

McGregor Museum

Department of Archaeology



Archaeological Impact Assessment

Phase 1:

Gannahoek N12 Quarry near Hopetown, Northern Cape

David Morris
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May 2011

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Introduction

This report is commissioned by David Cotton of Site Plan Consulting (P.O. Box 28, Stranf 7139, tel 021-8544260/98, fax 021-8544321; email david@siteplan.co.za). It provides a Phase 1 Heritage Impact Assessment for the proposed site of an expanded quarry or borrow pit alongside the N12 roughly halfway between Hopetown and Strydenburg in the Northern Cape.

Specialist and legislative framework

The author of this report is an archaeologist accredited as a Principal Investigator by the Association of Southern African Professional Archaeologists. Previous experience includes research carried out in the Karoo and other parts of the Northern Cape (Beaumont & Morris 1990; Morris 1988; Morris & Beaumont 2004; Parkington, Morris & Rusch 2008).

The author works independently of the organization commissioning this specialist input, and provides this report within the framework of the National Heritage Resources Act (No 25 of 1999).

The National Heritage Resources Act No. 25 of 1999 (NHRA) protects heritage resources which include archaeological and palaeontological objects/sites older than 100 years, graves older than 60 years, structures older than 60 years, as well as intangible values attached to places. The Act requires that anyone intending to disturb, destroy or damage such sites, objects and/or structures may not do so without a permit from the relevant heritage resources authority. This means that a Heritage Impact Assessment should be performed, resulting in a specialist report as required by the relevant heritage resources authority/ies to assess whether authorisation may be granted for the disturbance or alteration, or destruction of heritage resources.

Environmental and heritage context

The environment in question consists of a flat Karoo plain south of the Orange River basin. Nearby are dolerite koppies and the immediate context is a shallow soil cover on dolerite, with low dolerite ridges outcropping alongside the site.

The landscape is sparsely vegetated, thereby making any surface archaeological traces highly visible.

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. The Karoo is particularly bountiful. Concerning Stone Age sites here, C.G. Sampson has observed: "It is a great and spectacular history when compared to any other place in the world" (Sampson 1985). Some areas are richer than others, and not all sites are equally significant. Heritage impact assessments are a means to facilitate development while ensuring that what should be conserved is saved from destruction, or adequately mitigated and/or managed.

Methods and limitations

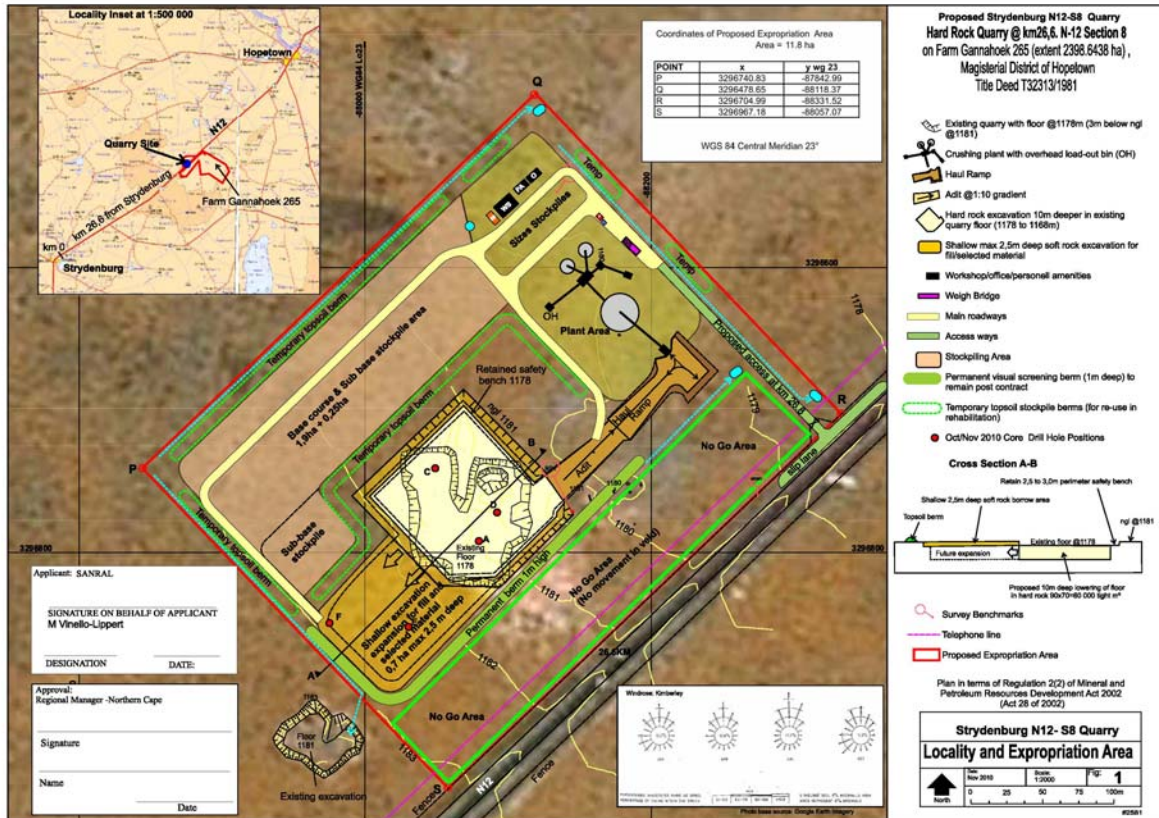
The site was visited on 18 May 2011. The proposed quarry site, immediately adjacent to the N12 national road between Strydenburg and Hopetown, was examined in detail on foot.

With minimal vegetation cover in a setting where the predominant recent geomorphologic history is one of erosion, it was not expected that much archaeological material would occur below the modern surface. Dolerite bedrock lies just beneath the surface, probably not more than a few cm over much of the area. While a few artefacts were observed on the surface, some may occur subsurface in the superficial soil, but it is expected that any significant occurrence would show up clearly at the surface.

Anticipated impacts

The destructive impacts of the proposed quarry expansion would include surface disturbance in primary quarrying and secondary processing spaces.

The extent and nature of proposed development/exploitation is shown in the following maps.



The site occurs on 1:50 000 sheet 2923DD

Relevant observations

An extremely low density of artefacts occurs over most of the site, with individual isolated and widely dispersed stone tools being found. One such find was at 29.78593° S 23.91032° E, near the north western edge of the existing quarry.

A feature providing a potential focus for past human activity is a low dolerite ridge at and beyond the north west side of the site. On the very gradual slope south east of it an area of slightly higher density of stone tools (up to 5/m²) was noted at 29.78516° S 23.90994° E.

Of potentially greater interest and significance are a small number of stones with hairline engravings and artificially rubbed surfaces amongst the boulders comprising the dolerite ridge, situated at 29.78463° S 23.90964° E. This feature lies outside of the proposed development area.



GoogleEarth image extract showing archaeological observations noted above.



View across the existing quarry from the west showing extremely shallow soil profile over dolerite.



Stone artefacts occurring as mostly very low density isolated finds and in a slightly higher density north west of the existing quarry at 29.78516° S 23.90994° E



Rocks with smoothed surfaces and hairline engravings at 29.78463° S 23.90964° E, outside the proposed quarry extension areas.



An example of the hairline engravings, which are not easy to see. What are believed to be the oldest of the Karoo rock engravings occur in this technique. Animal and human figures as well as more abstract images are found in this form at many sites in the Karoo. Closer study of these particular examples would be warranted if they were likely to be impacted by the development, but they lie outside the area of expected impact.

Assessment and Recommendations

Generally extremely low densities of artefacts were found (in most instances just isolated stone tools) over the area defined by the boundaries of the proposed quarry operation. A slightly higher density scatter was found on a gradual upslope part of the terrain near to an outcropping low ridge.

Of some interest is the finding of a few hairline engravings on rocks on the low outcrop mentioned, but these occur beyond the north western boundary of the proposed development.

There are no colonial era built structures in the areas examined and no artefacts of this period (e.g. porcelain, metal) were noted.

The likelihood of fossils occurring here must be close to zero since bedrock consists of dolerite not more than a few centimetres below the sandy surface. No Karoo sedimentary rocks were seen at any point.

Given these observations, it is recommended that the impact of the proposed operation would be at most minimal and hence that the development be allowed without further mitigation.

Records

The archive of field notes and images resulting from this study is preserved at the McGregor Museum in Kimberley.

Acknowledgements

I thank Mr David Cotton for information provided for the study.

References

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