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## Archaeological assessment of the Gerus-Mururani powerline

### QRS Job 75

Commissioned by Messrs Eco.plan (Pty) Ltd. on behalf of NamPower (Pty) Ltd.

#### Phase 1: Route Evaluation and Finalization (Scoping Study)

Submitted: 29 May 2006

#### **Background**

The proposed Gerus-Mururani powerline will traverse approximately 300km of mixed terrain farmland in Otjozonzjupa Region of north-eastern Namibia. A number of archaeological sites are known from this general area, although few detailed studies have been carried out so far. All archaeological sites in Namibia are protected under the National Heritage Act (No 27 of 2004), which makes provision under sections 52 and 55 for archaeological assessment of developments such as the Gerus-Mururani powerline.

Eco.plan (Pty) Ltd has commissioned Quaternary Research Services to carry out an archaeological assessment of the powerline route (letter of appointment N144 c, 24 May 2006).

The Phase 1: Route Evaluation and Finalization (Scoping Study) requires that QRS provide coordinates of known archaeological sites that are near the proposed alignment options (within approximately 4km each side of each route option). The ToA requires that the Scoping Report should consider only the issues that are critical to the alignment options.

#### **Desk study**

The accompanying map (Figure 1) indicates the alignment options, with a 4km buffer, in relation to the distribution of known archaeological sites. The proposed alignment corridor does not affect any known sites. However, the area is incompletely surveyed and there are a number of locations on the alignment where there is a high probability that archaeological sites will be affected by the construction of the powerline. These locations are indicated as demarcated areas "a" to "f" in Figure 1.

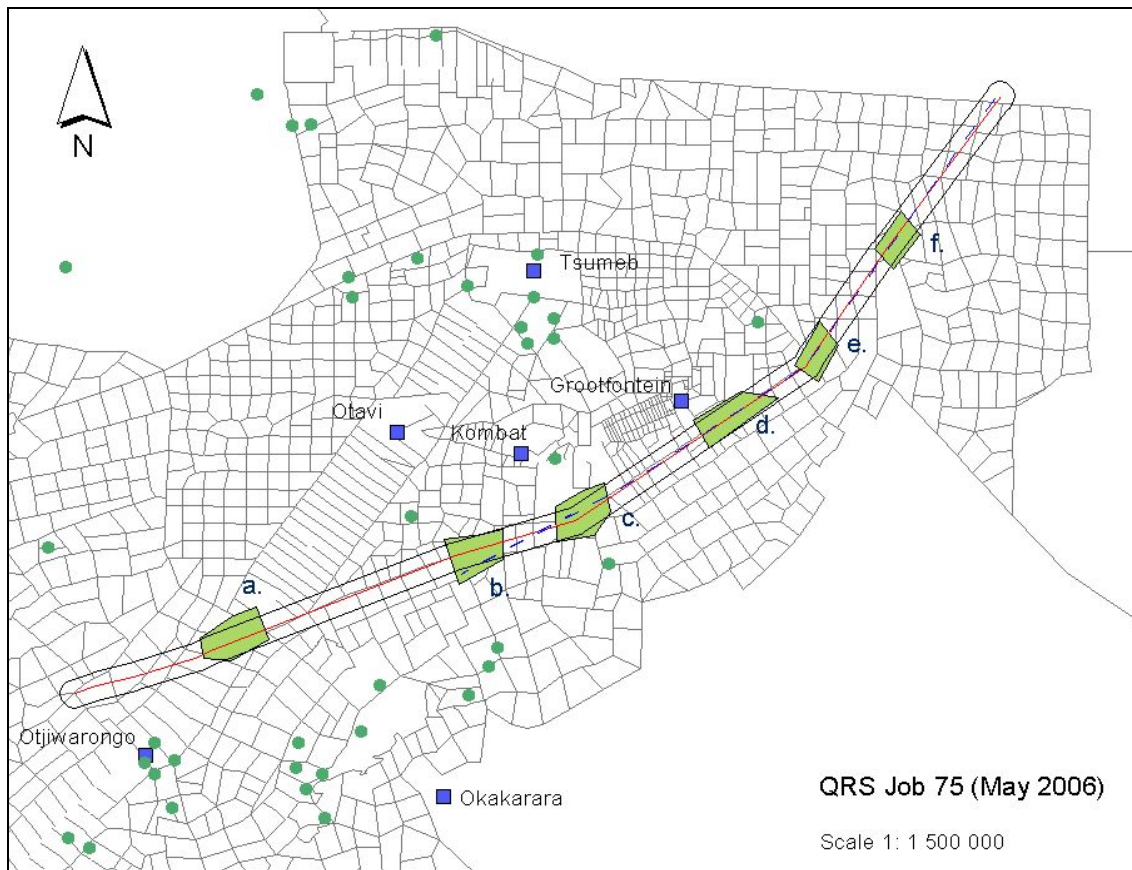


Figure 1: Known archaeological sites and possible site locations in relation to the proposed Gerus-Mururani powerline route and 4km buffer.

a. On the farm Brunntal (7), the alignment traverses the northern side of a line of low rocky hills. These locations are usually of archaeological significance. Udabib Pan, on the neighbouring property Omarassa (4) is also likely to have some archaeological sites along its margins.

b. Low rocky outcrops on the farm Ombaranga (493) are known to have both rock art sites as well as rock shelters with stratified archaeological deposits. Test excavations at one of these sites yielded stone tool assemblages and well preserved faunal remains which were radiocarbon dated to within the last 2 000 years. It is generally the case that such sites do not occur in isolation, and since the adjacent part of the powerline buffer zone has similar terrain conditions it is very likely that further sites occur there.

c. A low range of rocky hills on the farms Osombusatjaru (154) Gai-Kaisa (159) lies within the powerline buffer zone. The hills form a prominent topographic feature within an otherwise subdued terrain and are therefore likely to have some archaeological sites. These would probably belong to the same distribution as the Ombaranga sites.

d. The Berg Aukas palaeocave outcrop is a very important fossil locality in northeastern Namibia. The site has yielded the largest Miocene-Pliocene microfossil assemblage in Africa, as well as the lower mandible of the hominoid type-fossil *Otavipithecus*. The Berg Aukas locality is adjacent to the alignment buffer zone. However, the breccia outcrop at Berg Aukas has not been completely explored and there is a likelihood that it extends into the buffer zone.

e. On the farm Gaikos (729), a low range of hills projects into the alignment buffer zone and presents similar conditions to the terrain on Osombusatjaru (154) and Gai-Kaisa (159). The area also has a large number of karstic features that present similar geological conditions to those of Berg Aukas.

f. The farm Taranaki (897) is bisected by a number of palaeodune alignments that are of likely archaeological significance. The interdune valleys of the Quaternary dune alignments in Namibia are frequently associated with archaeological sites, especially where minor seasonal wetlands developed in these locations.

### **Field survey (Phase 2: Environmental Assessment)**

Scope of work:

1. Desk assessment based on existing data and related records (Scoping Study)
2. Design of field survey based on desk assessment of proposed alignment
3. Systematic field survey with full documentation of all archaeological sites
4. Assessment of significance and vulnerability based on standard rating criteria
5. Preparation of impact mitigation programme for implementation (if required)

Field survey:

The field survey will consist of a detailed documentary and photographic record of archaeological sites located within the selected sample areas. The survey will be based on foot traverses of the most promising terrain in each sample area, with a sampling intensity of between 35 and 50%, depending on vegetation cover. All archaeological sites will be located by hand-held GPS, photographed, and described according to standard criteria, viz. type, extent of site, density of surface indications, likely affinity, and estimated age.

Assessment:

All palaeontological, archaeological and historical sites will be assessed according to their significance and their vulnerability to impacts. Significance is estimated on a scale of 0 – 5, according to the value of a particular site or object to the history of the property and the surrounding region. The significance rating is also affected by the state of preservation and the degree of previous impact. Vulnerability is estimated on a parallel scale of 0 – 5, according to the exposure of the site or object to future impact. The two scales allow value and risk to be independently assessed. The assessment will pay particular attention to the likely impact of infrastructure associated with the powerline, such as access tracks, and the clearing of bush and trees in the servitude.

**Mitigation:**


Recommendations for mitigation will be prepared for each affected site, and submitted as part of the assessment report.

**Reporting:**

For purposes of the archaeological report, the Phase 2: Environmental Assessment and the Phase 3: EMP will be combined. The results of the survey will be submitted both as hard copy and in digital format. Survey data will be provided as GIS project files and in spreadsheet format.

We hope you will find this report adequate to the requirements of the Scoping Study.

Yours faithfully

A handwritten signature in black ink, appearing to read "J. Kinahan", is centered on a light-colored rectangular background.

John Kinahan PhD MSAIE&ES  
Partner