McGregor Museum
Department of Archaeology

Archaeological & Cultural Heritage Impact Assessment Phase 1: Proposed Olien Solar Project development on Portion 4 of Farm 300, Barkly West, near Limeacres, Northern Cape

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Introduction

This report is commissioned by Cape Environmental Assessment Practitioners (Pty) Ltd (044-8740365 fax 044-8740432 P.O. Box 2070 George 6530, South Africa). It provides a Phase 1 Archaeological Impact Assessment for the site of proposed development of new Olien Solar Project on Portion 4, Farm 300, Barkly West, near Limeacres.

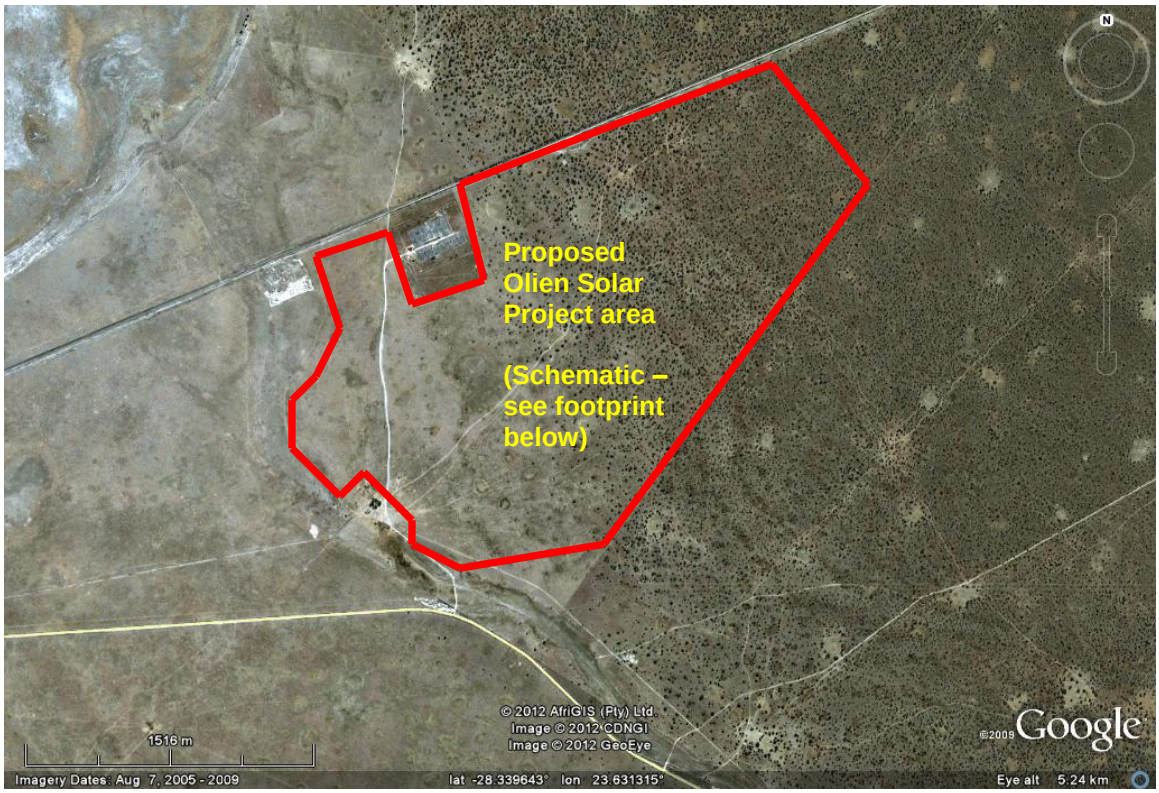
Specialist and legislative framework

The author of this report is an archaeologist (PhD) accredited as a Principal Investigator by the Association of Southern African Professional Archaeologists, having previously carried out surveys and fieldwork on sites throughout the Northern Cape (e.g. Morris 1988; Beaumont & Morris 1990; Morris & Beaumont 2004; Parkington et al. 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 grassy calcrete plain on the Ghaap Plateau east of Limeacres. There is generally good visibility for detecting artefacts in a setting where erosion dominates landscape-forming processes, although small vleis/dolines may conceal sub-surface occurrences.



Google Earth image showing the area examined for the proposed development (outlined in red above – see proposed footprint maximum extent in the map below)..
This location is situated on 1:50 000 sheet 2823BC.

Grass covered plains in the southern part of the area

The archaeology of the Northern Cape is rich and varied, covering long spans of human history. Stone Age material found in this area spans the Earlier, Middle and Later Stone Ages through Pleistocene and Holocene times. Of note in the area near Limeacres rock engraving sites on dolomite exposures outside the town and at Danielskuil. Further afield are the major sites Wonderwerk Cave, Tsantsabane (Blinkklipkop) at Postmasburg, a suite of sites around sink-hole depressions and raw material sources at Kathu (Wilman 1933; Humphreys & Thackeray 1983; Beaumont & Morris 1990; Morris & Beaumont 2004; Wilkins & Chazan 2012; McGregor Museum records).

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.

More wooded terrain in the northern part of the area. Depressions in the landscape would have afforded access to water after good rains and hence may have attracted ephemeral human activity in the Stone Age.

Methods and limitations

The site was visited on 20 July 2012. The proposed development areas were examined on foot.

Most of the terrain covered consisted of hard calcrete frequently exposed, with shallow topsoil supporting grass cover. Hollows, possibly dolines, contained a greater depth of soil but their exposed calcrete edges afforded opportunities for assessing likely archaeological traces in their vicinity. There were no local sources of raw materials for making of stone tools (e.g. jaspilite (banded ironstone) or chert, although both are available in the wider environment.

Anticipated impacts

The major destructive impact of the proposed solar facility development that is possible in terms of heritage resources would comprise a direct, once-off event during the initial construction period. Secondary impacts are possible from access road development, if existing roads are not used.

With respect to the magnitude and extent of potential impacts, power facility construction would involve modification of the landscape surface within an area

indicated and involving surface disturbance corresponding with the final footprint of the proposed power station.

Relevant observations

The areas of proposed development were investigated in detail.

A generally very low density of surface Stone Age archaeological material was found over virtually the entire area examined. Isolated jaspilite flakes of Pleistocene age, probably Middle Stone Age (picturted below), were up to 200 m or more apart. In one doline setting a slightly higher density of chert flakes, probably Later Stone Age, were found.

Isolated jaspilite artefacts, probably Middle Stone Age, circa 200 m apart at 28.336 S 23.621 E (above) and Later Stone Age flakes on chert from a dispersed scatter in the northern part of the area 28.33066 S 23.63399 E (below).

Colonial era heritage traces were found in the area around the farm homestead, including remains of kraals made from calcrete cobbles immediately north of the farm house (image below).

Remains of kraals made from calcrete cobbles. 28.34373 S 23.62115 E

A row of unmarked graves was documented at 28.34453 S 23.61860 E In the event that any infrastructure is planned for this part of the property, the graves should be fenced and development must be restricted to no closer than 100 m.

Five graves west of the farm homestead.

Assessment and Recommendations

Apart from the graves and a low incidence of stone artefacts, very few heritage traces were found on this site. The very low density of stone tools makes it of minimal significance from an archaeological point of view. Final layout should avoid encroachment closer than 100 m from the graves. .

In the unlikely event of any further site/feature (e.g. an unmarked grave or an ostrich eggshell cache) being found in the course of development of the proposed power station, SAHRA should be contacted immediately (021-4624502: Mrs Colette Scheermeyer), so that the find can be investigated and mitigation measures recommended. The Northern Cape PHRA (Ngwao Boŝwa ya Kapa Bokone), to which a copy of this report is also being sent, will assume responsibility for archaeological resources in the province when it is accredited to deal with this aspect of heritage. Boŝwa (053-8312537: Mr Ratha Timothy) should be contacted in respect of the built environment.

Records

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

References

Beaumont, P.B. & Morris, D. 1990. *Guide to archaeological sites in the Northern Cape*. Kimberley: McGregor Museum.

Humphreys, A. J. B., & Thackeray, A.I. 1983. *Ghaap and Gariep: Later Stone Age studies in the Northern Cape*. Cape Town: South African Archaeological Society Monograph Series 2.

Morris, D. 1988. Engraved in place and time: a review of variability in the rock art of the Northern Cape and Karoo. *South African Archaeological Bulletin* 43:109-121.

Morris, D. & Beaumont, P. 2004. *Archaeology in the Northern Cape: some key sites*. Kimberley: McGregor Museum.

Wilman, M. 1933. *Rock engravings of Griqualand West and British Bechuanaland, South Africa.* Cambridge: Deighton Bell.

Wilkins, J. & Chazan, M. 2012. Blade production ~500 thousand years ago at Kathu Pan 1, South Africa: support for a multiple origins hypothesis for early Middle Pleistocene blade technologies. *Journal of Archaeological Science* 2012 (in press).

Douglas solar energy farm: Summary of impacts to archaeological assets

Alternative	Nature of the Impact	Extent	Duration	Intensity	Probability	Status	Confidence	Significance	Significance with mitigation
	Destruction or disturbance of archaeological sites. (See 9.8.1) This may result from any disturbance of surfaces during construction, operational or closure phases. (See 9.7.4)	Local	Permanent	Low	Improbable	Low	(See Table 9-2) This study suggests that Alternative 1 (upper part of site) for solar field location would be preferable (See 9.11.1) No mitigation is required for electrical connection alternatives (See 9.11.2)	No mitigation is expected to be required.	No mitigation is expected to be required.