

**CULTURAL HERITAGE ASSESSMENT OF PROPOSED LUDEKE DAM,  
BIZANA,  
EASTERN CAPE, SOUTH AFRICA**

Assessment and report by

**eThembeni Cultural Heritage**

Incorporating

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for

**TERRATEST INCORPORATED**

Environmental and Geotechnical Consultants

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## Introduction

A new dam site is proposed for construction at Ludeke to provide water to the rural communities of the Bizana area in the Eastern Cape Province. It is one of a number of Reconstruction and Development Programme projects funded primarily through the Department of Water Affairs and Forestry. A project steering committee has been established in the affected community and two public meetings have been held to date. Local residents support the project.

The development is envisaged as an earth embankment dam constructed using natural materials excavated from within the dam basin. It will be about 200 to 300 metres long and 16 to 18 metres high. The area of the basin is approximately 1 500 by 400 metres in extent and has been demarcated by a surveyor, using white painted stones.

Camdekon Engineers are the project managers for the scheme and appointed Terratest Inc. to undertake the geotechnical and environmental components of the project. Terratest in turn appointed eThembeni Cultural Heritage to undertake a cultural heritage assessment of the area affected by the proposed dam, in terms of the South African Heritage Resources Management Act, 1999 (Act No 25 of 1999). Section 38 of the Act requires a cultural heritage assessment where the stipulations of subsection 1 pertain:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length;
- (c) any development or other activity which will change the character of a site –
  - (i) exceeding 5 000 m<sup>2</sup> in extent; or
  - (ii) involving three or more existing even or subdivisions thereof; or
  - (iii) involving three or more even or subdivisions thereof which have been consolidated within the past five years; or
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000m<sup>2</sup> in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

## Methodology

Two eThembeni staff members undertook a survey of the area on 29 August 2002, using the relevant 1:50 000 topographic map and accompanied by Mr Steven Bok, a geologist employed by Jeffares and Green. We covered the entire dam basin on foot. Since a permit from SAHRA is required to disturb an archaeological site, we limited our observations to surface cultural remains, without undertaking excavations or sampling of any nature.

Time frames relating to the first settlement of farmers along the south-eastern seaboard have been established by archaeological research during the past three decades. The following summary of these time frames may assist readers to interpret our findings and discussions more readily:

Early	400 – 500 AD	Matola phase
Iron	500 – 700 AD	Msuluzi phase
Age	700 – 900 AD	Ndondondwane phase
	900 – 1200 AD	Ntshakane phase
Late	1200 – 1500 AD	Settlement by Nguni speakers
Iron	1500 – 1700 AD	Introduction of maize
Age	1700 – 1850 AD	Pre-European settlement
	1850 AD to present	Historical

## Observations

Current land use is confined to agricultural activities, mainly summer rainfall crop production and livestock grazing. Agricultural fields are situated preferentially on slopes, since the heavy clay soils are saturated easily, leading to waterlogging of crops. Existing homesteads are situated on hilltops to benefit from level building terrain and cooling breezes and avoid the danger of flooding watercourses. In the past, Iron Age people would have chosen similar site localities for the same reasons. Such locales fall outside of the full supply level (FSL) of the proposed dam. No Stone Age artefact scatters or knapping floors were observed.

The only possible heritage remains observed in the surveyed area consist of four stone-capped mounds situated on the banks of a small stream flowing into the Ludeke river (refer to attached map). At least one of the mounds is possibly an ancestral grave site, while another resembles an isivivane, the pile of stones that is created at certain places in the landscape by Nguni-speaking people for protection against bad luck.

Ancestral graves may not be altered or damaged in any way during the course of a development. If alteration or damage is unavoidable, research will be required to locate the families associated with the ancestral graves, if they exist, so that appropriate mitigatory measures can be negotiated.

We recommend that the Project Steering Committee discuss the nature of these possible heritage remains with local residents.

## Summary of findings in terms of the South African Heritage Resources Management Act, 1999, Section 38(3)

### (a) the identification and mapping of all heritage resources in the area affected

The location of the possible ancestral grave(s) and isivivane is indicated on the accompanying map.

### (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7

eThembeni assessed the impact of the proposed development in terms of the principles for heritage resources management contained in Sections 5 and 6 of the Act, read in conjunction with Section 3(3). These sections stress the intrinsic value and vulnerability of heritage resources and the obligation of the state to manage them carefully to ensure their survival for future generations. Section 5(4) states further that

‘Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management’.

eThembeni has also developed site significance criteria for use and interpretation only by experienced cultural heritage managers with extensive site evaluation experience (see Appendix). According to these criteria, the sites have high cultural significance if they are recognised and valued by extant families; otherwise they have low cultural significance.

### (c) an assessment of the impact of development on such heritage resources

Potential impact on the identified cultural resources is high, due to their location relative to the proposed development. Appropriate mitigatory measures are provided in the body of this report.

### (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development

The social and economic benefits outweigh any impacts of the development on heritage resources, if appropriate mitigatory measures are possible.

### (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources

Such consultation could occur as part of the duties of the Project Steering Committee.

**(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives**

Mitigatory measures are provided in the body of this report.

**(g) plans for mitigation of any adverse effects during and after completion of the proposed development**

Plans for mitigation will result from appropriate research, consultation and negotiation with family members, as described above.

**Conclusion**

We recommend that the client submit this report to the South African Heritage Resources Agency in fulfilment of the requirements of the Heritage Resources Management Act, 1999. According to Section 38(4) of the Act:

- The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide –
- (a) whether or not the development may proceed;
  - (b) any limitations or conditions to be applied to the development;
  - (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
  - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
  - (e) whether the appointment of specialists is required as a condition of approval of the proposal.

However, if permission is granted for development to proceed, the client is reminded that the Act requires that a developer cease all work immediately and notify the South African Heritage Resources Agency should any cultural heritage remains, as defined in the Act, be uncovered during the course of development activities.

## APPENDIX

## SIGNIFICANCE AND VALUE OF ARCHAEOLOGICAL SITES

## Southern African Iron Age

	Low	Medium	high
Unique or type site			Yes
Formal protection			Yes
Spatial patterning	?Yes	?Yes	?Yes
Degree of disturbance	75 – 100%	25 – 74%	0 – 24%
Organic remains (list types)	0 – 5 / m <sup>2</sup>	6 – 10 / m <sup>2</sup>	11 + / m <sup>2</sup>
Inorganic remains (list types)	0 – 5 / m <sup>2</sup>	6 – 10 / m <sup>2</sup>	11 + / m <sup>2</sup>
Ancestral graves			Present
Horizontal extent of site	< 100m <sup>2</sup>	101 – 1000m <sup>2</sup>	1000 + m <sup>2</sup>
Depth of deposit	< 20cm	21 – 50cm	51 + cm
Spiritual association			Yes
Oral history association			Yes
➤ Research potential			High
➤ Educational potential			High

Please note that this table is a tool to be used by qualified cultural heritage managers who are also experienced site assessors.