

Phase 1 Heritage Impact Assessment of a new borrow pit
(BP9) at Dithakong, located northeast of Kuruman, NC
Province.

Report prepared by
Paleo Field Services
PO Box 38806
Langenhovenpark
9330

10 September 2019

Summary

At the request of Greenbox Environmental Consultants, a Phase 1 Heritage Impact Assessment was carried out for the proposed development of a new 5 ha borrow pit, designated Borrow Pit 9, near Dithakong in the Northern Cape Province. Located 2.7 km to the west of Dithakong, the proposed borrow pit covers 5ha of relatively flat, tree-covered terrain that appears to be mainly utilized for animal husbandry. The site is underlain by palaeontologically insignificant, Campbell Group quartzite, conglomerate and volcanic rock that are capped by well-developed red to reddish – brown, Quaternary – aged, Kalahari Group aeolian sand. The proposed development will have no impact *in situ* Stone Age archaeological material, and there are no indications of prehistoric structures, historically significant buildings older than 60 years, aboveground evidence of graves or rock art within the confines of the footprint area. As far as the archaeological heritage is concerned, the proposed development is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C. Further development may proceed with no further assessments required.

Introduction

At the request of Greenbox Environmental Consultants, a Phase 1 Heritage Impact Assessment was carried out for the proposed development of a new 5 ha borrow pit, designated Borrow Pit 5, near Dithakong in the Northern Cape Province (**Fig. 1**).

The study is required in terms of Section 38 of the National Heritage Resources Act 25 of 1999 as a prerequisite for any development which will change the character of a linear development exceeding 300 m in length. The task involved identification and mapping of possible paleontological and archaeological heritage within the proposed project area, an assessment of their significance, related impact by the proposed development and recommendations for mitigation where relevant.

Terms of Reference

- Identify and map possible paleontological and archaeological sites and occurrences using available resources.
- Determine and assess the potential impacts of the proposed development on potential paleontological and archaeological resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

Study approach

The heritage significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature. This was followed by a field assessment by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant archaeological information, aerial photographs and site records were consulted and integrated with data acquired during the on-site inspection.

Locality data

1 : 50 000 scale topographic map: 2723 AB Bothithong

1 : 250 000 scale geological map: 2722 Kuruman

Site center coordinates: 27° 4'47.88"S 23°53'45.91"E

Located 2.7 km to the west of Dithakong, the proposed borrow pit covers 5ha of relatively flat, tree-covered terrain that appears to be mainly utilized for animal husbandry (**Fig. 2**).

Geology

The bedrock geology of the region is made up of Campbell Group (*Vvq*) and Olifantshoek Group (*Vg*) rocks (Griqualand West Sequence), mantled by surface limestones (**TI**) and Quaternary aeolian sands (*Qs*). Ventersdorp lava outcrop (*R*) is present to the northwest and east of the village of Dithakong (**Fig. 3**).

Background

The Kathu-Kuruman-Taung region is generally rich in Early, Middle and Later Stone Age open sites / surface scatters (Helgren 1978; Humphreys 1978; Kuman 2001; Beaumont & Vogel 2006). Intact palaeontological and Stone Age archaeological sites are frequent and widespread in the region and include important localities like Taung, Kathu Pan, and Wonderwerk Cave (Beaumont & Morris 1990). The tufas at Norlim, near Taung contain solution cavities that produced the first type specimen of *Australopithecus africanus* (Dart 1925). Subsequent excavations have produced fossil vertebrate material attributed to over 20 different animal species. Another important locality at Norlim is Equus Cave, a Late Pleistocene fossil locality that has produced over 40 mammalian species, including the extinct taxa *Equus capensis*, *Megalotragus priscus* and *Antidorcas bondi*.

Archaeological investigations at Wonderwerk Cave show evidence of *in situ*, ESA, Fauresmith and Middle Stone Age, as well as Later Stone Age deposits, including rock art (Thackaray *et al.* 1981; Chazan *et al.* 2012). It is unique since few sites have yielded such a long sequence of *in situ* ESA horizons which also cover the ESA/MSA transition, while none of the other ESA sites in Southern Africa have yielded such abundant and well preserved *in situ* micro and macro-faunal and botanical remains. Specularite mining sites at Doornfontein and Beeshok near Postmasburg, provide evidence of LSA mining practices and the introduction in the region by 1200 BP, of domesticated ovicaprids and possibly cattle as well as pottery. Dolomite terraces and exposed valley floors along the Kuruman River valley are at places decorated with rock engravings that reflect colonial and LSA/Iron Age frontier interactions (Fock &

Fock 1984). Sites found northwest of Kuruman, include Gamohaan, Maropeng, Batlharos and Mahakane.

The archaeological footprint around Dithakong is primarily represented by stone wall remnants of the early 19th century BaTlaping capital Dithakong, located near the modern village of Dithakong (**Fig. 4**). At the time of the 1801-1803 Borchers and Somerville expedition, Dithakong was an important BaTlaping (BaTswana) capital. It was calculated that the number of huts there were at least not less than 1 500 and the number of occupants at somewhere between 8 000 and 25 000 (Maingard, 1933; Beaumont 1983; Morris 1990). Extensive stone wall enclosures are found on the adjacent hills and archaeological investigations during the 1980's have revealed that the ruins were built during the 15th century A.D. and possibly by sedentary Khoi groups. The area consists of primary and secondary enclosures and cover a total area of about 1 km² comprising hundreds of circles of varying size (**Fig. 4**).

Field Assessment

The site is underlain by Campbell Group quartzite, conglomerate and volcanic rock outcropping along the southern boundary of the site. Surface deposits are made up of well-developed red to reddish – brown, Quaternary – aged, Kalahari Group aeolian sand (**Fig. 5**). The pedestrian survey indicated that the proposed development is traversed by the main (gravel) road entering Dithakong from the west. There is no aboveground evidence for *in situ* Stone Age archaeological material, and there are also no aboveground indications of prehistoric structures, aboveground evidence for graves or historical buildings older than 60 years within the footprint area. Investigation of shallow, intersecting erosional gullies indicated little evidence of potential intact fossil material within the Quaternary overburden (**Fig. 6**).

Impact Statement and Recommendation

The site is underlain by palaeontologically insignificant, Campbell Group quartzite, conglomerate and volcanic rock that are capped by well-developed red to reddish – brown, Quaternary – aged, Kalahari Group aeolian sand. The proposed development will have no impact *in situ* Stone Age archaeological material, and there are no indications of prehistoric structures, historically significant buildings older than 60 years, aboveground evidence of graves or rock art within the confines of the footprint

area. As far as the archaeological heritage is concerned, the proposed development is considered to be of low archaeological significance and is assigned a site rating of Generally Protected C. Further development may proceed with no further assessments required.

References

- Beaumont, P.B., 1983. *Dithakong*. South African Soc. Newsletter 6 (2).
- Beaumont, P.B., 1990. Kathu Pan. In: Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley, pp. 101-134.
- Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley.
- Beaumont, P.B., Vogel, J.C., 2006. On a timescale for the past million years of human history in central South Africa. *South African Journal of Science* 102, 217-228.
- Chazan, M., *et al.* 2012. The Oldowan horizon in Wonderwerk Cave (South Africa): archaeological, geological, paleontological and paleoclimatic evidence. *Journal of Human Evolution* 63(6):859-66.
- Dart, 1925 *Australopithecus africanus*: the man-ape of South Africa. *Nature* 115, 193 – 199.
- Fock, G.J. and Fock, D.M.L. 1984. *Felsbilder in Sudafrika: Kinderdam und Kalahari*. Köln. Böhlau Verlag.
- Helgren, D.M. 1978. Acheulian settlement along the lower Vaal River, SA. *Journal of Archaeological Science* 5: 39 – 60.
- Humphreys, A.J.B. 1978. The re-excavation of Powerhouse Cave and an assessment of Frank Peabody's work on Holocene Deposits in the Taung area. *Ann. of the Cape Prov. Museums (nat. Hist)* 2 (12): 217 – 244.
- Kuman, K. 2001. An Acheulean factory site with prepared core technology near Taung, SA. *South African Archaeological Bulletin* 56(173&174): 8 – 22.
- Maingard, L.F. 1933. The Brikwa and the ethnic origins of the BaTlaping. *South African Journal of Science* 30, 597 – 602.

Morris, D. 1990 Dithakong. In: Beaumont P.B., Morris D. (Eds.). *Guide to the Archaeological Sites in the Northern Cape*, McGregor Museum, Kimberley.

Thackeray, A.I., Thackeray, J.F., Beaumont, P.B., Vogel, J.C., 1981. Dated rock engravings from Wonderwerk Cave, South Africa. *Science* 214, 64-67.

DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference. I have no interest in secondary or downstream developments as a result of the authorization of this project and have no conflicting interests in the undertaking of the activity.

A handwritten signature in black ink, appearing to read 'L Rossouw', written in a cursive style.

10 /09 / 2019

Tables and Figures

Table 1. Field rating categories as prescribed by SAHRA.

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction



Figure 1. Aerial view of the site in relation to the position of Dithakong and Kuruman.



Figure 2. Aerial view and layout of the study area.



Figure 3. According to the 1:250 000 scale geological map 2722 Kuruman, the site (yellow rectangle) is located on palaeontologically insignificant, Campbell Group quartzite, conglomerate and volcanic rock (*Vvg*). The survey indicates that the site is capped by well-developed red to reddish – brown, Quaternary – aged, Kalahari Group aeolian sand.



Figure 4. Extensive stone wall enclosures are found near Dithakong and archaeological investigations during the 1980's have revealed that the ruins were built during the 15th century A.D.



Figure 5. General view of the site, looking south.



Figure 4. Kalahari Group aeolian sand marked by erosional gullies.