

**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.

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:

- All graves should be avoided or relocated, but only after consultation with the local community.
- The two possible Iron Age sites (No. 8 & 9 – Appendix 2), will have to be investigated archaeologically.
- 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.

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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 evaluate a number of archaeological sites and survey an additional section of the proposed 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.

Human remains:

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, although a number of survey reports from adjacent areas exist. Some source on historical events that took place in the area also exists.

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.

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)**¹ 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

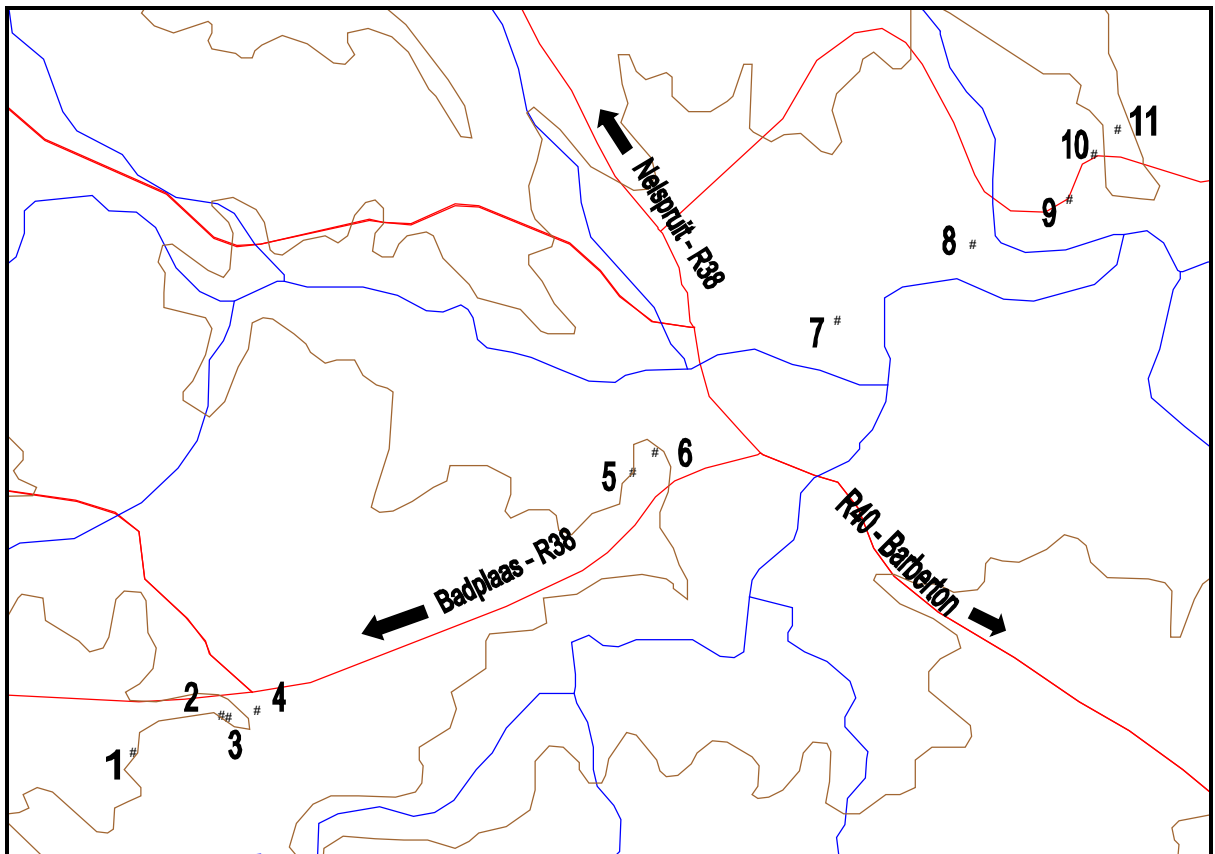


Figure 1. Location of the different identified sites.

¹¹ 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: Moseley 641JT, Kempstone 694JT, Geluk 646JT, Natal Drift 648JT, Glengarry 652JT and Rouxville Farm 309JU. With reference to the development, the section that was inspected covers km 209.8 up to km 223.9 of the pipeline.

The topography of the area varies from low mountains, to plains, bisected by a number of smaller rivers. Although large section of the area still has 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.

A number of sites showing attributes that date them to the Iron Age were identified. However, these would have to be investigated to determine their exact origin and significance. Other sites show similar attributes, but also some that place them in historical times.

A number of sites containing graves were identified in or near the area of proposed development.

8. RECOMMENDATIONS

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.

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:

- All graves should be avoided or relocated, but only after consultation with the local community.
- The two possible Iron Age sites (No. 8 & 9 – Appendix 2), will have to be investigated archaeologically.
- 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.

9. REFERENCES

9.1 Unpublished sources

9.1.1 Data base

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

9.2 Published sources

9.2.1 Books and journals

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

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

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 – 2530DB, 2530DD, 2531CA

10. PROJECT TEAM

J van Schalkwyk

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 RESULTS²

[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: 2530DD3

Location: Kempstone 694JT: S 25E46'14.6"; E 30E55'24.1" [X 2852609.420; Y -192915.856]

Description: Stone walled site, probably dating to the early historical period, but showing elements (layout, stone walling) relating to the Late Iron Age.

Discussion: The proposed development will actually just miss this site

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

2. Site number: 2530DD4

Location: Kempstone 694JT: S 25E46'00.0"; E 30E55'57.8" [X 2852173.743; Y -193861.135]

Description: Three graves marked with stone cairns.

Discussion: The proposed development will actually just miss this feature

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

3. Site number: 2530DD5

Location: Kempstone 694JT: S 25E46'00.7"; E 30E56'00.6" [X 2852196.436; Y -19398.814]

Description: Stone walled site, probably dating to the early historical period, but showing elements (layout, stone walling) relating to the Late Iron Age. A grave marked with stone occurs on the site.

Discussion: The proposed development will actually just miss this site

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

4. Site number: 2530DD6

Location: Glengarry 652JT: S 25E45'57.9"; E 30E56'11.7" [X 2852114.789; Y -194249.273]

Description: Single grave located in an old homestead, dating to historical times

Discussion: The proposed development will actually just miss this feature

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

5. Site number: 2530DB2

Location: Geluk 646JT: S 25E44'26.6"; E 30E58'36.3" [X 2849364.164; Y -198319.223]

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

Description: Large stone cairn. The origin of this feature is uncertain – its seems to be to large to be a grave

Discussion: As the origin of this feature is uncertain it should be avoided by the proposed development

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

6. Site number: 2530DB3

Location: Geluk 646JT: S 25E44'19.2'; E 30E58'44.6" [X 2849139; Y – 198553.881]

Description: Old farm labourer homestead. On opposite side of outcrop, a homestead with a more traditional layout occurs.

Discussion: The development will impact upon the site and it is requested that the developer is alert to any features that might be exposed

Significance of impact: High

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

7. Site number: 2530DB4

Location: Moseley 641JT: S 25E43'28.3"; E 30E59'54.7" [X 2847602.453; Y –200530.657]

Description: Informal cemetery containing approximately 15 graves

Discussion: The proposed development will actually just miss this feature

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

8. Site number: 2531CA5

Location: Moseley 641JT: S 25E42'59.0"; E 31E00'47.1" [X 2846722.716; Y –202004.485]

Description: Old cattle kraal, indicated by its location, the grass (? *Cenchrus ciliaris*) cover and potsherds. This site probably dates to the Early Iron Age

Discussion: If identification of this site is correct, it can be expected to find feature such as storage pits, graves, etc.

Significance of impact: High

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

Legal requirements: SAHRA permit

9. Site number: 2531CA6

Location: Rouxville Farm 309JU: S 25E42'41.8"; E 31E01'24.1" [X 2846209.020; Y – 203043.634]

Description: Scattering of pottery occurring in a ploughed field. There are to much to signify a single vessel.

Discussion: This is typical of Early Iron Age sites and some features such as storage pits might be hidden below the surface.

Significance of impact: High

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

Legal requirements: SAHRA permit

10. Site number: 2531CA7

Location: Rouxville Farm 309JU: S 25E42'24.4"; E 31E01'33.5" [X 2845677.409; Y – 202213.792]

Description: Half moon shaped stone wall.

Discussion: No other surface indicators were identified here.

Significance of impact: Low

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

11. Site number: 2531CA8

Location: Rouxville Farm 309JU: S 25E42'14.8"; E 31E01'42.6" [X 2845391.942; Y – 20357.832]

Description: Stone walled site

Discussion: Because of the thick grass cover, it is difficult to determine the extent and significance of this site and the developer is requested to be careful when working here

Significance of impact: High

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

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

