

■ SOUTH AFRICA

Bundu Farm. A Middle and Later Stone Age Pan Site, Northern Cape, South Africa. Preliminary results of fieldwork 1998-2000

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Introduction

During 1998-2000 the author completed a series of excavations at Bundu Farm, a pan site with stratified sediments, containing worked lithics and faunal remains. The following report details the preliminary results of this work and the nature of material recovered. The site is found in an area of the Northern Cape where, although archaeologically rich, little research has been undertaken (Beaumont and Morris 1990). The majority of work here has concentrated on the Later Stone Age and historical times (Humphreys and Thackeray 1983; Deacon 1986).

Site Location

Bundu Farm is located in the Northern Cape Province, 22°12' E, 29°45' S (Topo-Cadastral map 1:250,000 Government Survey 2922 Prieska). Situated in open grassland on the edge of Great Bushmanland in the Upper Karoo, Bundu Farm lies west of the Orange River at Prieska and the Doringsberge hills. The pan itself sits adjacent to the farmhouse close to the road that runs between Fransenhof and Marydale (Figure 1).

Site Background

Unpublished ESR dates from tooth enamel has given a range of 150,000-300,000 years bp for the site. During post-excavation analysis, it is the

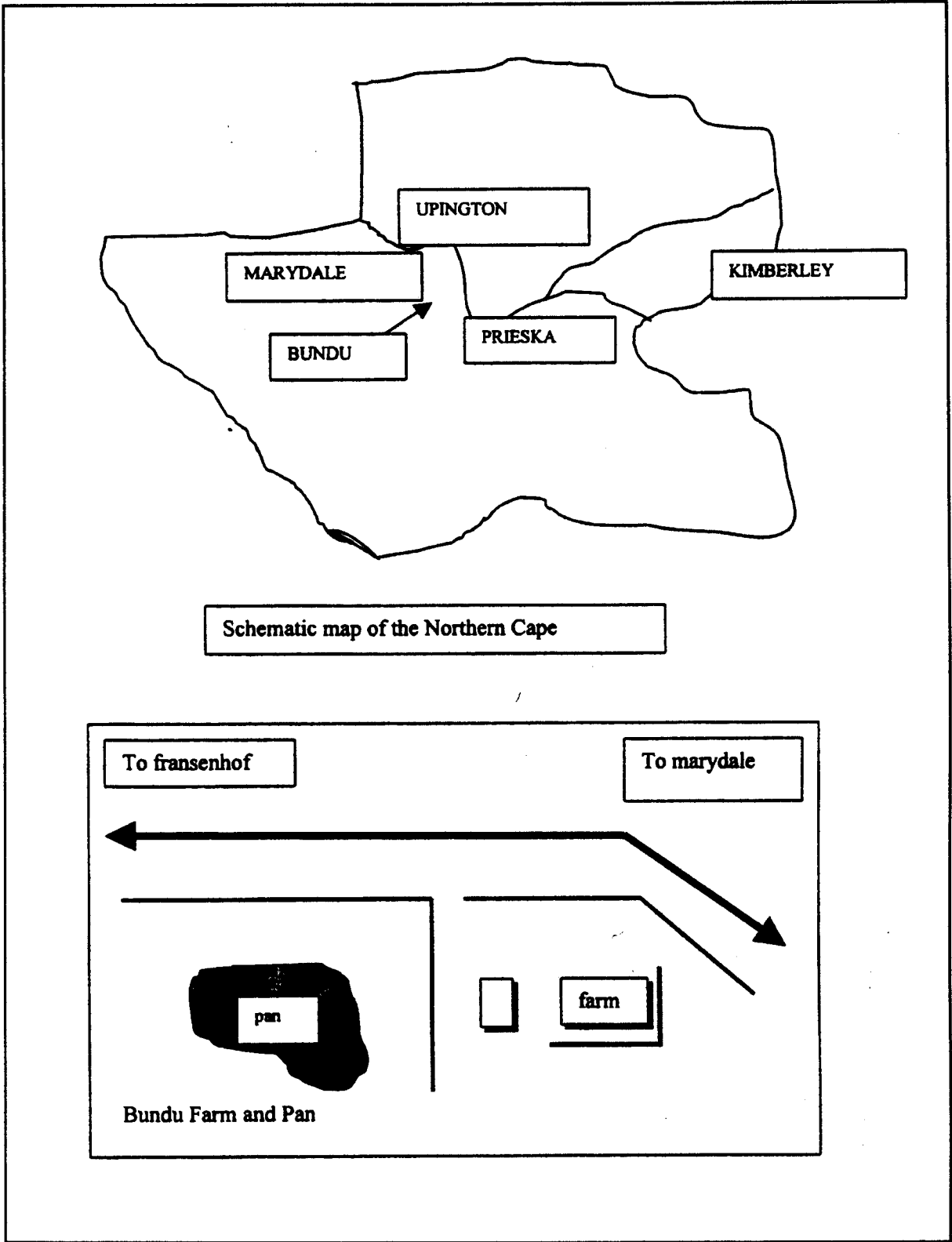
intention to obtain further ESR dates, as well as employing other dating criteria, particularly amino acid racemization, and optical spin luminescence for lower levels and ¹⁴C for upper levels. The importance of the site is its extensive MSA deposits with good quality faunal and lithic material. Both are well preserved and numerous enough to allow for statistically viable analyses to be undertaken. Questions on the function, taphonomy, age range, use and relationships at the site can be addressed.

The faunal material, has been identified by James Brink of the National Museum, Bloemfontein, as Florisian. The faunal sequence for the Middle Pleistocene in Southern Africa still has gaps, so any site which contains preserved faunal material is of great interest in helping to broaden our knowledge of this period. The Bundu site may also be of great value in assessing more broadly the activities of MSA people in South Africa. Geographically it is a bridge between coastal sites such as Klasies River Mouth, and inland sites such as Wonderwerk Cave and Florisbad.

The nature of pans in the Northern Cape

Pans in the area appear as small deflation hollows; the majority are permanently or near permanently dry, but may fill with water following summer rains (Lancaster 1978). Bundu Farm pan represents one of many such pans in the region; five other sites with artifacts have been identified with a 3 km² area on land belonging to the farm. Several further depressions, probably small pans, have also been observed. Since they have not been disturbed, it is not known if these contain artifacts. Where pan sites occur close to a road they have usually been quarried to provide road gravel. Those situated away from roads, in the veld, have often had the central depression enlarged to encourage the capture of rainwater to provide water for farm stock. It is this gravel extraction or enhancing of the central depression which has exposed archaeological material. In the case of road gravel extraction material throughout a sequence may be exposed, whilst following the depression will usually only reveal the immediate subsurface assemblages. At Bundu Farm, preserved faunal remains and lithics were observed during extraction of gravel for road maintenance. Fortunately, the farmer reported this to the

Figure 1:. Site location.



McGregor Museum, Kimberley. Following initial surface collections, a project to excavate and record the site was set up by the author in 1996 in collaboration with the McGregor Museum.

Fieldwork programme

Fieldwork at the site has comprised a three-fold programme. First is the surface collection of exposed lithic and faunal remains. It is hoped that alongside the excavated material these redeposited assemblages will provide an indication of the range of material at the site. In addition, exposed faunal remains have been targeted in order to preserve them through excavation, as once exposed they are in danger of being lost through erosion.

Secondly, a sampling system was put in place to test the integrity of undisturbed deposits. This has identified areas of artifact concentration and provided an idea of sediment depth across the site, allowing the positioning of excavation trenches. Following sampling, larger trenches have been excavated to provide a stratigraphic record of the site and the recovery of stratified artifactual material. The third aspect is the surveying of the site and its environs, including typing the excavated pan (known as Pan 1) to other pans in the immediate vicinity and pinpointing raw material sources.

Preliminary Results 1998-2000

A total of 22 trenches have been positioned across the site. These range from small 500 mm² sampling trenches to open area trenches 1 x 2 m in size. Excavation has determined that the sediments are generally shallow across the pan with an average depth of 600 mm and a maximum depth of 1.4 m. A general stratigraphy for the site is detailed in Table 1. This broad stratigraphy varies locally within the site, presumably reflecting site taphonomy. A notable feature seen in trenches 1, 2, 13, 14, 15, 16 and 18 is a boulder calcrete 'raft' which forms a marker horizon with artifacts lying on it and calcified in its upper surface, and also stratified below it. A further prominent horizon noted in all excavated trenches is a 100-150 mm gravel band containing worked and natural stone pieces. This lies variously below sand-silts and clay-silts and above calcrete. An equivalent horizon has been observed in the exposed sides of other pans on the farm. As such it

appears to represent a specific regional period of accumulation.

Identified horizons contain artifacts characteristic of the Middle and Later Stone Age. The presence of artifacts throughout the sequence suggests occupation of the area during arid and wet climatic times. Future work will focus on determining the nature of major artifact horizons and their relationship to climatic change.

Lithic Material

A full analysis of the lithic assemblage is currently in progress. A range of lithic types has been identified at the site. These include small to large flake-blades, points, various regular and irregular flakes, discoid, tortoise, centripetal, and prepared platform cores and possible scrapers, including notched ones. These have been made mainly on the locally abundant quartz and quartzite. LSA microlithic flakes and blades, along with larger scrapers and tools are evident both on and within the upper red sands. Several clear quartz crystals have also been found amongst the LSA material.

The upper layers of MSA contain quantities of flakes, flake-blades, points, blades and cores, both uni- and multi-directional. Lower levels of MSA and possible ESA tend to be larger with flake-blades also evident, including convergent flake-blades, regular and irregular flakes, polyhedral cores, cobbles, and large prepared cores. The range of tool types and the regular occurrence of material in all layers would suggest that occupation at the site is spread over a wide time range. Equally several large unworn pieces would imply that material is *in situ* in certain contexts and that activity took place within the confines of the pan. These pieces do not appear to have been washed or moved by a soil creep process into the pan.

Fauna

The fauna, detailed in Table 2, has been identified by James Brink, from a sample of collected material. Body parts range from horns, phalanges, main limb parts, scapulae, rib fragments, vertebrae to cranial fragments. This includes a primate (probably baboon) phalanx. Fauna has primarily been collected from a calcrete to the west of the main

Table 1:. Schematic stratigraphic sequence.

| Stratigraphic layer | Cultural Affiliation |
|--|----------------------|
| 1. Red sand and silt layers | LSA and MSA |
| 2. Artifact rich layers - occasional lenses | MSA |
| 3. Red-brown sand silt layer | MSA |
| 4. Pebble layer with artifacts; occasional fauna | MSA |
| 5. Clay silt with red sand/silt sand partially calcified lenses; fauna | MSA |
| 6. Further artifact layer - calcified pebbles; fauna | MSA/EMSA |
| 7. Sterile clay /calcified layer | |
| 8. Natural | |

Table 2:. Identified animal species.

| Taxon | Common Name | Number of identifiable specimens |
|-----------------------------|---------------------|--------------------------------------|
| Perissodactyla | | |
| <i>Equus capensis</i> | Extinct zebra | 2 |
| <i>Equus</i> small species | Small zebra species | 4 |
| | | |
| Artiodactyla | | |
| <i>Phacochoerus</i> species | Warthog | 9 |
| <i>Damaliscus dorcas</i> | Blesbok | 1 |
| <i>Connochaetes gnou</i> | Black wildebeest | 15 |
| <i>Megalotragus priscus</i> | Hartebeest | 6 |
| <i>Antidorcas</i> species | Springbok | 1 |
| | | |
| Primates | | |
| <i>Papio ursinus</i> | Baboon | 1 |
| | | |
| Struthioniformes | | |
| <i>Struthio camelus</i> | Ostrich | Presence based on eggshell fragments |

excavation area. Some calcified teeth have been recovered from the lower levels of the deeper trenches. The presence of faunal remains across the site appears to reflect differential preservation rather than activity.

Discussion

The relationship of fauna and lithic material at the site remains uncertain. Exactly what pattern of behaviour existed at the site will hopefully be revealed as more work is conducted. It is possible that the pan was regularly visited as part of a seasonal exploitation of the region. The nature of this exploitation and place of pan within this seasonal activity may well have changed over time especially as consequence of climatic change. When the pan held semi-permanent water there may have been little need for groups to move widely over the landscape, so they may have been more sedentary. This could account for periods of greater lithic accumulation. Alternatively these intense accumulations may relate to drier periods when the pans were one of only few sources of food. Or they were potential ambush sites for prey or where weakened animals could be killed. Perhaps during times of greater rainfall the open veld offered sufficient game and alternative water sources not to require a regular presence near the pans. It is hoped that future analysis will be able to address these and other issues.

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