

**ARCHAEOLOGICAL SURVEY OF A SECTION OF  
THE SECUNDA-MOZAMBIQUE GAS PIPELINE,  
BARBERTON DISTRICT, MPUMALANGA**

For:

**GLMC JOINT VENTURE**

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## **SUMMARY**

### **Archaeological survey of a section of the Mozambique-Secunda pipeline, Barberton District, Mpumalanga.**

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area in which it is proposed to lay a pipeline.

It is a pity that the main site under discussion was not identified during the original scoping survey, as that would have allowed enough time to properly investigate it and make suitable recommendations.

As can be seen from the above, despite all effort that was made, no satisfactory answer has as yet been obtained regarding the origin and significance of the site. It is recommended that a historian approach local people in the Komatipoort area, to establish if they can shed any light on the problem.

However, based on what was found and its evaluation, it is recommended that the proposed development can continue in the area, on condition of acceptance of the following recommendations:

- The identified site is very extensive, stretching for c. 200 metres south to north and c. 200 metres west to east. Rerouting the pipeline around it would not be possible. However, the site has already been impacted upon on the northern side by an ESCOM powerline that runs across it. It is recommended that the pipeline be put through in the area as close to the powerline as possible. The section that is to be destroyed should first be documented by a team of archaeologists and historians. Afterwards, the rest of the site should also be documented in order to establish and retain the link between the area that was destroyed and the rest of the site.
- The developer should also be notified that archaeological sites might be exposed during the construction work. If anything is noticed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

CONTENTS

SUMMARY . . . . . 1

CONTENTS . . . . . 2

1. AIMS OF THE SURVEY . . . . . 3

2. TERMS OF REFERENCE . . . . . 3

3. DEFINITIONS . . . . . 3

4. LEGISLATIVE REQUIREMENTS . . . . . 4

5. METHODOLOGY . . . . . 5

6. DESCRIPTION OF THE AREA . . . . . 6

7. DISCUSSION . . . . . 7

8. RECOMMENDATIONS . . . . . 8

9. REFERENCES . . . . . 9

10. PROJECT TEAM . . . . . 9

APPENDIX 1 . . . . . 11

APPENDIX 2 . . . . . 12

APPENDIX 3 . . . . . 13

APPENDIX 4 . . . . . 14

## ARCHAEOLOGICAL SURVEY OF A SECTION OF THE SECUNDA-MOZAMBIQUE GAS PIPELINE, BARBERTON DISTRICT, MPUMALANGA

### 1. AIMS OF THE SURVEY

The National Cultural History Museum was contracted by **GLMC Joint Venture** to survey a section of the proposed Secunda-Mozambique pipeline. The aim was therefore to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area that is to be impacted by the developed.

### 2. TERMS OF REFERENCE

The **Terms of Reference** for the study were to:

- 2.1 Identify all objects, sites, occurrences and structures of an archaeological or historical nature located in the area of the proposed development.
- 2.2 Assess the significance of the cultural resources in terms of their historical, social, religious, aesthetic and scientific value.
- 2.3 Determine the possible impacts on the known and potential cultural resources in the area of interest.
- 2.4 Develop mitigation or control measures for impact minimization and cultural resources preservation.
- 2.5 Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

### 3. DEFINITIONS AND ASSUMPTIONS

The following aspects have a direct bearing on the survey and the resulting report:

- X **Cultural resources** are all nonphysical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artefacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- X The **significance** of the sites and artefacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.
- X Sites regarded as having low significance have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation.

- X The latitude and longitude of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

#### 4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are mainly dealt within two acts. These are the South Africa Heritage Resources Act (Act 25 of 1999) and the Environmental Conservation Act (Act 73 of 1989).

##### 4.1 South African Heritage Resources Act

###### **Archaeology, palaeontology and meteorites**

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency.

###### **Structures:**

Section 34(1) of this act states that no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

“Structure” means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith;

“Alter” means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or other decoration or any other means;

###### **Burial grounds and graves:**

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals. Human remains that are less than 60 years old is subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations.

Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925). Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (ie where the graves are located and where they are to be relocated) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

#### 4.2 Environmental Conservation Act

This act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact are to be formulated.

## 5. METHODOLOGY

### 5.1 Preliminary investigation

#### 5.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted - see the list of references below. Nothing pertaining to the archaeology of this particular area was found.

#### 5.1.2 Data bases

The **Archaeological Data Recording Centre (ADRC)**, housed at the National Cultural History Museum, Pretoria, was consulted. The **Environmental Potential Atlas** was also consulted.

#### 5.1.3 Other sources

The topocadastral and other maps were also studied - see the list of references below.

### 5.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by GLMC Joint Ventures. Staff members assisted with the survey, acting as guides. The area was investigated by walking across it. Special attention was given to

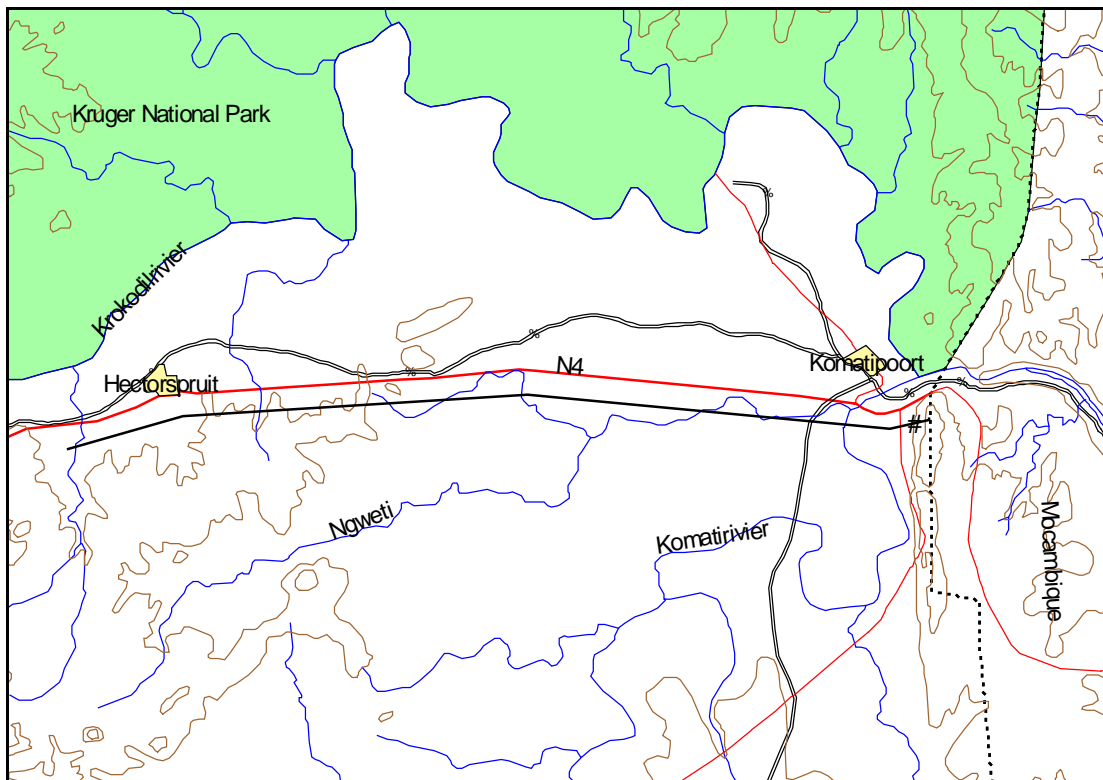
unnatural topographical occurrences such as trenches, holes, outcrops and clusters of trees were investigated.

After the discovery of the terraced site at Komitipoort, some time was spent in the Central Archive in Pretoria, trying to get more information on the origin and significance of this particular site.

### 5.3 Documentation

All sites, objects and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the **Global Positioning System (GPS)**<sup>1</sup> and plotted on a map. This information was added to the description in order to facilitate the identification of each locality.

## 6. DESCRIPTION OF THE AREA



**Figure 1.** Section of the pipeline surveyed for this report (black line) and the location of the identified site (black dot) on the border with Mozambique.

<sup>11</sup> According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then correlate it with reference to the physical environment before plotting it on the map.

The area surveyed was determined by the proposed development (see Fig. 1). It include the following farms: Symington 167JU, Wilsonskop 177JU, Tenbosch 162JU; M'Weti 191JU and Lebombo 186JU. With reference to the development, the section that was inspected covers km 308 up to the South African/Mozambique border at Komatipoort.

The topography of the area varies from mountains, to plains, bisected by a number of rivers. Although large sections of the area still have its original vegetation, a lot of it is also used for sugarcane farming, which would have impacted negatively on cultural resources.

## 7. DISCUSSION

The area is rich in Stone Age archaeology. Tools dating to the Early and Middle Stone Ages are found all over. However, this material is all surface material, eroding or being ploughed out. The implication is that it is not in primary context any more and therefore do not have much significance.

An extensive terraced site with a number of stone walls (Fig. 2 & 4) was found within four hundred metres of the international border. From the material found on the site, eg. tin cans, bottles and structures made from cement, this is clearly a historical site (Fig. 3). However, its origin and significance is not clear from a cursory site investigation. A number of options were identified and reviewed in order to determine its origin:

### 7.1 NZASM Railway line

Because of the proximity to the border and the railway line, it was thought that this site was a construction camp for the railway line in the 1880s. However, in their exhaustive survey of the construction of the railway line, De Jong, Van der Waal & Heydenrych (1988) failed to identify a site of such extent as this one, implying that it do not relate to that period. In fact, they illustrate photographs (1988:108) of the railway construction camp at Komatipoort, which indicate that it was a totally different site and set-up than the identified one.

### 7.2 Anglo Boer War

Another possibility is that it was a military camp, probably dating to the 2<sup>nd</sup> Anglo-Boer War. Genl. Roberts's army reached Komatipoort on 25 September 1900. The remains on the site (eg. tin cans, bottles, riveted water containers, etc.) seem to indicate dating compatible to this line of interpretation. Furthermore, the strategic position of the site leads one to view it as of military origin. However, no confirmation could be obtained for this identification, even though an extensive search was conducted in the State Archive, Pretoria, the National Cultural History Museum, Pretoria, the Museum of Military History, Johannesburg. A number of people in the field, eg. Prof. J Grobler, University of Pretoria, as well as published (eg. Kruger 1977, Pakenham 1979) and unpublished (Van Vollenhoven & Van den Bos 1997; various archives) sources were consulted.

### 7.3 Mining activities



Although there are no known mining activities in the area - the geology largely consists of basalt and rhyolite – it was also an option that was considered, based on the layout of the site, the riveted water containers and other industrial remains. According to De Jager (1976:304-305), this area forms part of the so-called Lebombo Range Coal Field, stretching from the Pafuri area in the north, to Swaziland in the south. However, this field holds little promise for economically exploitable coal. No obvious mining activities were noticed in the area that might confirm this option.

Other mining activities took place close by, which might be an option to investigate further (eg. Gunning 1920).

#### 7.4 Construction camp

One last possibility, for which no references have been found so far, is that the site was used as a construction camp site when, for example, the border post at Komatipoort was built, or for other activities such as road or bridge building.

## 8. RECOMMENDATIONS

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museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

## 9. REFERENCES

### 9.1 Date base

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.

Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

### 9.2 Published sources

Barnard, C. (red.) 1975. *Die Transvaalse Laeveld*. Kaapstad: Tafelberg.

De Jager, F.S.J. 1976. Goal. In Coetzee, C.B. (ed.) 1976. *Mineral resources of the Republic of South Africa*. Geological Survey Handbook no. 7. Pretoria: Government Printer. Pp. 289-330.

De Jong, R., Van der Waal, G-M. & Heydenrych, D.H. 1988. *The Buildings, Steam Engines and Structures of the Netherlands South African Railway Company*. Pretoria: Chris van Rensburg Publications.

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

Kruger, R. 1977. *Good-bye Dolly Gray. The story of the Boer War*. London: Pan Books

Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Pakenham, T. 1979. *The Boer War*. London: Penguin.

Van Vollenhoven, A.C. & Van den Bos, J.W. 1997. *'n Kultuurhulpbronstudie van die Britse blokhuisstelsel van die Tweede Anglo-Boereoorlog (1899-1902) in die voormalige Transvaal (Zuid-Afrikaansche Republiek)*. Pretoria: Raad vir Geesteswetenskaplike Navorsing.

Van Warmelo, N.J. 1935. *A Preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publications No. 5. Pretoria: Government Printer.

Van Warmelo, N.J. 1977. *Anthropology of Southern Africa in Periodicals to 1950*. Pretoria: Government Printer.

#### 9.2.2 Maps

1: 50 000 Topocadastral maps – 2531BC, 2531BD

### 9.3 Archival sources

Records from the following archival sources were subjected to a computer search:

TAB (maps, mining claims, photographs, documents)

SAB (maps, mining claims, documents)

SS (documents)

Gunning, J. 1920. Report of the pegging of 15 prospecting areas near Tenbosch siding, Komatipoort. SAB Ref. No. 3621/20.

It was determined that most early maps are located in the Bloefontein Archive. Due to the festive season, it was not possible to access any of them.

## 10. PROJECT TEAM

J van Schalkwyk

J van den Bos

## **APPENDIX 1: STANDARDIZED SET OF CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES**

### **Significance of impact:**

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

### **Certainty of prediction:**

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

### **Recommended management action:**

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

### **Legal requirements:**

Identify and list the specific legislation and permit requirements, which potentially could be infringed upon by the proposed project, if mitigation is necessary.

## APPENDIX 2: SURVEY RESULTS<sup>2</sup>

[Previous site numbers relate to other known sites on a particular ¼ degree sheet already documented in the ADRC, and does not necessarily refer to sites occurring on or close to the specific area of development.]

1. Site number: 2531BD5

Location: Lebombo 186JU: S 25°26'45"; E 31°58'48"

Description: This is a very extensive site, stretching for c. 200 metres south to north and c. 200 metres west to east. The site shows a lot of construction activities – stone walling, terracing and some cement/concrete structures. Based on their layout, the latter might have been kitchens and ablution blocks. The remains of tin cans, bottles, riveted water containers, etc. are found all over.

Discussion: At present the origin and significance of the site is not clear. It is possible that some local people in Komatipoort might have information that could shed light on it.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 2 = controlled sampling and/or mapping of the site necessary

Legal requirements: SAHRA permit

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<sup>22</sup> See Appendix 1 for an explanation of the conventions used in assessing the cultural remains.

### APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

#### STONE AGE

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

#### IRON AGE

Early Iron Age (EIA)	AD 200 - AD 1000
Late Iron Age (LIA)	AD 1000 - AD 1830

#### HISTORICAL PERIOD

Since the arrival of the white settlers - c. AD 1840 in this part of the country

ADRC - Archaeological Data Recording Centre

core - a piece of stone from which flakes were removed to be used or made into tools

SAHRA - South African Heritage Resources Agency

**APPENDIX 4: ILLUSTRATIONS**



**Figure 2.** Some of the freestanding stone walls on the site.



**Figure 3.** One of the riveted water containers on the site.



**Figure 4.** Stone lined water furrow next to a contemporary footpath.