Archaeological field survey and assessment of EPL 2902 (Namib Lead), Erongo Region

J. Kinahan
Quaternary Research Services
P.O. Box 22407
Windhoek

QRS Job 163

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Colin Christian & Associates cc
Windhoek

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EXECUTIVE SUMMARY

An archaeological field reconnaissance of EPL 2902 in the Erongo Region indicates that the area is of relatively low archaeological significance and that envisaged mine works in the vicinity of the abandoned Namib Lead Mine will have little impact on the archaeology of the area. It is however recommended that the project should adopt some precautionary measures to minimize its impact on the landscape.
INTRODUCTION:
The following report presents a Phase 2 archaeological field assessment of EPL 2902, Erongo Region, based on observations made during a site visit on 20th and 21st June 2012. The field assessment was carried out under National Heritage Council permit 14/2011, and Ministry of Environment park entry permit dated 19th June 2012.

This report sets out the archaeological characteristics of the tenement and presents an assessment of the significance and vulnerability of the sites, together with some recommendations for the exploration stage of the project. The report is accompanied by general draft archaeological guidelines for exploration and mining in the Namib Desert.

In summary, EPL 2902 is an area of low archaeological significance and minimal risk to archaeological or other sites and remains protected under the National Heritage Act (27 of 2004). We do not therefore consider it necessary for the project proponent to seek special clearance beyond the requirements of the Environmental Management Act (7 of 2007).

LEGAL & REGULATORY REVIEW

The principal instrument of legal protection for heritage resources in Namibia is the National Heritage Act (27 of 2004). Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains (defined in Part 1, Definitions 1), while Section 48 ff sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Section 51 (3) sets out the requirements for impact assessment. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council.

Archaeological impact assessment in Namibia may also take place under the rubric of the Minerals, Prospecting and Mining Act (33 of 1992), and the Environmental Management Act (7 of 2007); the latter specifically includes anthropogenic elements in its definition of environment. Finally, archaeological assessment may also be undertaken if this is required by the internal regulations of trans-national entities. Where project proponents need also to consider international guidelines, those of the World Bank OP and BP 4.11 in respect of “Physical Cultural Resources” (R2006-0049, approved April 17, 2006), may be appropriate. Of these guidelines, those relating to project screening, baseline survey and mitigation are the most relevant.

It is important to be aware that no regulations have been formulated for the implementation of the National Heritage Act provisions concerning impact assessment. However, archaeological impact assessment of large projects has become accepted practice in Namibia. To alleviate the problems that arise from a lack of regulation in Namibia, a draft set of “Archaeological Guidelines for Exploration and Mining in the Namib Desert” have been formulated. These are attached as an appendix to this report and may prove useful to the environmental assessment process and the envisaged project on EPL 2902.
ARCHAEOLOGICAL ASSESSMENT

Background
EPL 2902 covers an area of about 46km$^2$ on the western flanks of Rössing Mountain. The terrain is characterized by deeply weathered outcropping schist and marble of the Nosib and Swakop (Damara) Groups. Drainage is well developed towards the west, cutting across significant marble bands and dolerite dykes. In the southern part of the tenement there is shallow groundwater in seepages associated with dyke barriers in the drainage. The tenement is very sparsely vegetated and surface visibility is therefore high.

EPL 2902 may be described as a somewhat degraded terrain, most noticeably as a result of activities associated with the old Namib Lead Mine. These include the mine itself, together with the plant and waste dumps, as well as a number of houses and other structures, most of which have been removed in the course of the present project development. An extensive network of tracks is the legacy of previous mining activity, with minimal addition in the course of exploration drilling under the new project.

In general, the western parts of the Namib Desert (ie west of the 15$^{th}$ meridian) are poor in archaeological remains, especially relating to the Holocene period. This sharp drop in site density has been noted on a wide variety of field surveys and transects and is considered to reflect the approximate limits of human settlement during the last 10 000 years. Exceptions are the major river valleys and river mouths on the Atlantic coast. Earlier evidence of human settlement dating to the mid- to late Pleistocene is thinly distributed in the area to the west of the 15$^{th}$ meridian. The generalized distribution of archaeological sites in the Erongo Region shown in Figure 1, illustrates this phenomenon.

Using the existing track infrastructure, it was possible to visit most of the survey area within a short time. The high surface visibility of the surface area also allowed a relatively wide area (up to 150m) to be searched from foot transects. Survey transects were selected on site and using available satellite imagery to allow adequate assessment of gravel surfaces, drainage lines and outcrop areas.

In the field, site location coordinates were determined by hand-held GPS and the characteristics of the finds were described according to generally accepted criteria of physical setting, field assessment of age and affinity, extent and archaeological significance and vulnerability. The field observations are generalized below according to the basic landscape components of the survey area.
Figure 1: The regional setting of EPL 2902, showing the generalized distribution of archaeological sites. Note the relative scarcity of archaeological sites in the western part of the Erongo Region, exceptions being major drainage lines and river mouths on the coast.
Field reconnaissance

A total of eight archaeological and related sites were noted in the course of the field survey. The distribution of the sites is shown in Figure 2. The occurrence and distribution of archaeological sites on EPL 2902 is closely related to the three most obvious and important landscape components of the area, as described below.

Intensive exploration using vehicle mounted or trailer rigs could have a high impact on the EPL 2902 landscape and, although this is unlikely, such exploration may affect archaeological sites not detected in the course of this survey, such as sub-surface remains. It is to be borne in mind that archaeological impacts are in principle irreversible and it is therefore necessary to adopt some precautionary measures, as set out in the recommendations in the following section.

The relationship between the sites and their landscape setting on EPL 2902 is as follows:

WEATHERED BEDROCK, including areas of active erosion, comprises approximately 75% of the survey area. This type of terrain is subject to sheet erosion and is almost entirely without archaeological traces. The exceptions are small localized concentrations of chert, showing some evidence of core preparation for artefact production. The micro- and cryptocrystalline chert that occurs in this area was a very important stone artefact raw material in the late Pleistocene, but it remained in circulation even in the last few thousand years. Late Pleistocene and Holocene stone artefact evidence is not commonly found on these surfaces, partly because the artefacts are small, light and thin in section, making them relatively mobile and easily displaced by sheet erosion.

DRAINAGE LINES, represented by broad washes fed by a complex network of minor streams, comprise about 20% of the survey area. These features are generally lacking in archaeological remains, although there are some characteristics of the drainage lines that are significant for the understanding of the broader archaeological context of the EPL 2902 area. One of these is the occurrence of near-surface groundwater in one of the drainage lines to the south of the old Namib Lead Mine. Judging from the associated vegetation, this water would have been potable and therefore important to human occupation in this area. The second characteristic is the occurrence of Inara Acanthosicyos horridus bushes, an important economic plant in the culture of the /Aonin or Topnaar people. Human exploitation of the Inara is well documented for at least the last 1 000 years, and there are many examples of Inara bushes growing on traditional trade and migration routes where seeds are thought to have been dropped by people en route from the coast. The specimens on EPL 2902 are outside the main distribution of Inara and are probably anthropogenic in origin.

MINOR OUTCROPS, mainly dolerite dykes (and similar intrusive features) comprise about 5% of the survey area. In open desert terrain such features appear to have been important attractors for human activity, especially where no other adequate shelter from the prevailing wind can be found. Dolerite dykes in the Namib also form natural barriers that tend to influence the movement of wildlife, and strategic gaps in such dykes are often associated with elaborate hunting blinds and related features. Furthermore, veins of chert (referred to above) and other important artefact raw materials such as hornfels, frequently occur on the contact between dolerite intrusions and other rocks such as marble and shale.
Figure 2: The distribution of archaeological and related sites on EPL 2902. The satellite image background clearly shows the Damara schist (large dark areas) and marble features (convoluted pale areas), as well as the dolerite dykes (slender dark features), and the drainage lines.

The specific characteristics of the eight sites are as follows:

QRS 89/31  (Lat. -22.503  Long. 14.761)
Localized group of !nara Acanthosicyos horridus bushes in drainage line with some associated dune accumulation. No archaeological evidence was found in association with the bushes.

QRS 163/1  (Lat. -22.490  Long. 14.775)
Weathered granite surface with isolated chert core flake scatter. The chert flakes appear to be derived from loose chunks of material in the surface lag.

QRS 163/2  (Lat. -22.501  Long. 14.772)
Dolerite dyke with minor outcropping chert associated with dense flake scatter. The chert outcrop in this instance is less than 1m in diameter, but of high flaking quality.

QRS 163/3  (Lat. -22.506  Long. 14.768)
Outcropping gneiss with small northeast-facing shelters (3x1.8m and 2x1.8m), crude stone windbreak structures and some possibly associated bone, suspected Saxitilis spp.

Weathered gneiss surface, seed digging with manuport. This is a very isolated occurrence somewhat outside the normal concentration of seed digging sites some 10km to the east.

QRS 163/5  (Lat. -22.490  Long. 14.737)
Dolerite dyke, dispersed cairn structure. The structure is without any diagnostic evidence but appears to be archaeological rather than modern.
QRS 163/6  (Lat. -22.494  Long. 14.739)
Weathered schist with shallow gravel lag, dispersed clasts of flaked chert including unretouched levallois blade flake.

QRS 163/7  (Lat. -22.531  Long. 14.753)
Marble band with shallow groundwater and sparse vegetation including Tamarix spp. and Cyperus spp. Dispersed artefact flaking debris.

Recommendations:
1. Exploration should observe strict track discipline and avoid establishing new tracks on the gravel plains.
2. Where possible, new tracks should be restricted to naturally rehabilitating surfaces such as within drainage lines.
3. Rock outcrops should be avoided unless access is required for exploration purposes, and outcrops should not be used for sheltering field camps or other purposes.
4. Exploration personnel and contractor staff should be made aware of the provisions of the National Heritage Act with regard to the protection of all archaeological sites and the need to report any new finds.
5. The client should peruse the attached Archaeological Guidelines for Exploration and Mining in the Namib Desert for additional advice on the reduction of impacts.
6. The attention of the client is specifically drawn to the appendices of the Guidelines which provide detailed procedures for chance finds and the management of no-go areas.

Conclusions:
EPL 2902 is an area of relatively low archaeological significance and exploration and mining activities there are unlikely to result in significant archaeological impacts. As a precaution, however, the client should observe the recommendations above, and pay particular attention to the provisions of the National Heritage Act. The decision as to whether this report should be forwarded to the National Heritage Council should probably be left to the Environment Commissioner when reviewing the application for environmental clearance.

I hope you will find this report satisfactory, and I look forward to your further instructions.
Yours sincerely

J. Kinahan Phd MSAIE&ES