

**REPORT TO THE NATIONAL MONUMENTS COUNCIL ON THE EXCAVATION OF A QUATERNARY CARNIVORE LAIR, BESAANSKLIP, NEAR SALDANHA, WESTERN CAPE: 30 SEPTEMBER - 19 OCTOBER 1996.\***

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- Pretoria office, Council for Geoscience: Dr N. Keyser, Ms H. Laubscher
- South African Museum: Dr. M. Cluver, Dr G. Avery, Dr R. Smith, Ms P.Haarhoff
- Bellville office, Council for Geoscience: Dr D. Roberts
- Dept. of Archaeology, University of Stellenbosch: Prof. H.J. Deacon

## **INTRODUCTION**

During the first half of 1996 I was approached by Ms Hymne Laubscher of the Pretoria office of the Council for Geoscience for possible assistance in the excavation and study of a late Quaternary fossil site known as Besaansklip, near Saldanha on the west coast of South Africa. She visited me at the Florisbad Research Station and showed me some of the specimens, which she had collected immediately before her visit to Florisbad. I was struck by the similarity in preservation between these specimens and those of the well-known Swartklip sites. Having identified two extinct bovids, "*Pelorovis*" *antiquus* and *Megalotragus priscus*, I assured her of the potential of the fossil locality and offered assistance.

The National Museum was officially approached by the director of the Council for Geoscience on 6 September 1996 with a request for assistance in the excavation of the Besaansklip site. Since the site was under threat, being in the centre of a mine, I agreed to help with the understanding that the National Museum would be compensated for all field expenses. I suggested we should aim towards an initial report on the work and that this report should be published with members of the National Museum and the Council for Geoscience as co-authors. I further suggested that, in addition to taking radiocarbon samples, we should approach an expert on ESR dating, Dr Rainer Grün from Canberra, to take samples for ESR dating. I also suggested that the material recovered could be prepared and studied at the Florisbad Research Station.

The fieldwork was planned to follow directly on the conference of the Palaeontological Society of South Africa, held in Stellenbosch from 24 to 27 September 1996.

## **PLANNING THE FIELDWORK**

Based on descriptions and photographs shown to us by Ms Laubscher we planned fieldwork for an initial period of three weeks. It seemed clear that the site consisted of one or more hyaena burrows in fossil dune deposits, with an overburden of recently disturbed calcrete. This situation appeared similar to what we had experienced recently in rescue excavations in a diamond mine near Bloemhof, where we recovered a series of mid-Holocene hyaena lairs. I suggested that the overburden should be removed mechanically and I requested Ms Laubscher to arrange this with the mine manager. Besides my own presence at the site and that of Mr Lloyd Rossouw following the PSSA conference in Stellenbosch, I arranged for three of our research assistants at Florisbad, Mr A. Dichakane, Mr E. Maine and Mr P. Mdala to travel down by bus on 19 October 1996. Mr Maine and Mr Dichakane are expert excavators, while Mr Mdala is in charge of the comparative osteological collections at Florisbad and is experienced in processing bone specimens. I arranged to be at the site during the initial phase of the fieldwork and planned to leave the excavation in the hands of Mr Lloyd Rossouw, while returning to Bloemfontein to finalize arrangements for the visit of Dr Rainer Grün.

## **EXCAVATION**

The excavation at Besaansklip was carried out with little deviation from the plan. On 28 September 1996 I inspected the site in the company of Dr Dave Roberts, geologist at the Bellville office of the Council for Geoscience, who discovered the site while working on coastal dune deposits. Our initial inspection of the site on 28 September 1996 confirmed my expectation, *i.e.* that the fossil

material derived from hyaena burrows in fossil dune sands.

On Monday 30 September 1996 we started work. At first we sieved the talus deposit, which had been left behind after previous mechanical excavation of the deposit by the mine. From this disturbed deposit we recovered remains of a wide range of species. By late morning the mechanical excavator had arrived and we started to remove the overburden in order to open an area of approximately 15m<sup>2</sup> with as little damage as possible to the underlying fossil-bearing stratum. Having brushed the exposed surface it was immediately clear that two parallel-running tunnels with densely packed fossil bones were at the centre of this area. We laid out a meter square grid, arranged the rest of the fieldwork equipment and started the excavation. On Tuesday 1 October 1996, Prof. H.J. Deacon, Department of Archaeology, University of Stellenbosch, visited the site. On the evening of that day I travelled to Bloemfontein by bus, leaving the excavation to be conducted further by Mr. Rossouw.

We followed standard archaeological field techniques, mapping all finds in three dimensions and recording all features as far as is possible. Specimens missed in the excavation were retrieved by sieving. To maximise working time the evenings were used for cleaning and marking specimens. After about a week the initially exposed area had been excavated and Mr Rossouw supervised further exposure of the surface to produce a total area of approximately 32m<sup>2</sup>. When I arrived on the morning of 15 October 1996 most of the second exposure had been excavated. The excavation progressed relatively rapidly on account of the dense concentration of the fossil remains in two burrows. Dr Grün took his samples on 15 October 1996 and on the following day we sampled other sites of Dr Roberts. The rest of the week was spent in supervising the last stages of the work and the final boxing of the fossil material for the trip to Florisbad, as was arranged beforehand. I also visited some other fossil sites in the vicinity in the company of Dr Roberts. On 19 October 1996 I transported the fossil specimens to the Florisbad Research Station.

## **LABORATORY WORK**

On Monday 21 October 1996 staff of the Florisbad Quaternary Research Department continued with preparation and curation of the fossil material. We did some reconstructing of individual specimens and numbered all specimens, with the exception of some smaller fragments. After approximately three weeks Ms Laubscher visited Florisbad to continue with work on the specimens. However, Ms. Laubscher, who was not satisfied with the arrangement of a joint publication on the fossil materials, decided to transport all specimens to Pretoria where she intended to continue the study. I helped Ms Laubscher to organize the collection in preliminary taxonomic order and to box the material for transit to Pretoria. Regrettably I was unable to inspect the final condition of the material prior to Ms Laubscher's departure to Pretoria, since she left earlier than arranged. The collection is at present housed in the Pretoria office of the Council for Geoscience.

## **RECOMMENDATIONS**

The collection, about 1500 specimens, probably represent a glacial phase and is of great importance in expanding our understanding of pre-Holocene environments in the Western Cape coastal zone. There are at least 40 species represented in the assemblage, most of which are large mammals, including the usual suite of Florisian extinct ungulates, with the exception of *Antidorcas bondi* and

*Equus (Asinus)* sp. The quality of preservation of the specimens and taxonomic diversity make this assemblage exceptional and it deserves careful study.

Given the general inexperience of Ms Laubscher in the field of Quaternary palaeontology and the absence of a suitable mentor at the Pretoria office of the Council for Geoscience, the Council for Geoscience should take the necessary steps to ensure no loss of potential information regarding the assemblage. It is important that the specimens should be stored and handled in such a way that they are not damaged. A sensible step would be to obtain a supervisor for Ms Laubscher who has experience in the curation and study of Quaternary/Holocene animal remains in order to guide Ms Laubscher. Such expertise is available at the Transvaal Museum in Pretoria.

I recommend that the collection should eventually be housed in the South African Museum in Cape Town (SAM). In the SAM all other similar coastal assemblages are housed at the moment, storage facilities at the SAM are excellent and the necessary expertise in curation is available. Since the Pretoria office of the Council for Geoscience is not generally known to have Quaternary collections, an added advantage of eventually housing the material in the SAM would be its accessibility.

Bloemfontein, 15 January 1997