

**PHASE 1 ARCHAEOLOGICAL SURVEY:
ASSESSMENT OF THE PROPOSED 1998 MINING
BLOCKS ON THE BUFFELS MARINE (BMC), KOINGNAAS
(KN) AND BUFFELS INLAND (BIC) COMPLEXES.**

Prepared for

**De Beers Consolidated Mines Ltd
Namaqualand Mines**

January 1998



Prepared by
Archaeology Contracts Office
Department of Archaeology
University of Cape Town
Private Bag Rondebosch
7700

Phone 650 2357
Fax 650 2352
Email djh@Beattie.uct.ac.za

1. INTRODUCTION

This assessment has taken place as part of the recommended implementation of a heritage management plan that was prepared for De Beers in 1997 (Halkett & Hart 1997). Annually, approximately 150 hectares are disturbed for mining purposes across the three mining complexes. There exists the possibility that archaeological sites could be destroyed in the process. Earlier archaeological reconnaissance of the area in 1991, focussed on the coastal strip and tended to avoid the active mining areas except where these were close to the shoreline at the southern end of the Buffels Marine Complex and at the northern end of the Koingnaas Complex. At that time no survey was made of the Buffels Inland Complex.

This current assessment has looked largely at areas inland of the coastal strip that have been designated for mining in 1998. As we had little information on the density and types of sites in these areas, the assessment has also been done to test the efficacy of carrying out an annual survey of proposed mining blocks as well as to establish the density and types of sites which occur here. As a result of lack of knowledge of the inland sections of the mines, it was impossible to predict the likelihood of finding sites in these areas that would require mitigation. As there is a financial implication inherent in the mitigation of significant numbers of sites utilising outside consultants, the assessment has also sought to advise whether or not in future it may be more cost effective to permanently employ someone with archaeological training to carry out survey and mitigation.

2. METHOD

A set of plans of the three mining complexes showing mining blocks was supplied by De Beers for use in the field. Mining blocks due for stripping for the first six months were highlighted differently from those allocated for the second half of the year. This was to enable the archaeological team to begin by looking at the blocks to be mined in the first six months. In the event of this taking a lot of time, the intention was to postpone the assessment of the second set of blocks to another period. The mining blocks are labeled on the plan and to a large extent can be located in the field by referring to signage placed along the roads where these are available (Buffels Marine Complex). Location is also aided by identifying blocks with mined out areas which are shown on the plans. In addition, each of the new blocks was assigned a latitude and longitude co-ordinates at each end. Failure to identify the blocks from conventional mapping observations meant that we could resort to using a GPS to navigate us to the correct locations. Once the blocks were located (on average between 100-200m in length and between 50-100m in width), the field crew would spread out in a line and walk across the area identifying and recording archaeological sites in the process if these were present. Identified sites were assessed for content and significance and assigned GPS co-ordinates.

3. RESULTS

While initially some problems were experienced in locating the mining blocks, this became easier as we became familiar with the layout of the mines. As a result we were able to examine all of the designated mining areas for the full year. A significant observation as far as the mine is concerned is that the density of sites inland is considerably reduced from that along the immediate shoreline. As opposed to the 1991 survey in which we targeted known foci of prehistoric settlement, in this latest assessment we looked at random areas of the landscape in as far as the archaeology is concerned. The relatively low density of sites can certainly be ascribed to the fact that many of the blocks examined lie some distance inland

and away from the shellfish resources on the coast. A total of 80 mining blocks was examined over a period of 9 days with 32 archaeological sites and 1 historical site being observed in the process.

3.1 Archaeological sites

The numbering of sites continues the system used during the initial survey i.e. location within farm boundaries and beginning the numbers at the last recorded site within that area. A key to the codes used in the tables is presented in Appendix 1.

3.1.1 Buffels Marine Complex

A total of 21 sites were located. Apart from 3, all sites observed contain marine shell and date to the Late Stone Age. The other sites are situated on silcrete outcrops and consist of extensive scatters of Early Stone Age artefacts. A number of handaxes were observed in the three locations. A breakdown of the content is presented in Tables 1-4.

3.1.1.1 Mitigation

The three ESA artefact scatters located on silcrete outcrops are not situated inside any of the mining blocks but rather are adjacent to them. As such these are not directly threatened except in cases where soil may be piled on them during mining, or have heavy machinery driven over them. They have therefore been included as part of the survey. We recommend that these sites need to be identified and protected to prevent such an eventuality.

The remaining LSA sites are generally ephemeral shell scatters with varying amounts of artefactual material present. For the most part no serious impacts will be experienced if these are destroyed during mining. We do however recommend that small shell and artefact samples be collected from these sites so that in the future, material is available for radio carbon dating if required. Samples such as these can be collected very quickly and in future should take place as part of the initial assessment of the mining blocks. Two of the sites have considerably more artefactual material and shell present. These will probably require more substantial sampling and excavation before a permit can be issued by the National Monuments Council for their destruction.

A breakdown of the sites by mining blocks and suggested mitigation is presented in Table 9.

3.1.2 Buffels Inland Complex

A total of 2 sites were located. As this area is many kilometers from the coast no sites with shellfish remains were noted. These sites consist of ephemeral open scatters of ESA and possibly Middle Stone Age (MSA) stone artefacts. A breakdown of the content is presented in Table 5.

3.1.2.1 Mitigation

No mitigation is recommended.

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	other shell	OTHER	SCRAPER	quartzite	yellow/brown silcrete	silcrete	toffee chert	quartz	SIZE	POSITION	LOCATION	OUBEPP
s	lsa	1	2(d)				lgs1,hed1,hs1		2		1	1	1	10	i	a	135
s	lsa	6	7		2				1		1		2	20	i	a	136
s	lsa						hs1		1					5	i	a	137
s	lsa/msa	4				l		1			x		x	10	i	ae	138
s	lsa					conus (1)							x	15	i	ac	139
s	lsa									1		1	1	5	i	ac	140
s	lsa	1			2					1			1	5	i	ac	141
s	lsa				3								3	5	i	e	142

Table 1 Overview of sites at Oubeep

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	P. argenvillei	P. granularis	P. granatina	Oxysteie sp.	Burnupena sp.	C. meridionalis	OTHER	BACKED PIECE	SCRAPER	quartzite	quartz	SIZE	POSITION	LOCATION	TWEEPAD
s	lsa																10	i	e	157
s	lsa			1													3	i	e	158
s	lsa	3			1												5	i	e	159
s	lsa																10	i	e	160
s	lsa				3												10	i	e	161
s	lsa		3	1	1										x	x	6	i	e	162
	lsa	1(b)			1	l									x		10	i	ae	163

Table 2 Overview of sites at Tweepad

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	P. argenvillei	P. granularis	P. granatina	OTHER	BACKED POINT BACKED PIECE	SCRAPER	ADZE	SEGMENT	quartzite	silcrete	ccs	toffee chert	chert	quartz	SIZE	POSITION	LOCATION	KAREEDOORNVLEI
**p	msa/esa quarry								handaxes						h					200x200	i	f	1
**p	msa/esa quarry								handaxes						h					200x200	i	f	2
s	lsa		2		20	m	m	m	ugs1,hs1					x					x	10	i	e	3
**s	lsa	present	many(1wc)(b)	2(1d)	many	h	h	h	lgs2	x	x	5	x	x	x	x	x	x	x	50x20	i	abc	4
**s	lsa	present	many(1wc)(2b)	1	many	h	h	h	ugs3,hs(many)			1			x	x			x	10,20,30	i	a	5

Table 3 Overview of sites at Kareedoringvlei

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	OTHER	BACKED POINT BACKED PIECE	SCRAPER	silcrete	quartz	SIZE	POSITION	LOCATION	DREYERS PAN
s	esa/msa quarry					handaxes			x		100x100	i	f	64

Table 4 Overview of sites at Dreyers Pan

3.1.3 Koingnaas Complex

A total of 10 sites was located. One of the sites is an historic graveyard. All other sites observed contain marine shell and date to the Late Stone Age. A breakdown of the content is presented in Tables 6-8.

3.1.3.1 Mitigation

We recommend that small samples of shellfish and artefacts be taken from sites that lie within the mining blocks. No sites have been identified requiring more substantial intervention. The graveyard should be protected by maintaining the existing fence around it.

A breakdown of the sites by mining blocks and suggested mitigation is presented in Table 9.

4. DISCUSSION

Having completed this investigation we feel that we are in a position to offer some comment on how similar surveys may take place in the future.

4.1 Mitigation of archaeological sites

This investigation has showed that site densities differ markedly between the coastal strip and the inland areas (at least in the blocks that we have surveyed). As a result mitigation for the current year is relatively minor with only two sites requiring more substantial intervention.

A number of other sites were identified which we feel have limited information value based on the fact that although shellfish remains are present, other artefactual material is scarce. Apart from identifying a location in the landscape that was used by pre-colonial inhabitants of the area and giving some indication of aspects of diet, not much more can be gained from studying these sites in detail. The potential that these sites do offer however is the possibility for dating (marine shell can be used for radiocarbon determinations). If we project the losses of sites over the coming years, a significant loss of basic information will occur. It is for this reason that we feel that as a general rule, small samples of the shellfish should be retained from sites that will be destroyed along with any artefactual material which is present (pottery, ostrich eggshell, stone artefacts). Care will have to be exercised when selecting shell for dating when there is evidence of disturbance from prospecting as the shell brought up during drilling could contaminate samples.

4.2 Prospecting damage

Before blocks are selected for mining they are subjected to testing in one form or another depending on the depth of the overburden. Prospecting in itself can be quite destructive, particularly clearing of bush by bulldozers to give access to drilling or other prospecting machinery. We are not yet absolutely familiar with all the different types of prospecting and so it is difficult to comment on the varying degrees of damage that could occur as a result of this process. Prospecting along the coastal strip is more of an issue than that taking place inland given the different site densities between the areas.

POTENTIAL	FEATURE	SIZE	POSITION	LOCATION	SOMNAAS
p	graveyard 19/20th C with grave markers	30x30		c	44

Table 5 Overview of sites at Somnaas

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	OTHER	BACKED POINT	BACKED PIECE	SCRAPER	quartzite	quartz	SIZE	POSITION	LOCATION	NUTTABOOI
	msa esa/msa									x	x	?	i	e	1
										x	x	?	i	de	2

Table 6 Overview of sites at Somnaas

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	P. argenvillei	P. granularis	P. granatina	Burnupena sp.	D. serra	C. meridionalis	quartzite	toffee chert	quartz	SIZE	POSITION	LOCATION	LANGKLIP
s	lsa					h	h	h							?	c	e	27
s	lsa					h	h	h							?	c	e	28
s	lsa	presen t		1		l	h	h	l		h				?	c	e	29
s	lsa		many(b2)	2		h	h	h			l			x	?	c	e	30
s	lsa		b5			h	h	h						x	?	c	e	31
s	lsa		1		1	h	h	h			h			x	?	c	e	32
s	lsa		1			h	h	h							?	c	e	33
s	lsa		many	3		h	h	h	l				x	x	?	c	e	34

Table 7 Overview of sites at Langklip

POTENTIAL	FEATURE	BONE	OES	CERAMICS	LOBSTER	P. argenvillei	P. granularis	P. granatina	quartz	SIZE	POSITION	LOCATION	MICHELLS BAY
s	lsa					h	m	m	x	?	c	e	1

Table 8 Overview of sites at Mitchell's Bay

SITE	CONTENT	MANAGEMENT	MINING BLOCK
OUBEED 135	Shell scatter with artefacts	small shell/artefact sample	OB368M-N
OUBEED 136	Shell scatter with artefacts	small shell/artefact sample	OB368M-N
OUBEED 137	Shell scatter	small shell sample	OB361M
OUBEED 138	Shell scatter with artefacts	small shell/artefact sample	OB361M
OUBEED 139	Shell scatter with artefacts	small shell/artefact sample	OB346P-L
OUBEED 140	Shell scatter with artefacts	small shell sample	TP289KL
OUBEED 141	Shell scatter with artefacts	small shell sample	TP289KL
OUBEED 142	Shell scatter with artefacts	small shell/artefact sample	TP295J
TWEEPAD 157	Shell scatter	small shell sample	TP222M(a)
TWEEPAD 158	Shell scatter with artefacts	small shell/artefact sample	TP222M(a)
TWEEPAD 159	Shell scatter with artefacts	small shell/artefact sample	TP222M(b)
TWEEPAD 160	Shell scatter	small shell sample	TP222M(b)
TWEEPAD 161	Shell scatter with artefacts	small shell/artefact sample	TP222M(b)
TWEEPAD 162	Shell scatter with artefacts	small shell/artefact sample	TP222M(b)
TWEEPAD 163	Shell scatter with artefacts	small shell/artefact sample	TP262K
KAREEDOORNVLEI 1	Quarry	outside mining area/ protect	KV200 (adjacent)
KAREEDOORNVLEI 2	Quarry	outside mining area/ protect	KV196T (adjacent)
KAREEDOORNVLEI 3	Shell scatter with artefacts	small shell/artefact sample	KV200LM
KAREEDOORNVLEI 4	Shell midden/scatter with artefacts	large collection/ excavation	KV192
KAREEDOORNVLEI 5	Shell scatter with artefacts	large collection/ excavation	KV174KL
DREYERS PAN 64	Quarry	outside mining area/ protect	DP147Q (adjacent)
NUTTABOOI 1	Artefact scatter	no mitigation	NBC7
NUTTABOOI 2	Artefact scatter	no mitigation	NB18
SOMNAAS 44	Graveyard	avoid/protect	8N 88H, 8N 78R2 (adjacent)
LANGKLIP 27	Shell scatter	small shell sample	LKC1-3
LANGKLIP 28	Shell scatter	small shell sample	LKC1-3
LANGKLIP 29	Shell scatter with artefacts	small shell/artefact sample	LKC1-3
LANGKLIP 30	Shell scatter with artefacts	small shell/artefact sample	LKC1-3
LANGKLIP 31	Shell scatter with artefacts	small shell/artefact sample	LKC1-3
LANGKLIP 32	Shell scatter with artefacts	small shell/artefact sample	LKC1-4
LANGKLIP 33	Shell scatter	small shell sample	LKC1-8
LANGKLIP 34	Shell scatter with artefacts	small shell/artefact sample	LKC5-1, LKC5-2
MICHELLS BAY 1	Shell scatter	small shell sample	LKL17 B-1

Table 9 Summary of site content and recommended mitigation measures

4.3 Secondary mining impacts

The establishment of overburden dumps, the building of roads, layout of services and plant during the opening of new blocks should be considered as a threat to sites and should be taken into account during surveys.

4.4 Problems with survey

In some instances we experienced difficulties in locating mining blocks that were away from areas that had previously been mined. With these we had no old mined out areas to use as reference points in the field. With the inaccuracies that are inherent in hand held GPS receivers, this method cannot be relied upon for precise location. It would be useful if plans of the blocks could include other landscape information such as roads and tracks to serve as reference points. In the best case scenario, the isolated mining blocks would be flagged and labelled before survey was undertaken.

4.5 Options for future surveys

The possibility of De Beers employing an archaeologist has been mooted as potentially more cost effective than continuing to use outside consultants. The costs of the current investigation as well as the costs of mitigation of two sites are presented in Appendix 2 as the basis for evaluation of this decision. These costs will change from year to year depending on the number of sites located and the need for mitigation. Professional fees will also increase on an annual basis.

Some advantages to having somebody permanently employed are:

- i) any changes to the annual mining plan could be dealt with immediately
- ii) confidential information could be kept in house
- iii) issues of security are presumably easier to deal with

As far as we can see, to optimally utilise a permanently employed archaeologist would require their job description to be much broader than surveying mining blocks on an annual basis. The opportunity would exist to begin a much broader survey of sites within the mining area, a task that would go some way toward rescuing sites in advance of prospecting.

It would be essential that a candidate have previous experience with archaeological site survey, excavations and sampling of shell middens, and an understanding of the temporal sequence of occupation of the west coast and the different artefact types that are associated with various periods.

5. REFERENCES

Halkett, D.J. and Hart T. 1997. An archaeological assessment of the coastal strip, and a proposed heritage management plan for: De Beers Namaqualand Mines. Unpublished report prepared for De Beers Consolidated Mines Ltd. Archaeology Contracts Office, University of Cape Town.

APPENDIX 1

KEY TO CODES USED IN TABLES

AREA:

[Area] and site numbers (corresponding to plots)

LOCATION:

s - shoreline (0 - ± 100 meters from coast)

c - coastal (± 100 m - 1km from coast)-

i - inland (>1km from coast)

POSITION:

a - deflation

b - dunetop

c - dune lee

d - rocky platform

e - open area

f - other

or combinations of the above

SIZE:

Approximate sizes of sites in meters

RAW MATERIALS: Type and quantites

l - low

m - medium

h - high

'moss' chert - our term to distinguish a type

'toffee' chert - our term to distinguish a type

'crizzle' silcrete - our term to distinguish a type

'yellow/brown' silcrete - our term to distinguish a type

ccs - crypto crystalline silicates/fine grained rocks

ARTEFACTS: (see Volume 1 for diagrams)

backed piece - flake that has been shaped in a specific way with steep retouch

mrp - miscellaneous retouch piece

m - manuport (unworked stone transported to sites eg. river or beach cobbles)

hs - hammerstone

ug - upper grindstone

lg - lower grindstone

hed - heavy edge damage

SHELL:

l - low

m - medium

h - high

modified - often to make pendants or beads for personal adornment

C. meridionalis (Choromytilis) - black mussel

D. serra (Donax) - white mussel

Burnupena sp. (various species) - whelk

Oxystele sp. (various species) - winkles

P. granatina and others (Patella) - limpet

A. ater (Aulacomya) - ribbed mussel

C. porcellana (Crepidula) - slipper limpet

C. mozambicus mozambicus (Conus) - conus shell

Bullia sp. (various species) - plough shell

Fissurella sp. (various species) - keyhole limpet

OTHER ARTEFACTS:

lobster - mandibles (being very hard these tend to survive for long periods)

ceramics - indigenous: **(d)** - decorated **(f)** - foot **(r)** - rim **(l)** - lug

ostrich eggshell - **(b)** - bead **(d)** - decorated **(wc)** - water container opening **(pendt)** - pendant

FEATURES:

(wh bon) - whale bone **(hrth/h)** - hearth **(piles)** - most commonly piles of shell but can be other material **(ash)** - ash lenses **(stoneware)** - ceramic type imported from Europe 18th and 19thC **(ann ware)** - annular ware, refined earthenware with a distinctive banded pattern, mid-19thC **(ref earthen)** - refined earthenware, generic term to refer to 19th C low fired ceramics with overglaze and often with a transfer applied pattern as opposed to true porcelains which are high fired and usually of oriental origin **(aqua)** - type of blue glass 19thC.

SITE INFORMATION:

Potential - **(s)** - could be sampled **(sa)** - spatial information preserved and could be mapped **(ex)** - site could be excavated **(p or t)** - site should be protected **(*)** - good research potential **(**)** - excellent research potential

Stratified - vertically stratified shell layers

Surface - most sites have a surface manifestation, though occasionally sites are buried and traces are brought up by burrowing animals or are exposed by prospecting.

APPENDIX 2

COSTS: PHASE 1 (COMPLETED)
COSTS: PHASE 2 (PROPOSED)

Initial (Phase 1) investigation of the 1998 mining blocks completed in November 1997:

Salaries	R17 625.00
Transport	R 3 054.00
Photography	R 63.75
Equipment	<u>R 375.00</u>
Sub total	R21 118.00
VAT	<u>R 2 956.52</u>
TOTAL	<u>R24 074.52</u>

Duration: 14 Days

Personnel: 2 archaeologists, 2 assistants

(Accommodation, subsistence, transport in security areas supplied by De Beers)

Mitigation (Phase 2) of sites in the 1998 mining blocks (proposed for 1998):

Salaries	R21 573.00
Transport	R 3 896.64
Photography	R 68.85
Equipment	<u>R 607.50</u>
Sub total	R26 145.99
VAT	<u>R 3 660.44</u>
TOTAL	<u>R29 806.43</u>

Duration: 11 Days fieldwork, 8 Days analysis

Personnel: 2 archaeologists, 1 assistant, 2 skilled labour

(Accommodation, subsistence, transport in security areas supplied by De Beers)