name:** Langklip

**Date of excavation:** 02 September 2004

**Description of local environment and site:** This site is located some 40 m southeast of LK2001/013. Excavation of a mine just inland of LK2001/013 resulted in the exposure of several shell lenses in section and also turned up much archaeological material. There is no doubt that substantial middens must be present well beneath the surface in this area. The single square meter excavation at this site is essentially just a test excavation to check what deposits still remain intact.

#### Methods

**Area excavated:** 1 m<sup>2</sup>. In addition to the excavated square, a surface collection was taken from disturbed deposits along the edge of the mine trench between the excavation and a point some 50 m further south, and a grab sample was taken from a layer exposed in the mine trench some 1.6 m below the surface. This layer ('Layer B' in Figure 3.42) lies below another archaeological layer ('Layer A' in Figure 3.42) which is thought to have provided much of the material collected from the surface.

**Approximate percentage of site excavated:** Unknown.

**Stratigraphy:** Three zones were identified within the excavated deposit, although only a single occupation is likely to be represented. The first 30 cm contained almost nothing. Between 30 cm and 45 cm, 'LAYER 1', sporadic and fragmented shell was found. Below this, and extending to about 70 cm depth, 'LAYER 2', is the only real shell lens. It is followed by sporadic shell again, 'LAYER 3', and becomes sterile at about 130 cm. The stratigraphy at the grab sample area is summarised in Figure 3.42 and shown photographically in Plate 49.

**Excavation units:** 1 m<sup>2</sup>

**Sieve size:** 3 mm. Only Layers 1 and 2 were sieved.

**Shell sampling:** No shell bulk taken.

**Radiocarbon sample(s):** A sample of *S. argenvillei* was taken from Layer 2.

#### Site summary information

**Analysis:** Sorted but not analysed. While the surface collection and excavated material contain small finds, the grab sample (Layer B) from 1.6 m below surface had nothing else associated with it. Layer A appeared to be quite rich but was not sampled.

**Stone:** Quartz (common) and CCS (minimal) are present in both layers.

**Pottery:** None present in the excavation. All pottery in the surface collection comes from the southern part of the collection area.

**OES:** Present.

**Shellfish:** Layer 2 shows the only real shell layer and this is dominated by *S. argenvillei*. The grab sample from 1.5 m below surface is heavily dominated by *S. argenvillei* with only occasional *C. granatina*, *S. granularis* and *S. barbara* being present.

**Fauna:** Tortoise and mammal bones are present in Layers 1 and 2. Much bone is present in the surface collection.

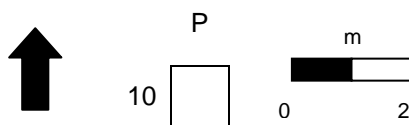
**Special finds:**



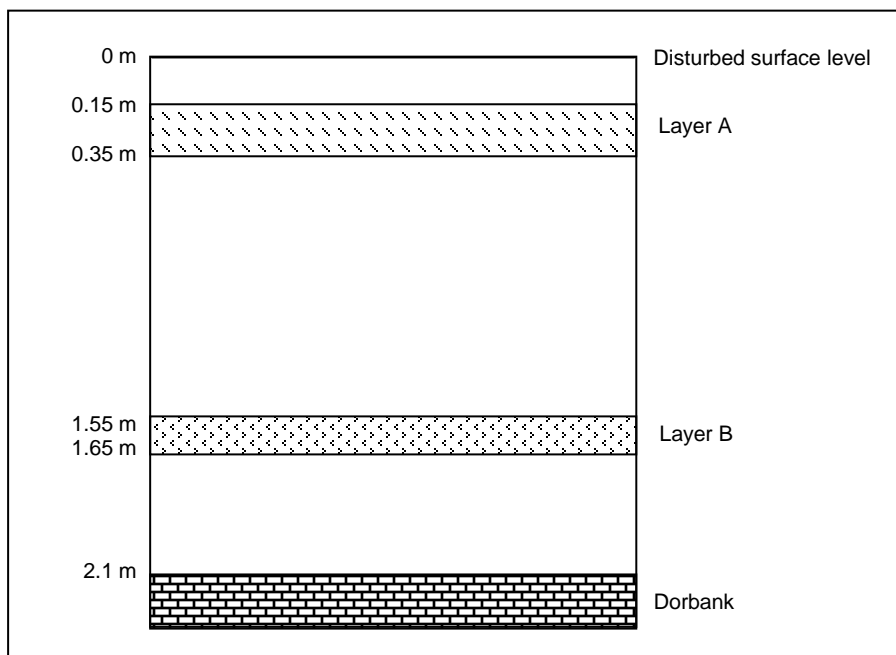
**Comments:** While this excavation did not prove very interesting it is quite clear that there are several occupations of this area represented in the section created by the mine trench. The grab sample of shell from Layer B may date the earliest Holocene occupation of this dune.

**Estimated age:** Unknown, but both pre- and post-2000 BP material is represented.

**Further mitigation:** No further mitigation required.



**Figure 3.41:** Grid layout at LK2004/016.



**Figure 3.42:** Schematic section at the location of the grab sample.



**Plate 49:** The mine trench section showing the layers detailed in Figure 3.42.

## 4. DISCUSSION AND CONCLUSION

This excavation season produced a very interesting set of sites, many of which have considerable research potential. Three of these (DP2004/014, TP2004/004 & LK2004/011) have already been incorporated into G. Dewar's PhD research and a further one (LK2004/011B) will form part of research being conducted by members of the Archaeology Contracts Office and the University of Cape Town Archaeology department.

Several sites produced good lithic assemblages which will help to characterise the lithic industries present along this stretch of coastline. Already a new industry occurring within the last 2100 years has been described (Orton *et al.* in prep.) based on work carried out for De Beers in previous years (Halkett 2003). This industry may extend along the coastal area as far south as Elands Bay where similar stone tools have been identified at the site of Dunefield Midden 1 (Orton 2004). At least two more sites containing similar artefacts were excavated during this season. While most excavated sites undoubtedly date to within the last 2000 years, it is quite apparent from the analysed assemblages that the sample of older sites, typically rich in formal tools, is growing considerably.

Only four sites with significant faunal assemblages were excavated. Two of these provided very large samples of the sort seldom found on west coast sites. Rock lobster mandibles were found ubiquitously and some large samples were obtained. Their length measurements can be used in the determination of carapace length and can be compared with samples from other parts of the west coast. Similarly shellfish measurements can be taken and compared to other areas. Shellfish on the Northern Cape Namaqualand coast are frequently larger than those further south, and research is currently underway to explore this phenomenon (Dewar, in prep.; Klein, pers. comm.).

During this season, four ostrich eggshell bead-manufacturing sites were excavated (DR2004/013, DP2004/014, DP2004/015 & KN2004/004). These are identifiable by the many incomplete beads present among the remains from these sites. Enough unfinished beads were recovered from these sites to allow a characterisation of all the possible stages of manufacture in which beads can be found (Table 4.1). Further analysis using these stages allows a greater understanding of the process of manufacture of OES beads. The grooved stone artefact (Plate 6) from DP2004/013 may also provide a rare glimpse of the rounding process that occurs in Stage 7.

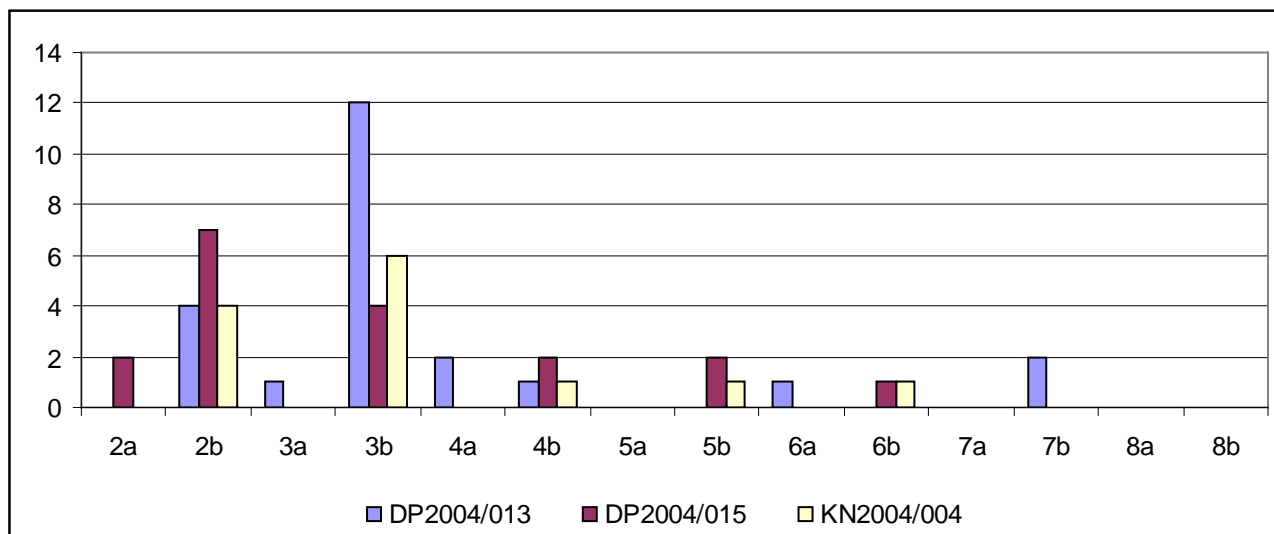
Already we can see that, aside from fully completed beads (stage 8a), stages 2b and 3b are the most common stages. This suggests that it is the drilling procedure that is most likely to cause breakage of the beads. One might infer that unbroken, unfinished beads (the 'a' stages) were simply lost in the sand during the manufacturing process. Figure 4.1 shows the frequency of the stages in three of the four bead manufacturing sites (the fourth will be analysed by G. Dewar). It is quite clear that breakage of beads occurs far more frequently during the drilling stages and that breakage is the primary reason for their discard ('b' stages). On the other hand, relatively few unbroken beads are lost prior to completion (the 'a' stages).

Examination of the beads has also shown that drilling always proceeds from the concave inside surface of the shell first and is then followed by drilling from the convex, outer surface when the hole is almost through. The trimming of the drilled bead (Stages 5 and 6), however,

is always done from the convex side. This is presumably to allow a better flaking angle on the edge of the bead blank.

Stage	Description
1	Irregular, unmodified OES fragment
2a	Irregular OES fragment with a partly drilled hole (drilled from one side)
2b	As 2a but broken
3a	Irregular OES fragment with a partly drilled hole (drilled from two sides)
3b	As 3a but broken
4a	Irregular OES fragment with a completely drilled hole
4b	As 4a but broken
5a	Completely drilled and partly trimmed
5b	As 5a but broken
6a	Completely drilled and fully trimmed
6b	As 6a but broken
7a	Drilled, trimmed and partly rounded
7b	As 7a but broken
8a	Fully rounded, complete bead
8b	As 8a but broken

**Table 4.1 :** Stages of manufacture of ostrich eggshell beads.



**Figure 4.1:** Frequency of bead stages in three of the excavated sites.

While unmodified OES fragments probably falling within the first stage are frequently identifiable by their small, irregular but roughly circular shape, such pieces cannot be proved to be bead blanks. This means that Stage 1 is only a hypothetical stage. There is some degree of overlap between Stages 3 and 4 depending on how one interprets ‘completely drilled’. It seems that generally the narrowest part of the hole immediately after drilling is located about two-thirds to three-quarters of the way through the bead, towards the convex, outer surface of the eggshell.

As a result of the range and variety of sites that have been excavated over the last few years, we are now starting to reach a position from which a provisional characterisation of the middle and late Holocene archaeology of the Namaqualand coastline can be made. The

dating of several sites by G. Dewar (in prep.) will provide a considerable boost to our knowledge of the recent Later Stone Age of Namaqualand.

## 5. RECOMMENDATIONS

Only two of the 34 sites mitigated were deemed to require further work. These are DP2004/014 and TP2004/014. Both fall within the Buffels Marine Complex.

One of these (DP2004/014) will form part of G. Dewar's PhD research. As such, her further excavations of the site will almost certainly constitute suitable mitigation. The site should be protected until further excavations have been carried out there. This site is located immediately adjacent to Prospecting Trench 008 on the farm Dreyers Pan.

The second site (TP2004/014) is at a drilling location and it is recommended that it be cordoned off and protected during the drilling procedures. If drilling proved mining to be viable, then further mitigation should be carried out. An area with a radius of approximately 20 m should be cordoned off around the H44/I44 and N37 squares. This would allow suitable mitigation of the mid-Holocene deposits should this become necessary in the future. The site is located at Drilling Line 14 on the farm Tweepad.

In Block LK\_R1C in the Koingnaas Complex, three human bones were found in a disturbed context. This almost certainly indicates the presence of a burial and it is possible that further bone belonging to the same burial may still be present. It is recommended that a careful watch be maintained for any further human bone that may be exposed during the earth-moving operations prior to the start of mining. If any are seen, this should be immediately reported to the Environmental Officer, who in turn should inform an archaeologist.

All other prospecting trenches, drilling locations and mining blocks worked at during this season have, to the best of our knowledge, been cleared of important archaeological material. As such we recommend that a permit be issued to allow mining and prospecting activities in these areas to proceed. However, it should be noted that if any human remains are noted during the prospecting and/or mining procedures, work must be halted and the finds reported to an archaeologist as soon as possible.

Site	Mine location	Recommended action
DP2004/014	Trench 8	Site should be cordoned off and protected until further excavation is carried out by G. Dewar.
TP2004/014	Drilling Line 14	An area with diameter 40 m should be cordoned off and protected during prospecting operations. If mining is to proceed then further excavation must take place.
-	Block LK_R1C	Mine workers must keep a careful watch for any further human remains that may still be <i>in situ</i> .

**Table 5.1** : Summary table of recommendations.

## 6. REFERENCES

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- Orton, J. and Halkett, D. 2004. Phase 1 archaeological survey: assessment of mining blocks and prospecting trenches in the BMC and KNC areas, Namaqualand. Unpublished report prepared for De Beers Consolidated Mines NM.
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## 7. PROFESSIONAL TEAM

Fieldwork (KNC):	D. Halkett J. Orton G. Dewar H. Clift
Fieldwork (BMC):	J. Orton H. Clift
Report:	J. Orton D. Halkett



## APPENDIX A

Complete list of sites recorded and excavated in 2004. The table indicates the highest level of work conducted at each site and indicates those sites for which further mitigation is required and also those only due for mitigation in the future.

Site	Phase 1 recorded only	Phase 1 sampled	Phase 2 excavated / sampled	Further mitigation required	Mitigation still to be done
<b>BMC</b>					
<b>Dreyerspan</b>					
DP2004/001		X			
DP2004/002		X			
DP2004/003	X				
DP2004/004		X			
DP2004/005		X			
DP2004/006		X			
DP2004/007		X			
DP2004/008	X				
DP2004/009			X		
DP2004/010			X		
DP2004/010					X
DP2004/011					X
DP2004/012			X		
DP2004/013			X		
DP2004/014			X	X	
DP2004/015			X		
DP2004/016			X		
DP2004/017			X		
DP2004/018		X			
DP2004/019	X				
<b>Tweepad</b>					
TP2004/001		X			
TP2004/002		X			
TP2004/003			X		
TP2004/004			X		
TP2004/005A	X				
TP2004/005B	X				
TP2004/005C	X				
TP2004/005D	X				
TP2004/006			X		
TP2004/007			X		
TP2004/008			X		
TP2004/009			X		
TP2004/010			X		
TP2004/011			X		
TP2004/012	X				
TP2004/013	X <sup>1</sup>				

Site	Phase 1 recorded only	Phase 1 sampled	Phase 2 excavated / sampled	Further mitigation required	Mitigation still to be done
TP2004/014			X	X	
<b>Oubeep</b>					
OB2004/001		X			
OB2004/002	X <sup>2</sup>				
<b>Kareedoringvlei</b>					
KV2004/001		X			
<b>Somnaas</b>					
SN2004/001	X				
SN2004/002		X			
SN2004/003		X			
SN2004/004		X			
SN2004/005					X
SN2004/006		X			
<b>Koingnaas</b>					
KN2004/001	X				
KN2004/002	X				
KN2004/003		X			
KN2004/004			X		
KN2004/005	X				
KN2004/006	X				
KN2004/007	X				
KN2004/008	X				
KN2004/009	X				
KN2004/010			X		
KN2004/011			X		
KN2004/012			X		
KN2004/013			X		
KN2004/014			X		
KN2004/015			X		
KN2004/016		X			
KN2004/017		X			
KN2004/018	X				
KN2004/019		X			
KN2004/020	X				
KN2004/021		X			
KN2004/022	X				
KN2004/023		X			
KN2004/024					X
KN2004/025A					X
KN2004/025B					X
KN2004/026		X			
KN2004/027	X				
KN2004/028					X
KN2004/029					X
KN2004/030A			X		
KN2004/030B			X		

Site	Phase 1 recorded only	Phase 1 sampled	Phase 2 excavated / sampled	Further mitigation required	Mitigation still to be done
KN2004/031		X			
KN2004/032		X			
KN2004/033	X				
KN2004/034		X <sup>3</sup>			
KN2004/035			X		
<b>Langklip</b>					
LK2001/013			X <sup>4</sup>		
LK2004/001					X
LK2004/002					X
LK2004/003					X
LK2004/004					X
LK2004/005					X
LK2004/006					X
LK2004/007					X
LK2004/008					X
LK2004/010			X		
LK2004/011			X		
LK2004/012			X		
LK2004/013			X		
LK2004/014			X		
LK2004/015	X				
LK2004/016			X		

<sup>1</sup> This site is best avoided but should receive further mitigation if necessary.

<sup>2</sup> Due to the nature of this site, mitigation is only required if the whole block is mined.

<sup>3</sup> Although this site received Phase 1-type sampling, this was done during the Phase 2 season.

<sup>4</sup> This site was originally mitigated on 12.08.2002 but further work was carried out in 2004 as part of G. Dewar's PhD program.