Gansbaai Sand Mine Extension – a portion of Erf 210 (Gansbaai Commonage), District Bredasdorp, Western Cape: Archaeological Heritage Impact Assessment Report

by

John Lanham & Royden Yates

Mossel Bay Archaeology Project: Cultural Resources Management cc
PO Box 176
Great Brak River
6525

Company No. CK 2003\007297\23
VAT No. 4160219194

9 July 2006

Executive Summary

This assessment noted a small number of archaeological and cultural heritage materials protected under the National Heritage Resources Act (NHRA) of 1999 within the study area. All of the occurrences comprised low or moderately significant heritage.

Judging from this survey it is probable that, with one notable exception, the proposed extension of the sand mine will not have an impact upon archaeological heritage remains of any measurable significance.

However, a spring and an area of milkwood trees (Sideroxylon inerme) contains in-situ and stratified archaeological materials of medium significance at the local to regional scale. Sand mining will completely destroy this resource.

Overall, it is recommended that heritage is not considered as a reason not to grant mining rights to the applicant subject to the implementation of mitigation measures with respect to the area of the milkwood grove.

With respect to the milkwood grove, it is recommended that:

- *if at all possible, this heritage area should be avoided and conserved during and after mining activities. Coordination of plans for conservation should be sought with respect to the heritage and environmental aspects of the milkwood grove area.*
- *to this end, the developer should contract an archaeologist to closely define the affected heritage area within the Milk wood grove prior to development of the extension to the existing mine*
- *the boundary marked by the archaeologist should be professionally surveyed and this record should be lodged with Heritage Western Cape.*

Alternatively, if it is desired to mine the milkwood area and it is permissible to do so from an environmental point of view, it is recommended that:

- *the developer should engage a professional archaeologist to conduct shovel testing in order to determine what measures are required to mitigate the impact of this development on the archaeology*
- *the developer submit the shovel testing report to Heritage Western Cape for a decision as to the circumstances, if any, under which mining may proceed in the milkwood grove area under a a permit to destroy the heritage noted in this report.*

Introduction

Site Plan Consulting commissioned MAPCRM to conduct an Archaeological Impact Assessment (AIA) of Gansbaai Sand Mine Extension – a portion of Erf 210 (Gansbaai Commonage), District Bredasdorp, Western Cape (refer to Figure 1 at end of document). The proposed development activity affecting the study area is the extension of an existing sand mine by the Mining Permit applicant Sizisa Ukhanyo Trading 410 cc.

Study Area

The study area is a flat strip of land measuring some 1200m long, varying between 180m and 300m wide to enclose approximately 31 hectares, and extends in a north easterly direction from the existing sand quarry roughly 2km east of Gansbaai (refer to Figure 1).

The substrate is sandy. Hills of Table Mountain Group quartzites rise a further 300m to the east above the study area.

Vegetation consists for the most part of invasive woody species such as wattle, eucalyptus and other aliens standing between 3m and 5m high (refer to Figure 2). Lateral visibility is restricted to barely a few meters over most of the area and the ground surface is mostly obscured by leaf litter.

The study area has already been subjected to extensive working over as numerous older and some recent diggings and quarries attest.

Method

The affected area was covered on foot by the Principal Investigating Field Archaeologist (PIFA– author JL of this report) and an assistant as was best possible (refer to walk paths on Figure 1 – please note that only half the walk paths were successfully recorded). Vegetation density largely determined the search routes and the restricted access and visibility introduced by the vegetation made a proper survey very difficult. The PIFA directed particular attention to clear areas and areas of prior disturbance (both exposures and spoil heaps) as a means of sampling for the presence of archaeological materials. In all, the length of the study area and parts of periphery were covered on foot.

The method of foot survey normally is appropriate for an AIA survey. Given sufficient time, the method allows a thorough assessment of what is to be found and where. The method fails however, in instances such as the present survey where there is limited visibility of the ground. This situation can be remedied partly by representative sampling and the assessment of the quarry scars, the vehicle track ways and other clearings served this purpose in the present study.

Given the high probability that any heritage present would be from the Late and / or Middle Stone Age and would be discrete in distribution rather than widespread (an expectation based on experience), it is difficult to assess the adequacy of survey under conditions such as those present in the study area.

Fieldwork was conducted over one day.

The PIFA has a BA (Hons) degree in archaeology from the University of Cape Town and has participated in and led field surveys for over twenty years. The PI (author RY) has a BA degree in archaeology from the University of Cape Town and has worked as a professional archaeologist for 25 years and has written numerous research papers as well as reports on field surveys conducted as a consultant and as a researcher. Neither the PI nor the PIFA have affiliation or connection whatsoever with any party or parties proposing to undertake the development of Gansbaai Sand Mine Extension.

Results

A discontinuous calcified horizon occurs in some of the exposures located closed to the existing works (refer to Figure 3). This was not very thick (less than 0.1m) and did not contain any fossil material wherever the calcrete was observed.

This study observed only one clear instance of archaeological remains protected under the National Heritage Resources Act (NHRA) of 1999. One other instance is sufficiently ambiguous that the relevance of the NHRA is unclear.

Table 1 provides position information for the observations. The ambiguous instance consisted of an isolated possible stone structure (structure? in Table 1) and the remaining three observations are related to an area within which there is a general occurrence of definite heritage remains (observations Milkwood, Qzite flake and Spring in Table 1) (refer to Figure 1 for location).

No further archaeological material was found in the study area along the routes that were walked.

Name	**central meridian 19°E – Cape datum**		**WGS84**	
	X	**Y**	**Latitude (°S)**	**Longitude (°E)**
structure?	3827308	-34618	34.575787866	19.376642704
Milkwood	3827535	-34194	34.577853167	19.372034669
Qzite flake	3827499	-34216	34.577525938	19.372276068
Spring	3827558	-34249	34.578057015	19.372635484

Table 1: location information

Observation structure?

A sub-rectangular arrangement of stones, suggesting the foundation of a small structure, some 2.5m by 4m lies towards the north eastern-most end of the study area (refer to Figure 4). There was no interstitial plaster, which suggests that if this was indeed a building it was a very informal one. Due to leaf litter and grass cover, it was not possible to find any cultural remains in the vicinity which would lend support to the idea of a settlement and give some idea as to the age of the feature. The occurrence is somewhat ambiguous and it is possible that this is a natural alignment of stones or a very casual rearrangement of

rocks in the proximity for unknown purposes.

Rating of importance: **low**
Context of rating: **recent history (i.e. post-colonisation - less than 300 years old)**
Geographic scale of rating: **local**
Reason for rating: **the occurrence is not conclusively a cultural structure**

Observations Spring, Milkwood and Qzite flake

A natural spring occurs close to the western boundary of the study area with slightly higher ground to the north and west which is covered by a stand of milkwood trees (*Sideroxylon inerme*) (refer to Figures 1 and 2). This area, which is still used for informal camping, is described in some detail as it clearly presents an issue with respect to the proposed development.

Some archaeological material occurs under and between these milkwood trees (refer to Figure 5). Included in this material were some small (less than 20mm) quartz flakes and some larger quartzite flakes. One quite large (60 by 40mm) triangular quartzite flake had some coarse retouch/utilization along the one edge. This was the closest to “formal” retouch noticed in about 20 stone artefacts seen.

In an animal burrow a small patch of ash was visible in section (refer to Figure 6). No cultural remains could be seen, but the exposure was very limited. It is possible that this represents a recent camp fire but this report assumes otherwise until evidence emerges to the contrary.

Some marine shell fragments were also noted and they included turban shells, mussels and limpets (refer to Figure 7) . No animal bone was noticed but such faunal remains may be buried.

There were also some exposures of calcrete among the trees.

Rating of importance: **medium (provisional as based on poor information)**
Context of rating: **Late Stone Age - last 10,000 years history**
Geographic scale of rating: **local to regional**
Reason for rating: **poor state of knowledge about the occurrence; probable presence of stratified deposits; and the spring and milkwood grove acting as activity focus for camp sites over millennia.**

Assessment of possible impacts on heritage resources

Sand mining will result in the disturbance of the top few metres of unconsolidated sediment. It is safe to assume that this will entirely destroy any archaeological heritage remains that lie on the surface or stratified within the sediment.

Judging from this survey it is probable that, with one notable exception, the proposed extension of the sand mine will not have an impact upon archaeological heritage remains of any measurable significance.

Some residual uncertainty exists about this prediction however, due to the highly unsatisfactory conditions under which the survey was conducted and the fact that most of the affected sediment is buried from sight. This situation is not easily remedied.

The area of the spring and milkwood grove presents a notable exception to the general assessment of little or no impact. Based on the information available from this survey, mining in this area will result in a permanent and negative impact of medium significance at the local to regional scale. It must be noted that the quality of information about the occurrence is provisional considering the extent of ground cover.

Recommendations arising from assessment

It is recommended that heritage concerns do not present any issues warranting a withholding of overall approval for the extension of the Gansbaai Sand Mine, subject to the implementation of the mitigation measures described below.

With respect to the milkwood grove, it is recommended that:

- if at all possible, this heritage area should be avoided and conserved during and after mining activities. Coordination of plans for conservation should be sought with respect to the heritage and environmental aspects of the milkwood grove area
- to this end, the developer should contract an archaeologist to closely define the affected heritage area within the milkwood grove prior to development of the extension to the existing mine
- the boundary marked by the archaeologist should be professionally surveyed and this record should be lodged with Heritage Western Cape (HWC).

Alternatively, if it is desired to mine the milkwood area and it is permissible to do so from an environmental point of view, the developer will need to apply to HWC for a permit to destroy the heritage**.** Acquiring this permit is a legal obligation in terms of the NHRA of 1999.

In order to consider whether or not to issue the permit, HWC will need information on the formal grading of the occurrence and recommendations as to how to mitigate the impacts of the mining. These measures could entail the collection of materials, the conducting of formal archaeological excavations or, it must be noted, if the site sustains a high grade,

formal protection in perpetuity.

To initiate this process, it is recommended that:

- the developer should engage a professional archaeologist to conduct shovel testing in order to determine what measures are required to mitigate the impact of the mining development on the archaeology
- the shovel testing study should be sufficiently intensive so as to evaluate the variations in distribution of various heritage materials throughout the area and should quantify densities of such remains as far as is possible.

Persistant monitoring is not recommended in this report as a means of mitigatingthe residual uncertainties as it is impactical over the term of the mine's life span. The operators of the mine should be requested to report any fossil or cultural materials revealed as a result of the mining.

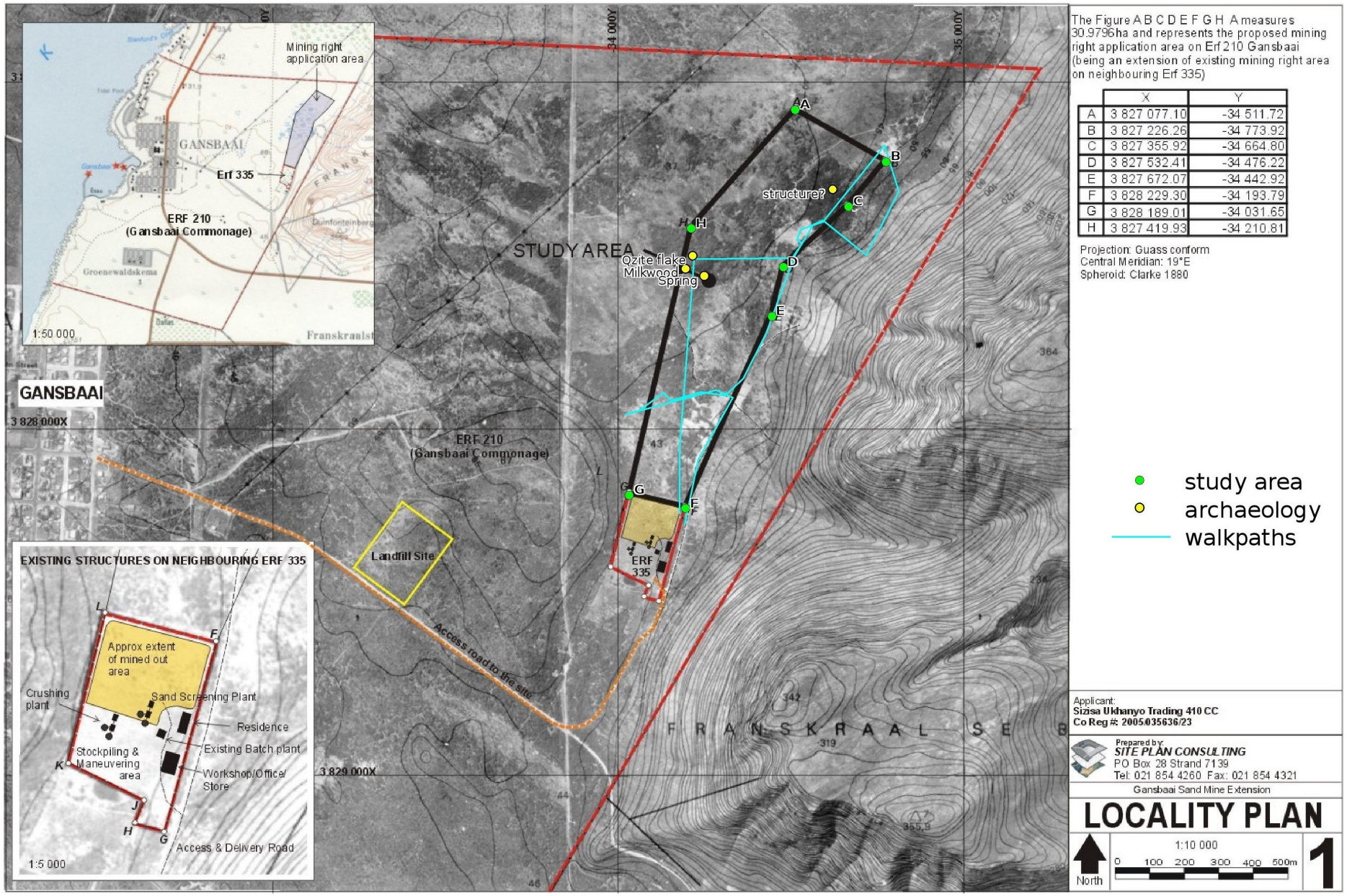

Figure 1: Location of study area and heritage materials

Figure 2: view of study area

Figure 3: calcified horizon

Figure 4: possible stone structure

Figure 5: typical camp space under milkwood trees

Figure 6: fireplace in profile of burrow

Figure 7: fragments of marine shells