AN ARCHAEOLOGICAL IMPACT ASSESSMENT OF PROPOSED DEVELOPMENT ON ERF 134, CAPE INFANTA

Magisterial district: Swellendam

Assessment conducted in terms of
Section 38 (8) of the National Heritage Resources Act (Act 25 of 1999)

Prepared for

Nicolas Baumann
Heritage Management Consultant

August 2010

Report by

David Halkett

ACO Associates
7 Jacobs Ladder
St James
7945

Phone 0731418606
Email: acoassociates@gmail.com

1. INTRODUCTION

ACO Associates was appointed to carry out an archaeological Impact Assessment of proposed development on a small portion of Erf 134, Cape Infanta on the cape south coast (Figure 1).

Figure 1: Location of the proposed development (red) in local geographical context. This represents a small portion of erf 134. **Figure 2:** The full extent of erf 134 is shown by the red polygon. The proposed development site is the small section lying to the west of the main road immediately adjacent to the coast.

Erf 134 is large (Figure 2) and the proposed development section will presumably be subject of sub-division and rezoning. Harriet Clift has investigated the historical background to the establishment of the small village of Cape Infanta and that information is included in the HIA document being compiled by Nicholas Baumann.

2. PROJECT DESCRIPTION

The proposed site already contains a single dwelling and garage and it is proposed to construct 23 residential units on the remainder of the site excluding the corner occupied by the existing structure (Figure 3). It would appear that the garage will be demolished in the process.

Figure 3: Proposed development layout. Existing building visible in the top corner.

3. THE SITE

Lying immediately adjacent to the sea, the site measures ~200m at its widest in the north, with the narrowest part in the south measuring only ~80m. The length is ~200m from north to south. The site slopes down from the road and calcrete (limestone) can be seen outcropping along the western margin resulting in a more sparse vegetation cover there. A similar rock platform can be seen extending beyond the eastern boundary where it is cut by wave action. The remainder of the site is covered by low dune and all but the developed section is covered by indigenous coastal vegetation transacted by pathways and occasional blowouts. Introduced grass surrounds the existing house. A prominent natural drainage feature cuts through the lower part of the site from where the land rises up to the point at the south where the property adjoins the existing village. The site also slopes up to the north where it adjoins undeveloped land covered by dense vegetation. It would appear that substantial landscaping has occurred around the existing house in the form of levelling. A montage of the site showing existing structures can be seen in Plate 1, while other views are shown in Plates 2 and 3.

Plate 1: Existing structures on the northern part of the site showing the landscaping.

Plate 2: View towards the existing village showing thicker bush beyond the landscaping. **Plate 3:** View from the south looking towards the exiting house.

4. OBSERVATIONS

Although vegetated, there was good visibility of the surface by way of paths and blowouts. As was to be expected given the location on the coast, marine shell was found scattered about the site where it had been discarded by early occupants of the area, in some cases associated with artefactual material. Shellfish were often highly dispersed on the surface and probably represent very ephemeral sites with little or no significance, or as the dispersed indicators of larger accumulations in the vicinity. Three localities in particular show denser surface accumulations of shellfish and artefacts and appear to mark places of more frequent activity/occupation. These are indicated approximately by the yellow dashed lines on Figure 4. A summary table of the archaeological sites is presented in Table 1.

Figure 4: The location of archaeological occurrences on the site and also showing exiting structures

Table 1: Summary of observations

Site	Lat/Lon (dec°)	Type	Description
Ci01	S34.41816 E20.85336	shellfish and artefact	ephemeral shell and 1 qtz flake
Ci02	S34.41849 E20.85368	shellfish	ephemeral disturbed shellfish
Ci03	S34.41857 E20.85393	shellfish and artefact	dense shellfish with artefacts 2 silcrete flakes, 1 silcrete bi-polar core, 3 qtz flakes, 1 ostrich eggshell fragment
Ci04	S34.41920 E20.85380	shellfish	ephemeral shellfish
Ci05	S34.41885 E20.85416	shellfish	ephemeral shellfish
Ci06	S34.41900 E20.85378	shellfish	ephemeral shellfish
Ci07	S34.41862 E20.85378	shellfish	ephemeral shellfish
Ci08	S34.41871 E20.85388	shellfish	ephemeral shellfish
Ci09	S34.41870 E20.85399	shellfish	ephemeral shellfish
Ci10	S34.41825 E20.85407	shellfish	shellfish at edge of lawn
Ci11	S34.41865 E20.85371	shellfish	ephemeral shellfish
Ci12	S34.41895 E20.85385	shellfish	ephemeral shellfish

Ci13	S34.41897 E20.85369	shellfish	ephemeral shellfish
Ci14	S34.41944 E20.85406	shellfish	ephemeral shellfish
Ci15	S34.41958 E20.85416	isolated find	ephemeral shellfish and 1x bird bone
Ci16	S34.41953 E20.85427	shellfish and artefact	shellfish scatter with artefacts, qtz flakes chunk and core, 1 possible lower grindstone
Ci17	S34.41937 E20.85430	shellfish	ephemeral shellfish
Ci18	S34.41926 E20.85430	shellfish and artefact	2 patches of dense shellfish, 1 silcrete flake, 1 silcrete irregular core, 5 qtz flakes, 1 qtz irregular core
Ci19	S34.41913 E20.85432	shellfish	ephemeral shellfish
Ci20	S34.41881 E20.85301	isolated artefact	1 quartzite hammerstone/core
Ci21	S34.41855 E20.85419	shellfish	ephemeral shellfish

The built structures on the site do not appear to have any historical significance in the sense that they do not appear to be older than 60 years. There is however a “grave” just to the north of the house (Plate 4). As the north east corner of the site is excluded from the development proposal, only the “garage” would appear to be impacted.

Plate 4: The “grave” located to the north of the house.

5. CONCLUSIONS

While archaeological material is widespread on the site, it tends to be most concentrated in three places. Artefacts are associated with the shellfish remains there and suggest that these were more focussed points on the landscape. Our assessment has taken into consideration that no archaeological sites have ever been documented before in Cape Infanta and as such their significance is considered to be high. The nearest surveys have been within the De Hoop Nature Reserve and Henshilwood et al have been investigating some caves therein.

The prevailing sandy conditions and pre-colonial signature on the landscape means there is an increased possibility that pre-colonial burials could be located within the development footprint.

6. RECOMMENDATIONS

- Shovel testing should be undertaken by an archaeologist to evaluate the content, depth and extent of the 3 shell and artefact accumulations around Ci03, Ci16 and Ci18 in order to assess if mitigation or conservation is required, and/or to determine to what extent planning could be modified to avoid impacting the material.

- As burials may be present on the broader site, a protocol should be in place for dealing with the remains, particularly during the construction phase of the project.

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PRELIMINARY REPORT ON ARCHAEOLOGICAL EXCAVATIONS AT ERF 134, CAPE INFANTA, SWELLENDAM DISTRICT, WESTERN CAPE

(Assessment conducted under HWC permit with
Ref. No. HM/EDEN/HESSEQUA/CAPE INFANTA/ERF 134)

Prepared for

Westerhelling Investments cc
PO Box 10071, The Falls, Northmead, Benoni, 1522
29 Golden Drive, Morehill Ext 8, Benoni, 1501
phone 011 849 1083
Email: markagrella@telkomsa.net

10 May 2011

Prepared by

Jayson Orton

ACO Associates cc
8 Jacob's Ladder
St James
7945

Email acoassociates@gmail.com

EXECUTIVE SUMMARY

ACO Associates cc was appointed by Westerhelling Investments cc to conducted test excavations and mitigation at three Later Stone Age shell and artefact scatters on erf 134, Cape Infanta. Part of the erf is to be subdivided for residential development. An earlier survey revealed a number of similar sites with three of those discovered appearing to merit further examination. The present report describes this further work.

The three sites, CI03, CI16 and CI18, were tested by means of excavation and sieving of single square meters of deposit in order to check for cultural content. All three sites were found to contain stone artefacts and were deemed mitigation-worthy. Areas excavated were 15 m^2, 7 m^2, and 9 m^2 respectively and volumes of sieved deposit were 0.5742 m^3, 0.7803 m^3 and 0.5877 m^3 respectively. The stone assemblages are quartz-dominated but have a reasonable silcrete component as well. One silcrete adze and one quartz segment were found and it is anticipated that analysis will reveal more retouched items. Besides marine shell, the only other cultural find was a single very small ostrich eggshell bead. The material has yet to be subjected to detailed analysis.

The mitigation has captured a sample of the pre-colonial heritage on erf 134 and, based on initial observations, this heritage seems different to other sites recorded in the region, particularly in the nature of the stone artefact assemblages. Although the fieldwork conducted is deemed sufficient, it is recommended that two of the sites with suitable marine shellfish remains be radiocarbon dated to allow for better interpretation and to increase their value in a research context.

The importance of the previously requested monitoring is underlined as there are good grounds to believe that buried archaeological material or unmarked human burials may indeed occur on the site.

The present report is submitted to allow decision-making and further planning of the development to proceed while further analysis of the excavated material continues.

Contents

1. INTRODUCTION

ACO Associates cc was appointed by Westerhelling Investments cc to conducted test excavations and mitigation at three Later Stone Age shell and artefact scatters on erf 134, Cape Infanta (Figure 1). Part of the erf is to be subdivided for residential development. An earlier survey revealed a number of similar sites with three of those discovered appearing to merit further examination (Halkett 2011). The present report describes this further work and presents preliminary findings.

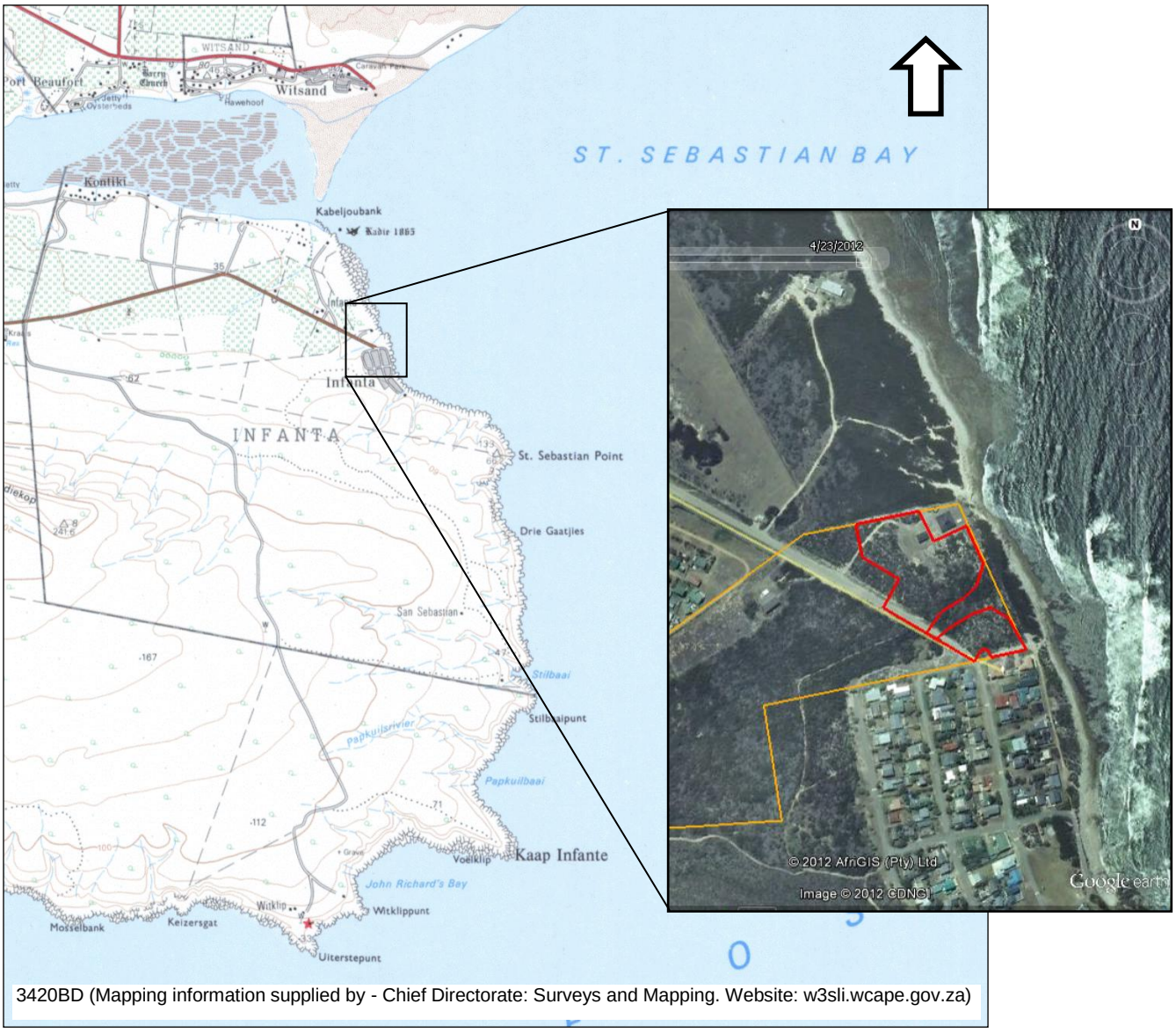

Figure 1: Map showing the location of the study area. On the aerial photograph Erf 134 is outlined in orange and the development site in red.

In terms of the HWC final comment on the Phase 1 work, testing and mitigation of the three relevant sites was required. ACO Associates was asked to conduct this work. It was agreed that on arrival at the site we would ascertain the content and density of each site so as to

determine whether further controlled excavation was required. Thereafter those archaeological sites requiring further mitigation would then receive appropriate treatment.

2. METHODS

2.1. Literature survey

A survey of available literature was carried out to assess the general archaeological context of the sampled sites. This literature included both published material and unpublished commercial reports.

2.2. Fieldwork

Because the sites were small and suspected to be quite shallow in depth, it was decided to test them by means of excavating and sieving the deposits in the normal manner with excavations then expanded as necessary. In this way none of the limited areas available were 'wasted' in terms of the controlled excavations. All three sites were found to contain reasonable densities of stone artefacts accompanied only by shell. As such, and because our knowledge of archaeology in this area is limited, it was decided that all three merited expanded excavations.

The excavations were done in 1 m^2 units and, although a 1.5 mm sieve was used on the first day, the lack of very small finds and the occurrence of overnight rain resulted in the rest of the sieving being on a 3 mm sieve. The excavations were carried out on the 2nd, 3rd and 4th of May 2012.

No analysis has yet been done and for the purposes of this report I have to rely on observations made during the excavations.

2.3. Limitations

The property is densely vegetated with Rooikrans (*Acacia cyclops*) with the result that only small patches of sand were visible and available for excavation without substantial bush clearing.

Figure 2: View towards the northeast from the southern part of the property showing the dense bush cover.

3. ARCHAEOLOGICAL CONTEXT

This part of the south coast is not very well known archaeologically. While Early (ESA; pre-*c.* 200 000 years ago) and Middle Stone Age (MSA; *c.* 200 000 – *c.* 20 000 years ago) artefacts are regularly encountered in the dryland agricultural fields of the southern Cape, the oldest radiocarbon dated Later Stone Age (LSA) archaeological site known from the region is about the mid-6th millennium BC (6960 ± 70 BP on marine shell; Pta-6177; Henshilwood 2008).

Henshilwood (2008) has surveyed extensive tracts of the coastline both east of Witsand and in the De Hoop Nature Reserve to the west of Cape Infanta. Following these surveys, excavations were carried out in the Blombosfontein Nature Reserve only. These excavations have been reported by Henshilwood (1996, 2006, 2008; d'Errico *et al.* 2005; Henshilwood *et al.* 2001a, 2001b, 2009; Jacobs *et al.* 2006; Villa *et al.* 2009) and the sites lie some 34 km east of Infanta. Henshilwood is currently also excavating at Klipdrift Cave in the De Hoop Nature Reserve (Louw 2011).

Henshilwood's (2008) LSA excavations yielded a number of sites dating throughout the last approximately 7000 years but with the majority being pre-2000 BP. The sites yielded a rich selection of finds including shellfish, animal bones, stone artefacts (including many retouched items typical of the Holocene microlithic), rare potsherds, bone tools and beads (mostly from Blombos Cave), ostrich eggshell beads and engraved ostrich eggshell, and marine shell ornaments (mostly from Blombos Cave). The stone materials were dominated either by silcrete, in sites older than 2000 years, or quartz, in sites younger than 2000 years. The pottery was undecorated and found on just two sites – the only two to date less than 2000 years old. Henshilwood notes a peculiar site selection pattern – sites older than 2000 years are all located in the open above the coastal cliffs, while the younger sites are below the cliff line, usually in rock shelters.

A little further east, at Still Bay, Hine *et al.* (2010) document some excavated shell middens that produced very small quartzite dominated stone assemblages (mostly manuports) in the presence of marine shell and faunal remains. One site was dated to between approximately 550 BC and AD 50 (Pta-8465, Pta 8467).

Going towards the southwest, the nearest excavated archaeological sites are at Paapkuilsfontein, near Cape Aghulas (Hine 2008; Hine *et al.* 2010). These sites lie 92 km away from Infanta and were dated at between 3000 BC and AD 1300 (GX-32533, GX-32532). They produced small, quartzite-dominated stone artefact assemblages along with shellfish and fragmented bone. Retouched items consisted solely of miscellaneous retouched pieces.

One fish trap is known from the Breede River mouth, not far from the present excavation sites, but these traps, once thought to have been stone age (Avery 1975; Goodwin 1946), have recently been suggested to be historical (Hine *et al.* 2010).

4. EXCAVATIONS AND PRELIMINARY FINDINGS

4.1. CI03

At this site a total area of 15 m^2 was excavated with most squares being approximately 5 cm deep. The site was heavily deflated such that all finds were strictly on the present surface. A test hole was excavated to a total depth of 0.65 m but only sterile sand was encountered. The volume of sand excavated and sieved was 0.5742 m^3 (excluding the test hole). The excavation was conducted within a clearing in the bushes and at the one end of this clearing was a somewhat mounded area with a greater frequency of whole limpet shells on the surface. It was from this mound that the single square meter shell bulk was taken. Among the shellfish *Turbo sarmaticus* and *Scutellastra longicosta* were common but *Burnupena* species was also noted. Shell samples for radiocarbon dating were taken from four squares while measurable shells were retained from the entire excavated area. Cultural finds were limited to stone artefacts. The stone was dominated by quartz but among the rest were one silcrete adze and one quartzite core.

Figure 3: View of CI03 before excavation. Scale bar = 0.5 m.

Figure 4: View of the surface of CI03 before excavation. Scale bar = 0.5 m.

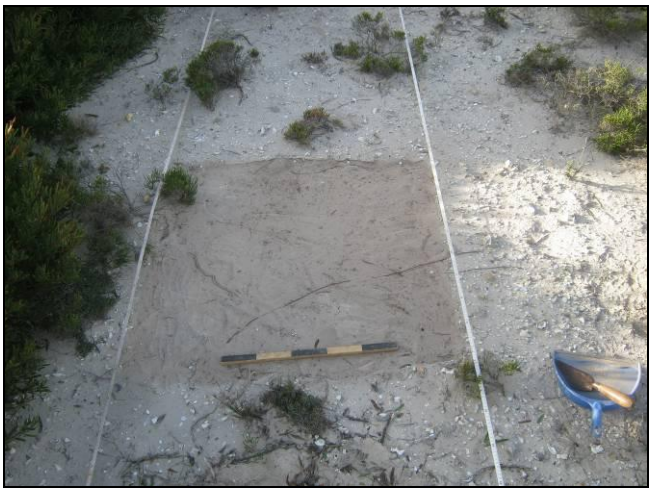

Figure 5: CI03 after excavation of one square.

4.2. CI16

At this site a total area of 7 m^2 was excavated with most squares being approximately 5 cm to 12 cm deep. The site did not appear to have been deflated such that finds were distributed throughout approximately the upper 12 cm of deposit. A test hole was excavated to a total depth of 0.84 m but only sterile sand was encountered below 0.59 m. The volume of sand excavated and sieved was 0.7803 m^3 (including the upper part of the test hole down to 0.59 m). The deposit was removed in two layers due to the depth (Surface and Below Surface) but these undoubtedly reflect a single occupation. Shell was generally infrequent (relative to the other sites) and highly fragmented. No proper midden or shell scatter was found within the area sampled. Among the shellfish *Turbo sarmaticus* was most common and whole, measureable limpets were almost entirely absent. Due to very high fragmentation, no shell samples were retained for radiocarbon dating, but 1.5 m^2 were kept as shell bulks. Measurable shells were retained from the entire excavated area. Cultural finds were limited to stone artefacts and one very small ostrich eggshell bead. The stone was dominated by quartz but silcrete and quartzite were also noted. From low down in the test excavation a retouched quartz segment was found. Interestingly at this site were a number of larger stones. These included one lower grindstone (found face up), one probable lower grindstone and two unmodified manuports, all of which were measured, photographed and left on site. The grindstones had only very light grinding with no evidence of a groove. All were on quartzite cobbles collected from the beach.

Figure 6: View of CI16 after excavation. The hole on the left is the deep test hole while the others are a collapsed mole tunnel. In the background are the manuports and grindstone that were left on site.

Figure 7: View of the surface of CI16 before excavation. Scale bar = 0.5 m.

Figure 8: Recently dumped shells on the surface of. CI16.

4.3. CI18

At this site a total area of 9 m^2 was excavated with most squares being approximately 5 cm deep. The site was deflated such that most finds were on the present surface. A test hole was excavated to a total depth of 0.82 m with scattered and very fragmented shell present throughout. The hole was stopped when it became clear that no midden deposits occurred below the surface. The volume of sand excavated and sieved was 0.5877 m^3 (including all deposits from the test hole). No obvious concentration was evident in the shellfish which included mostly *Turbo sarmaticus* and *Scutellastra longicosta*. *Haliotis spadicea* was also noted. Shell samples for radiocarbon dating were taken from two squares while measurable shells were retained from the entire excavated area. One square meter was retained as a shell bulk. Cultural finds were limited to stone artefacts. The stone was dominated by quartz but included silcrete as well.

Figure 9: View of CI03 before excavation.

Figure 10: View of the surface of CI18 before excavation. Scale bar = 0.5 m.

Figure 11: View of CI18 during excavation.

4.4. Anticipated further analysis

Given the limited range of finds, only a few analyses will be conducted as follows:

- Shellfish species analysis of the shell bulk samples;
- Measuring of all measureable shellfish (to be conducted by Prof. Richard Klein);
- Analysis of the stone artefact assemblages; and
- Measurement of the single bead.

Furthermore, should this be requested by Heritage Western Cape, radiocarbon dating can be conducted to establish more precisely the age of the three sites.

A full excavation report will be provided to Heritage Western Cape on completion of these analyses.

4.5. Other archaeological sites

During the project one further archaeological site was noted in the very south-eastern corner of the site. It has been labelled CI22 and consists of a fragmented shell lens eroding out from beneath some 0.5 m of sand into the roadway to the beach. Cursory observations did not reveal anything important and it is not recommended that this site be given any further treatment. Its location, for the record, is at 34° 25’ 10.5” S 20° 51’ 17.7” E. Also for the record, a large shell scatter was noted eroding from the bushes alongside the road near the slipway at Infanta. This site is at 34° 25’ 10.5” S 20° 51’ 17.7” E and named CI23.

Figure 12: View of the newly discovered site, CI22, at the south-eastern corner of the property.

5. CONCLUSIONS & RECOMMENDATIONS

These three sites will provide the first window into the pre-colonial landscape of the Infanta area. The nearest excavated sites lie 33 km to the east at Blombosfontein (Henshilwood 2008). Most of the sites there are pre-2000 BP and the Infanta sites thus offer the opportunity to compare the stone artefact assemblages from the two areas. Preliminary observations at Infanta suggest that the stone artefact assemblages there are quite different in nature to

those at Paapkuilsfontein, Blombosfontein and Still Bay and may represent a different aspect of the region's prehistory.

Given the poor condition of the shellfish at CI16 and lack of other suitable organic material, it is recommended that no date be run for this site. There is also the potential for contamination from the recently dumped shell. However, the other two sites, CI03 and CI18, should be radiocarbon dated in order to properly set them into their regional context, allow better interpretation and increase the overall value of the mitigation project to other researchers working in the area.

The original HWC comment that requested the mitigation also stated that archaeological monitoring of earth works be carried out. This would be for two primary reasons:

- Firstly, to be present to protect and rescue pre-colonial burials. There is a very real possibility given the number of shell scatters present in the area and the depth of sand cover on the site; and
- Secondly, to check for and potentially rescue any buried archaeological sites that might occur. It is entirely possible that some of the many ephemeral scatters on the surface could be material brought to the surface by mole activity. The mole-heaps would have subsequently become eroded over time with the result that the shell fragments have spread out over the surface. However, the three deep excavations conducted during this mitigation project did not reveal any such shell lenses within approximately 0.8 m of the present surface.

The present report is submitted to allow decision-making and further planning of the development to proceed while further analysis of the finds continues. A final report is anticipated within a few months.

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FINAL REPORT ON ARCHAEOLOGICAL EXCAVATIONS AT ERF 134, CAPE INFANTA, SWELLENDAM DISTRICT, WESTERN CAPE

(Assessment conducted under HWC permit with
Ref. No. HM/EDEN/HESSEQUA/CAPE INFANTA/ERF 134)

Prepared for

Westerhelling Investments cc

02 October 2012

Prepared by

Jayson Orton

ACO Associates cc
8 Jacob's Ladder
St James
7945

Email jayson.orton@aco-associates.com

EXECUTIVE SUMMARY

ACO Associates cc was appointed by Westerhelling Investments cc to conducted test excavations and mitigation at three Later Stone Age shell and artefact scatters on erf 134, Cape Infanta. Part of the erf is to be subdivided for residential development. An earlier survey revealed a number of similar sites with three of those discovered appearing to merit further examination. The present report describes this further work.

The three sites, CI03, CI16 and CI18, were tested by means of excavation and sieving of single square meters of deposit in order to check for cultural content. All three sites were found to contain stone artefacts and were deemed mitigation-worthy, particularly in light of the fact that no other archaeological work has ever been carried out in the local area. However, because their contents were quite limited, the excavations were not extensive. Areas excavated were 15 m^2, 7 m^2, and 9 m^2 respectively and volumes of sieved deposit were 0.5742 m^3, 0.7803 m^3 and 0.5877 m^3 respectively. All three stone assemblages are quartz-dominated with silcrete comprising much of the remainder. One silcrete adze (CI03), one quartz segment (CI16) and one quartz sidescraper (CI18) were found. Besides marine shell, the only other cultural finds were a single small ostrich eggshell bead (CI16) and two possible *Donax* scraper fragments (both CI18).

The shellfish were dominated by local limpet species (*C. oculus* and *S. longicosta*), brown mussels (*P. perna*) and alikreukel (*T. sarmaticus*) in remarkably variable frequencies. Bone was almost entirely absent with the one mineralised tortoise carapace fragment found on CI18 quite likely not relating to the site itself.

Although the collections are small, the patterns do show both similarities and dissimilarities from other excavated sites in the region and will help to build our knowledge of the local occupation sequence. In particular, the retouch types are as expected from other sites in the region, but the very high quartz frequencies are unusual, perhaps reflecting a local settlement territory with no direct access to silcrete sources.

This report concludes the mitigation phase of work on erf 134 ad development may proceed subject to other conditions (monitoring) imposed by Heritage Western Cape.

Contents

1. INTRODUCTION

ACO Associates cc was appointed by Westerhelling Investments cc to conduct test excavations and mitigation at three Later Stone Age shell and artefact scatters on erf 134, Cape Infanta (Figure 1). Part of the erf is to be subdivided for residential development. An earlier survey revealed a number of similar sites with three of those discovered appearing to merit further examination (Figure 2; Halkett 2011). While the excavations were described in Orton (2012), the present report describes the analysis and findings of the mitigation. In terms of the HWC final comment on the Phase 1 work, testing and mitigation of the three relevant sites was required. All three were found to contain material of research value, particularly since no other excavations have ever been conducted in the area. All three were thus sampled, but due to their limited content the excavations were restricted in size.

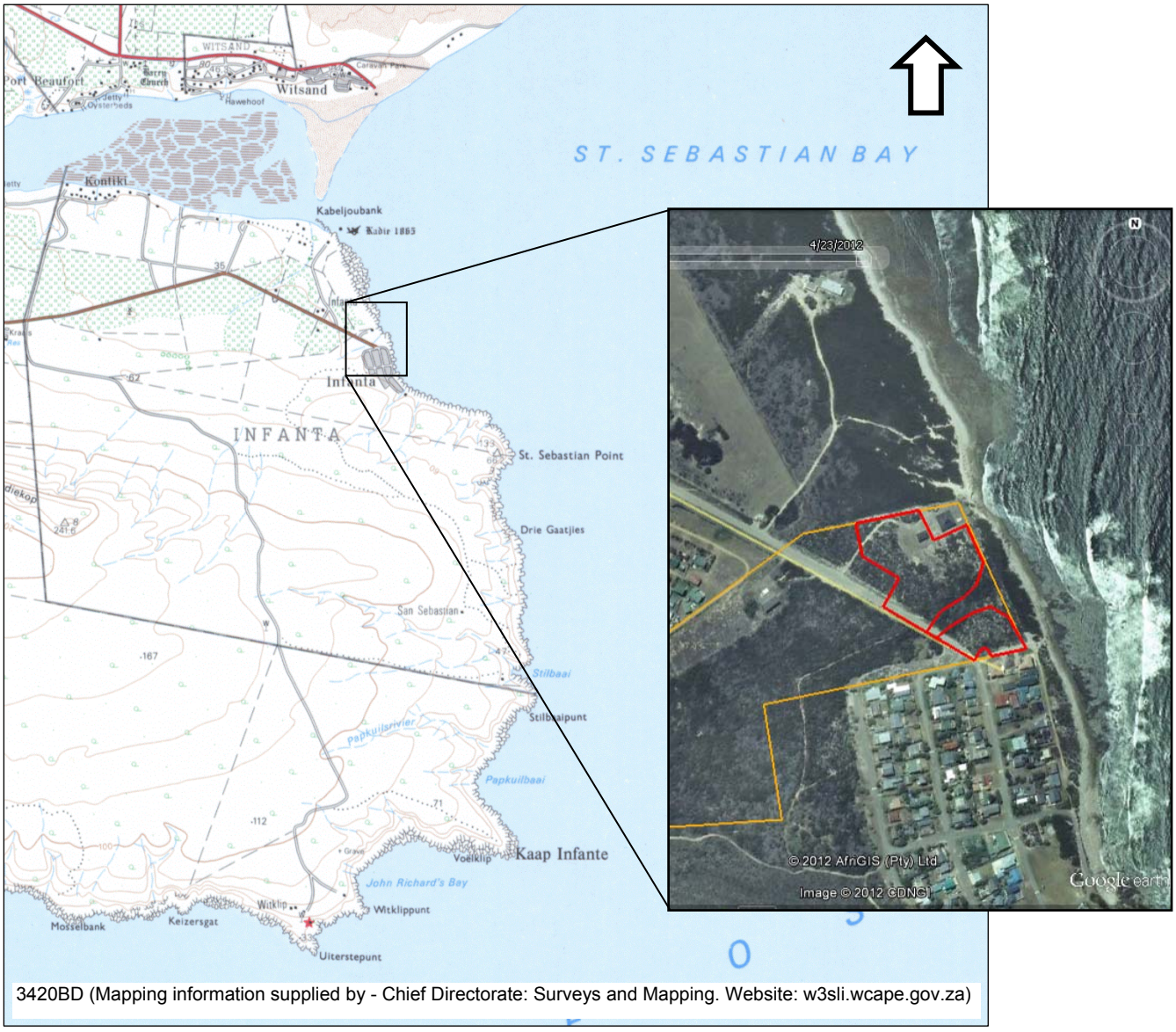

Figure 1: Map showing the location of the study area. On the aerial photograph Erf 134 is outlined in orange and the development site in red.

Figure 2: Aerial view of the study area showing all sites on record on the property with the three excavated sites labelled and highlighted in yellow. The yellow bar for scale in the lower left corner is 50 m long.

2. METHODS

2.1. Literature survey

A survey of available literature was carried out to assess the general archaeological context of the sampled sites. This literature included both published material and unpublished commercial reports.

2.2. Fieldwork

The excavations were done in 1 m^2 units and, although a 1.5 mm sieve was used on the first day, the lack of very small finds and the occurrence of overnight rain resulted in the rest of the sieving being on a 3 mm sieve. The excavations were carried out on the 2nd, 3rd and 4th of May 2012.

2.3. Limitations

The property is densely vegetated with Rooikrans (*Acacia cyclops*; Figure 3) with the result that only small patches of sand were visible and available for excavation without substantial

bush clearing. It is nonetheless felt that the samples obtained from each of the three sites were adequate for their characterisation and that these will be adequate for comparison with other excavated archaeological sites from the wider region.

Figure 3: View towards the northeast from the southern part of the property showing the dense alien invasive bush cover with some indigenous vegetation in the foreground.

3. ARCHAEOLOGICAL CONTEXT

This part of the south coast is not very well known archaeologically. While Early (ESA; pre-*c.* 200 000 years ago) and Middle Stone Age (MSA; *c.* 200 000 – *c.* 20 000 years ago) artefacts are regularly encountered in the dryland agricultural fields of the southern Cape, the oldest radiocarbon dated Later Stone Age (LSA) archaeological site known from the region is about the mid-6th millennium BC (6960 ± 70 BP on marine shell; Pta-6177; Henshilwood 2008).

Henshilwood (2008) has surveyed extensive tracts of the coastline both at Blombosfontein east of Witsand and in the De Hoop Nature Reserve to the west of Cape Infanta. Following these surveys, excavations were carried out in the Blombosfontein Nature Reserve only. These excavations have been reported by Henshilwood (1996, 2006, 2008; d'Errico *et al.* 2005; Henshilwood *et al.* 2001a, 2001b, 2009; Jacobs *et al.* 2006; Villa *et al.* 2009) and the sites lie some 34 km east of Infanta. Henshilwood is currently also excavating at Klipdrift Cave in the De Hoop Nature Reserve (Louw 2011).

Henshilwood's (2008) LSA excavations yielded a number of sites dating throughout the last approximately 7000 years but with the majority being pre-2000 BP. The sites yielded a rich selection of finds including shellfish, animal bones, stone artefacts (including many retouched items typical of the Holocene microlithic), rare potsherds, bone tools and beads, ostrich eggshell beads and engraved ostrich eggshell, and marine shell ornaments (the bone points and beads and the marine shell ornaments are mostly from Blombos Cave). The stone materials were dominated either by silcrete, in sites older than 2000 years, or quartz, in sites younger than 2000 years. The pottery was undecorated and found on just two sites – the only two to date less than 2000 years old. Henshilwood notes a peculiar site selection pattern –

sites older than 2000 years tend to be located in the open above the coastal cliffs, while the younger sites are below the cliff line, usually in rock shelters.

A little further east, at Still Bay, Hine (2008; Hine *et al.* 2010) documented some shell middens that produced very small quartzite-dominated stone assemblages (mostly manuports) in the presence of marine shell and faunal remains. One site was dated to between approximately 550 BC and AD 50 (Pta-8465, Pta 8467).

Going towards the southwest, the nearest excavated archaeological sites are at Paapkuilsfontein, near Cape Agulhas (Hine 2008; Hine *et al.* 2010). These sites lie 92 km away from Infanta and were dated at between 3000 BC and AD 1300 (GX-32533, GX-32532). They produced small, quartzite-dominated stone artefact assemblages along with shellfish and fragmented bone. Retouched items consisted solely of miscellaneous retouched pieces.

Fish traps are common on the south coast (Hine 2008). One fish trap is known from the Breede River mouth, not far from the present excavation sites, but these traps, once thought to have been stone age (Avery 1975; Goodwin 1946), have recently been suggested to be historical (Hine *et al.* 2010).

4. CI03

4.1. Summary of site and excavation

Appearance of site	Deflated shell and artefact scatter within a clearing in the bushes (*Acacia cyclops*). The surface is very flat. There was a slightly deeper mound of shell at the northern end of the excavated area. Figures 4-6 show aspects of the site and excavation and Figure 7 the excavation grid.
Area excavated:	15 m^2 (Figure 6)
Volume excavated:	63.8 bkts / 0.5742 m^3 (excludes the sub-surface test hole)
Shell bulks:	J10
Measureable shell:	All squares
C14 shell samples:	E11, F10, H11, J11
Stratigraphy:	Upper 3-5 cm: deflated shell scatter. Test hole to 0.65 m in F10 showed sterile sand beneath the surface scatter.

Figure 4: View of CI03 before excavation. Scale bar = 0.5 m.

Figure 5: View of the surface of CI03 before excavation. Scale bar = 0.5 m.

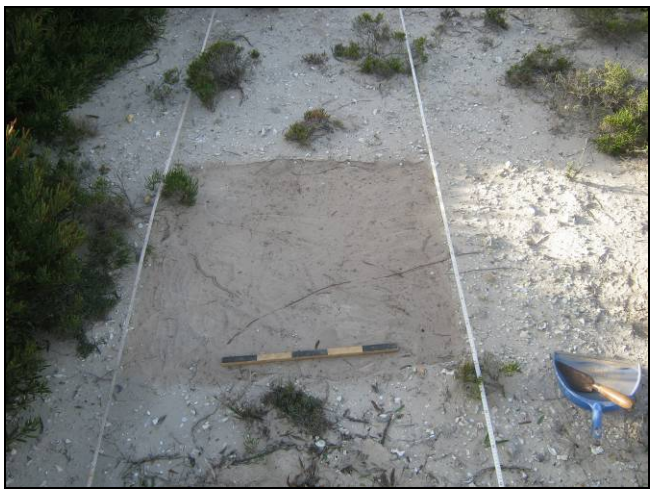

Figure 6: CI03 after excavation of one square. Scale bar = 0.5 m.

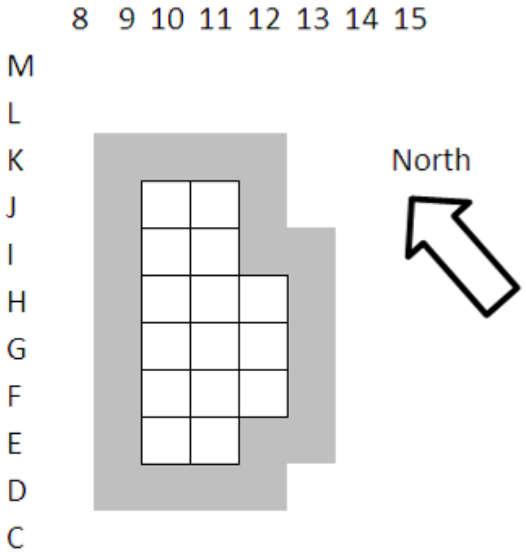

Figure 7: Layout of the excavation grid at CI03. The squares are 1 m by 1 m.

4.2. Dating

One radiocarbon date was processed at the Centre for Applied Isotope Studies, University of Georgia, as follows:

Lab #	Origin	Material	14C age BP	δ13C,‰	Calibrated age
UGAMS-11816	E11	Marine shell	3540 ± 25	0.5	1370-1118 BC

The date was calibrated on the OxCal program (Bronk Ramsey 1995, 2009) using a ΔR value of 205 ± 30 for the south coast (Southon *et al.* 2002).

4.3. Shell

The shell remains were in poor condition and highly fragmented owing to their age - in all, just 42 countable individuals occurred per kilogram of shell. However, several species could be identified from the 1 m^2 shell bulk. South coast shell samples are typically dominated by the local limpet species and brown mussels and this is evident here. Owing to preservation

problems, it was not easy to distinguish the two common limpets, *C. oculus* and *C. longicosta*. As such, their counts were conflated. Table 1 shows that limpets account for approximately half the total with brown mussels comprising most of the remainder. The only other species with countable individuals present was *Turbo sarmaticus* (alikreukel). Shells with evidence of marine organisms growing on them (Figure 8) are assumed to have been brought onto the site attached to mussels. Although a small area of deflated midden was found at the north end of the excavation, the rest of the site comprised only of shellfish scattered on the surface.

Table 1: CI03 shell species frequencies.

Species	**MNI**	**%**
Cymbula oculus	55	48.67
Cymbula longicosta		
Perna perna	43/51	45.13
Turbo sarmaticus	7	6.19
Oyster (small species)	x	
Protoma capensis	x	
Total Weight (kg)	2.57	

Figure 8: Shell fragments showing evidence of marine organisms growing on them.

4.4. Stone

A quartz dominated flaked stone artefact assemblage was recovered (Table 2). This material is frequently common on Later Stone Age sites but Henshilwood's (2008) sites to the east were silcrete dominated. The only retouched piece, an adze, was in silcrete and was very typical in form (Figure 9). Hammer stones indicate stone working happening at the site.

Table 2: Stone artefacts from CI03.

	Quartz	Silcrete	Quartzite	Sandstone
Single platform core	2		1	
Adze		1		
Bladelet	3			
Flake	25	7	4	

	Quartz	Silcrete	Quartzite	Sandstone
Chunk	7			
Chip	20	1		
Total material frequency	**80.28**	**12.68**	**7.04**	
Retouch material frequency		**100.0**		
Hammer stone			1	1
Manuport fragment				1

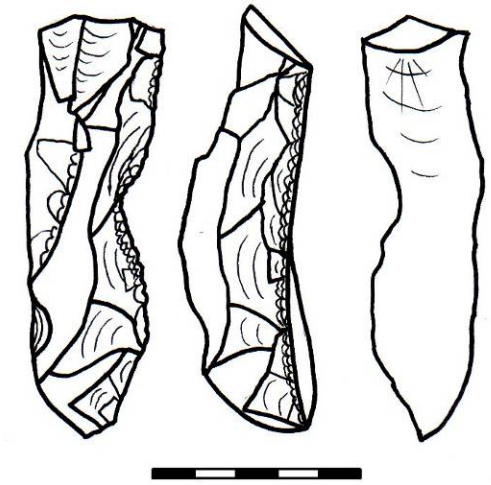

Figure 9: The silcrete adze from CI03, square F11. Dorsal (left), side (centre) and ventral (right) views are shown. The deeply notched working edge is evident. Scale in 5 mm intervals.

4.5. Ostrich eggshell

Just six fragments of ostrich eggshell weighing 2.8 grams were found. None was worked.

5. CI16

5.1. Summary of site and excavation

Appearance of site	Deflated shell and artefact scatter on the seaward end of the crest of a large dune in the southern part of the property. The site was surrounded by a mix of indigenous and alien (*Acacia cyclops*) bushes. Figures 10-11 show aspects of the site and excavation and Figure 12 the excavation grid.
Area excavated:	7 m^2
Volume excavated:	86.7 bkts / 0.7803 m^3 (excludes L47 B.S.3 from the test hole)
Shell bulks:	O47E SURF, O47E B.S., N48 SURF, N48 B.S.
Measureable shell:	All squares and units except L47 B.S.3
C14 shell samples:	None
Stratigraphy:	Upper 5-12 cm: shell scatter with little or no deflation. Removed in two arbitrary levels (Surface and Below Surface) but these constitute one occupation layer. Test hole to 0.59 m in L47 showed scattered but very low density shells. Test hole from 0.59 m to 0.84 m revealed only sterile sand.

Figure 10: View of CI16 after excavation in the space available between the bushes. The hole on the left is the deep test hole while the others are a collapsed mole tunnel. In the background are the manuports and grindstone that were left on site.

Figure 11: View of the surface of CI16 before excavation with the large quartzite core. Scale bar = 0.5 m.

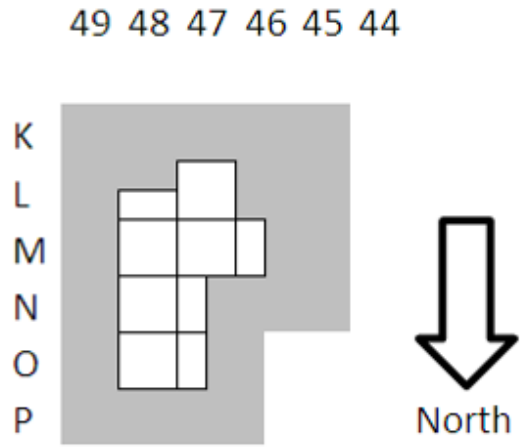

Figure 12: Layout of the excavation grid at CI16. The squares are 1 m by 1 m.

5.2. Dating

Owing to surface contamination of this site and mole activity, no radiocarbon date was processed. However, it is anticipated that the site will be of a similar age to the other two.

5.3. Shell

Shell bulks were retained from 1.5 m^2. A far greater variety of shell was present on this site (Table 3) than was the case at CI03. Again though, the shell was in poor condition and the two primary limpets were once more counted together. Whole, measureable limpets were rare. On this site 45.6 individuals were counted per kilogram of shell. *S. cochlear* could be identified separately as it has very different shape and surface features. Overall, *T. sarmaticus* comprised a greater proportion of the total and, despite the extra limpet species, limpets were markedly less common than in CI03. No proper shell midden was encountered with all shell simply scattered through the sand.

Table 3: CI16 shell species frequencies.

Species **Square**	**N48 Surf**	**N48 B.S.**	**O47E Surf**	**O47E B.S.**	**Total MNI**	**%**
Cymbula oculus	10	11	12	2	35	28.9
Cymbula longicosta						
Scutellastra cochlear	2	4	4	1	11	9.1
Unknown limpet	1				1	0.8
Perna perna	18/10	14/14	6/4	3/1	41	39.8
Modiolus capensis	1				1	0.8
Haliotis spadicea	1				1	0.8
Turbo sarmaticus	9	11	5	5	30	24.8
Diloma sinensis	x	x		x		
Oxystele sp.		x				
Whelk	1	x			1	0.8
Barnacle (small species)	x		x	x		
Protoma capensis			x			
Chiton			x			
Total Weight (kg)	0.73	1.02	0.56	0.34	2.65	

5.4. Stone

A very strongly quartz-dominated flaked stone artefact collection was obtained (Table 4). Only one retouched formal tool was present. This was a segment, a tool typically found on mid-Holocene sites throughout southern Africa (Figure 13). It offers a strong clue to the age of the site in the absence of a radiocarbon date. It came from B.S.2 in the test excavation but, given that the site is on a high dune, mole activity could have moved it from higher up and there is no reason to believe it does not belong with all the other excavated finds. The majority of lower grindstones are recovered face down but the one in this site was found facing upwards. One of the manuports may also have been a very lightly used lower grindstone. All the grindstones and manuports are quartzite cobbles collected from the beach.

Table 4: Stone artefacts from CI16.

	Quartz	Silcrete	Quartzite	Sandstone
Single platform core	1		1	
Segment	1			
Blade	2			

	Quartz	Silcrete	Quartzite	Sandstone
Bladelet	1			
Flake	55	1	6	1
Chunk	13	1	2	
Chip	67		1	
Total material frequency	**92.1**	**1.3**	**5.9**	**0.7**
Retouch material frequency	**100.0**			
?Hammer stone				1
Hammer stone/?Upper grindstone			1	
Lower grindstone			1	
?Lower grindstone fragment			1	
Manuports			3	
Manuport fragments	2		2	2

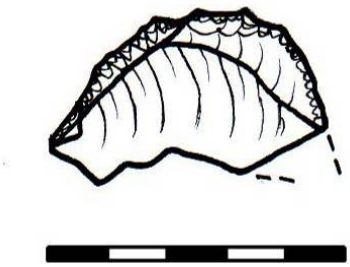

Figure 13: The quartz segment from CI16, square L47 B.S.2. The dashed lines indicate a break. Scale in 5 mm intervals.

5.5. Ostrich eggshell

No ostrich eggshell fragments were found on this site but one small bead was recovered. It measured 4.06 mm in maximum diameter, the aperture was 1.89 mm across at its minimum and the thickness was 1.46. The small size of the latter measurement indicates that the bead was lost long after being made – most ostrich eggshell fragments are in the region of 1.6-2.1 mm thick with the majority around 1.8-1.9 mm.

6. CI18

6.1. Summary of site and excavation

Appearance of site	Deflated shell and artefact scatter near the northern base of the same dune on which CI16 was located. The site was surrounded by a mix of indigenous and alien (*Acacia cyclops*) bushes. Figures 14-16 show aspects of the site and excavation and Figure 17 the grid.
Area excavated:	9 m^2
Volume excavated:	65.3 bkts / 0.5877 m^3 (includes the test hole which had shell throughout)
Shell bulks:	P24
Measureable shell:	All squares.
C14 shell samples:	Q25 B.S.2, Q25 B.S.3, P25
Stratigraphy:	Upper 3-5 cm: deflated shell scatter Test hole 0.05 m to 0.82 m in Q26 showed scattered but very low density shell fragments throughout.

Figure 14: View of CI18 before excavation.

Figure 15: View of the surface of CI18 before excavation. Scale bar = 0.5 m.

Figure 16: View of CI18 during excavation.

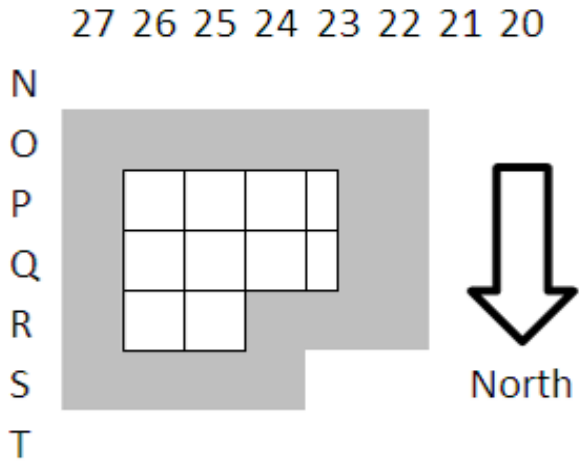

Figure 17: Layout of the excavation grid at CI18. The squares are 1 m by 1 m.

6.2. Dating

One radiocarbon date was processed at the Centre for Applied Isotope Studies, University of Georgia, as follows:

Lab #	Origin	Material	14C age BP	δ13C,‰	Calibrated age
UGAMS-11817	P25	Marine shell	4510 ± 30	1.2	2607-2342 BC

The date was calibrated on the OxCal program (Bronk Ramsey 1995, 2009) using a ΔR value of 205 ± 30 for the south coast (Southon *et al.* 2002).

6.3. Shell

Once more, the shell from this site was very fragmented and in poor condition such that only 42.7 countable individuals could be identified per kilogram of shell. The shell was almost all concentrated near the surface but very ephemeral shell scatter occurred throughout the depth of the test hole. Brown mussels dominate strongly with limpets comprising much of the remainder. *Turbo sarmaticus* again comprise a portion of the shellfish.

Table 4: CI18 shell species frequencies.

Species	**MNI**	**%**
Cymbula oculus	22	28.9
Cymbula longicosta		
Perna perna	36/46	60.5
Other bivalve	1	1.3
Haliotis spadicea	x	
Turbo sarmaticus	7	9.2
Diloma sinensis	x	
Oxystele sp.	x	
Austramegabalanus cylindricus	x	
Protoma capensis	x	
Total Weight (kg)	1.78	

6.4. Stone

A small quartz-dominated assemblage was recovered which included one retouched item, a quartz sidescraper (Table 5; Figure 18). The flaked assemblage otherwise differed little from the other two. Two fragments of ochre were found, one yellow (0.5 g) and one red (0.7 g).

Table 5: Stone artefacts from CI18.

	Quartz	Silcrete	Quartzite	Sandstone
Single platform core	1			
Irregular core	1	1		
Sidescraper	1			
Edge-damaged flake	1	1		
Bladelet	2	1		
Flake	49	8	2	

	Quartz	Silcrete	Quartzite	Sandstone
Chunk	10	1		
Chip	60	1		
Total material frequency	**89.3**	**9.3**	**1.4**	**0.0**
Retouch material frequency	**100.0**			
Manuport				1
Manuport fragment			1	

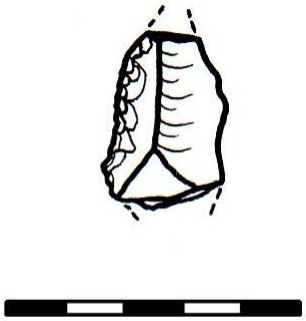

Figure 18: The quartz sidescraper from CI18, square P24. The dashed lines indicate breaks. Scale in 5 mm intervals.

6.5. Ostrich eggshell

Twelve ostrich eggshell fragments weighing 8.3 g were found in the excavation. None showed any signs of modification.

6.6. Donax scrapers

Although no complete *Donax* scrapers were found, two fragments that may well have been *Donax* scrapers were recovered (Figure 19). Both have damage to the appropriate edges but on neither is it as consistent as it should have been. However, *Donax serra* fragments were rare/absent from the shell supporting a specific purpose for these two shell fragments. It may be that both were only partly made.

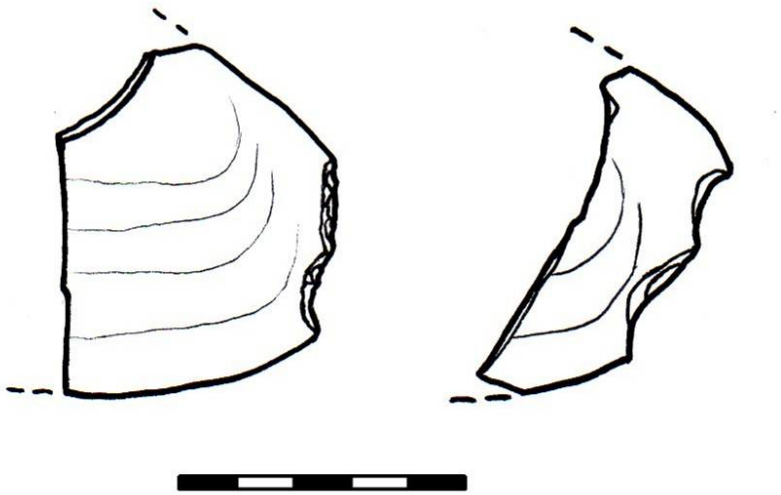

Figure 19: Two possible Donax scraper fragments from Q24 (left) and Q25 (right) on CI18. The dashed lines indicate breaks. Scale in 5 mm intervals.

6.7. Bone

A single mineralised tortoise carapace fragment was found. Whether this relates to the site cannot be said.

7. DISCUSSION & CONCLUSIONS

These three sites have provided the first window into the pre-colonial landscape of the Infanta area. Most archaeological research on the south coast of South Africa has been focused on caves with fewer open sites excavated compared to the west coast. Although caves are far more common on the south coast than on the west coast, this bias may, however, be a result of the lack of publication of contract archaeological excavations. The south coast is well known for the decorative items found on its archaeological sites but they usually have relatively informal flaked stone artefact assemblages. As expected, the cave sites generally preserve delicate decorative material far better than open sites do (but see also Orton & Halkett (2007)). In contrast, on west coast sites we find decorative items often limited to ostrich eggshell beads but the lithics can be highly formalised with rigidly patterned retouched forms being frequent, particularly before 2000 years ago. Exactly where the change from south coast to west coast patterns is cannot be said since there is plenty of overlap:

- Microlithic stone artefacts including retouched items occur along both coasts but are generally infrequent on later south coast sites;
- Large quartzite flaked artefacts dominate within the last 3000 years on the south coast and their presence extends as far west as the southern Cape Peninsula;
- *Donax* scrapers, sometimes perforated, and *Nassarius kraussianus* beads both occur on the south and south-western coasts but are absent from further north (Namaqualand);
- Other marine shell ornaments are common on the south coast but reduce in frequency to the west becoming rare along the west coast; and
- Ostrich eggshell beads occur all along both coasts.

7.1. Stone

The Infanta sites are strongly dominated by quartz and have very few non-flaked stones (manuports, grindstones, etc). This is strongly in contrast to other sites in the region. To the west, at Cape Agulhas, Hine (2008) found shell middens with almost no stone in them at all and most of what was there was manuports. Just east of Infanta, Henshilwood (2008) excavated rich stone artefact collections from his open and cave sites but with quartz remarkably poorly represented. There, quartzite and/or silcrete dominate. Henshilwood found scrapers, segments and adzes on several of his sites and this is in keeping with the Infanta observations, but the material differences suggest a different pattern. Sealy (2006) has postulated the existence of different settlement territories, perhaps separated by rivers, and the stone material signatures evident here may offer further support. Silcrete occurs widely to the north and northeast of the Blombosfontein sites (Henshilwood 2008) but may not be available west of the Breede River.

7.2. Other finds

Besides the marine shells and single mineralised bone fragment, the only other finds were an ostrich eggshell bead and two possible *Donax* scraper fragments. The bead is small, as would be expected, and nothing else can be said of it. Along the south coast decorative items are very common near Knysna and Plettenberg Bay (Inskeep 1987; Kyriacou 2009; Orton & Halkett 2007) but sites closer to Infanta show such finds to be minimal. This is well documented by Hine's (2008) sites at Cape Agulhas where the only decorative item from four excavated sites was a single *Nassarius kraussianus* (tick shell) bead. To the east the sites at Still Bay (Hine 2008) are also very sparse in cultural finds, while at Blombosfontein the vast majority of decorative items came from Blombos Cave itself with the open sites yielding very few (Henshilwood 2008). To this end, the Infanta sites fit the expected pattern. The ostrich eggshell patterns are intriguingly different though. Far more beads, partially made beads and unmodified fragments were found at Blombosfontein, with some of the latter being engraved (Henshilwood 2008). The rarity of ostrich eggshell at Infanta is not readily explainable.

7.3. Dating

The two sites dated here are from about 2500 BC and 1200 BC and the segment on the third suggests a similar age there. Henshilwood's (2008) selection of sites dates almost exclusively to the pre AD1 period and he notes the absence of sites dating later than this from open contexts. It is thus unsurprising that all three Infanta sites are older than 2000 years. However, it is also acknowledged that this pattern may only apply in those areas where rock shelters were available for occupation: Hine (2008) did find open sites dating within the last 2000 years.

7.4. Conclusion

The excavations reported on here are the first conducted in the Infanta area and have thus contributed in a small way to our understanding of the region's prehistory. It is likely that many other similar sites occur in the area and, given the lack of rock shelters, that some of these will be much younger. Once further work has been done in the region we will be able to build a bigger picture of the local occupation sequence.

This report concludes the mitigation phase of work on erf 134 and development of the property may continue subject to other conditions imposed by Heritage Western Cape. The test holes dug beneath the sites excavated here suggest that subsurface archaeology is very unlikely to be present, however, the possibility of unmarked burials cannot be discounted and will need to be considered during the construction phase. To this end, monitoring has already been requested by Heritage Western Cape.

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