

**Cultural heritage impact assessment for the
PROPOSED DEVELOPMENT OF THE TSHIPI-BORWA 132KV POWER LINE AND
SUBSTATION, SOUTH OF HOTAZEL, KGALAGADI DISTRICT MUNICIPALITY,
NORTHERN CAPE PROVINCE**

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE TSHIPI-BORWA 132KV POWER LINE AND SUBSTATION, SOUTH OF HOTAZEL, KGALAGADI DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE

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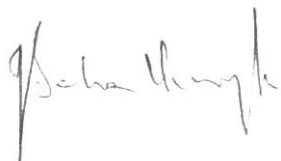
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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair numeration is charged.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
October 2015

EXECUTIVE SUMMARY

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE TSHIPI-BORWA 132KV POWER LINE AND SUBSTATION, SOUTH OF HOTAZEL, KGALAGADI DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE

Envirolution Consulting (Pty) Ltd has been requested by Eskom to conduct a Basic Assessment for the proposed Tshipi-Borwa 132kV power line and substation, south of Hotazel in the Northern Cape Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

The cultural landscape qualities of the study area, as well as the larger region, essentially consist of a single component. This is a sparsely populated rural area in which the human occupation is made up of a limited (known) pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. It was only with the development of drilling rigs that sub-surface water sources could be accessed, allowing people to settle more permanently in the region. The discovery of rich mineral resources such as manganese and iron gave rise to the development of a mining component.

The proposed development consists of the construction of a 132kV electricity power line that will link up with a new substation. Two substation alternatives have been identified. In both cases, two alternative power line routes with loop-in/loop-out lines have also been identified. For Alternative A the power line will be 5,5 km long, whereas for Alternative B it is only 1 km long.

Based on available information and the site visit the following can be said:

- None of the proposed power line routes – Alternatives A1, A2, B 1 & B2 – would have an impact on sites, features or objects of cultural heritage significance and any of them can be used for the development of the power line route.
- None of the proposed substation locations – Alternatives A or B – would have an impact on sites, features or objects of cultural heritage significance and either of them can be used for the development of the substation.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

A handwritten signature in black ink, appearing to read 'J A van Schalkwyk'. The signature is fluid and cursive, with a prominent vertical stroke on the left side.

J A van Schalkwyk
Heritage Consultant
October 2015

TECHNICAL SUMMARY

| Property details | | | | | | |
|-------------------------|--------------------------|------------|------------|----|------------|------------|
| Province | Northern Cape | | | | | |
| Magisterial district | Kuruman | | | | | |
| District municipality | Kgalagadi | | | | | |
| Topo-cadastral map | 2722BD | | | | | |
| Closest town | Hotazel | | | | | |
| Farm name | Mamatwan 367 | | | | | |
| Coordinates | End points (approximate) | | | | | |
| | No | Latitude | Longitude | No | Latitude | Longitude |
| | 1 | S 27.39825 | E 22.95390 | 2 | S 27.40757 | E 23.00012 |

| Development criteria in terms of Section 38(1) of the NHR Act | Yes/No |
|---|--------|
| Construction of road, wall, power line, pipeline, canal or other linear form of development or barrier exceeding 300m in length | Yes |
| Construction of bridge or similar structure exceeding 50m in length | No |
| Development exceeding 5000 sq m | Yes |
| Development involving three or more existing erven or subdivisions | No |
| Development involving three or more erven or divisions that have been consolidated within past five years | No |
| Rezoning of site exceeding 10 000 sq m | No |
| Any other development category, public open space, squares, parks, recreation grounds | No |

| Development | |
|--------------------|---|
| Description | Construction of a 132kV electricity line and substation |
| Project name | Tshipi Borwa Project |

| Land use | |
|-------------------|------------------------|
| Previous land use | Agricultural (grazing) |
| Current land use | Agricultural (grazing) |

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GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 and 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

| | |
|------------------|------------------------------------|
| Early Stone Age | 2 000 000 - 150 000 Before Present |
| Middle Stone Age | 150 000 - 30 000 BP |
| Late Stone Age | 30 000 - until c. AD 200 |

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

| | |
|-----------------|-------------------|
| Early Iron Age | AD 200 - AD 900 |
| Middle Iron Age | AD 900 - AD 1300 |
| Late Iron Age | AD 1300 - AD 1830 |

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

ABBREVIATIONS

| | |
|-------|---|
| ADRC | Archaeological Data Recording Centre |
| ASAPA | Association of Southern African Professional Archaeologists |
| CS-G | Chief Surveyor-General |
| EIA | Early Iron Age |
| ESA | Early Stone Age |
| LIA | Late Iron Age |
| LSA | Later Stone Age |
| HIA | Heritage Impact Assessment |
| MSA | Middle Stone Age |
| NASA | National Archives of South Africa |
| NHRA | National Heritage Resources Act |
| PHRA | Provincial Heritage Resources Agency |
| SAHRA | South African Heritage Resources Agency |

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF THE TSHIPI-BORWA 132KV POWER LINE AND SUBSTATION, SOUTH OF HOTAZEL, KGALAGADI DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE

1. INTRODUCTION

Envirolution Consulting (Pty) Ltd has been requested by Eskom to conduct a Basic Assessment for the proposed Tshipi-Borwa 132kV power line and substation, south of Hotazel in the Northern Cape Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. According to Section 27(18) of the National Heritage Resources Act (NHRA), Act 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Envirolution Consulting** to conduct a Heritage Impact Assessment (HIA) to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the development is planned.

This HIA report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

2.1 Scope of work

The aim of this HIA, broadly speaking, is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where it is planned to develop the electricity power line and substation.

The scope of work for this study consisted of:

- Conducting of a desk-top investigation of the area, in which all available literature, reports, databases and maps were studied; and
- A visit to the proposed development area.

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources; and
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

3. HERITAGE RESOURCES

3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;
 - historical graves and cemeteries; and
 - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;
 - objects of decorative or fine art;
 - objects of scientific or technological interest; and
 - books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as

defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area presented in Section 5 and as illustrated in Figures 2.

4.2 Methodology

4.2.1 Preliminary investigation

4.2.1.1 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, historical sources and heritage impact assessment reports were consulted.

- Information of a very general nature was obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in adjacent areas.

4.2.1.3 Other sources

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

- Information of a very general nature was obtained from these sources.

4.2.2 Field survey

The area that had to be investigated was identified by **Envirolution Consulting** by means of maps. The site was visited on 19 October 2015 and access to the mining area was arranged through Mr Jeff Leader from the mine. As this is a linear development, the site was surveyed by following the proposed route alternatives in both directions. See Fig. 1 for the track log of the field survey.

The *kml* file indicating the development area was loaded onto a Nexus 7 tablet. This was used in Google Earth during the field survey to access the area.

As this is end of winter and now rain has fallen yet, the grass cover over most of the study area was down, which increased archaeological visibility. It was only in the region of Substation Alternative B that there was significant grass cover to bring archaeological visibility down when view over a distance.

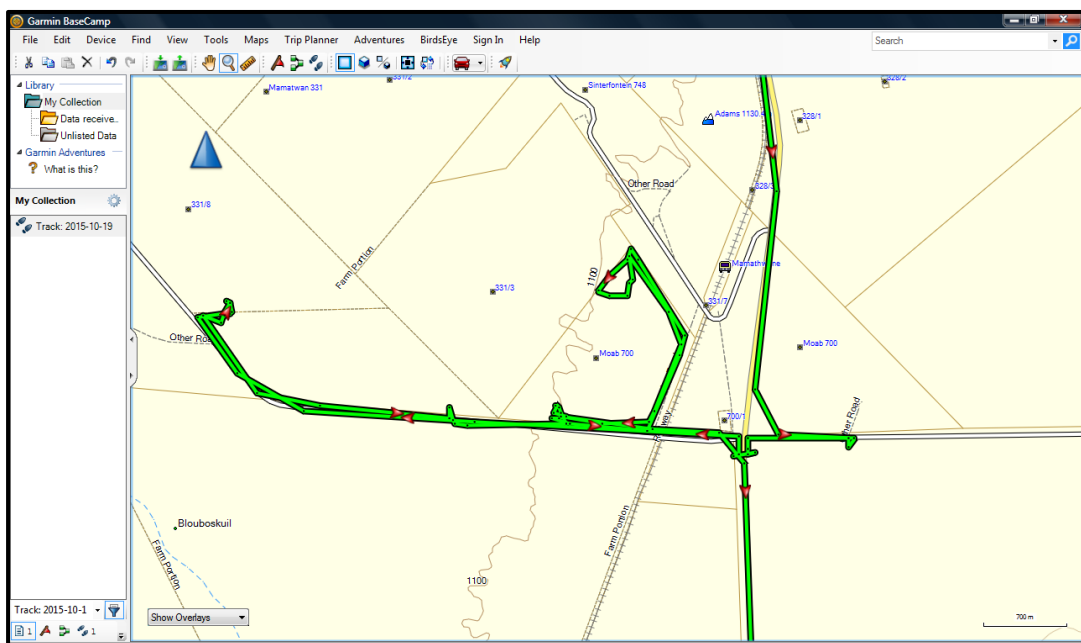


Fig. 1. Track log of the field survey.

5. PROJECT LOCATION AND DESCRIPTION

5.1 Site location

The proposed project is to be implemented at Mamaiwan Mine, which is located approximately 20 km south of Hotazel and approximately 30 km north of Kathu, in the Kgalagadi district municipality of Northern Province (Fig. 2). For more information, please see the Technical Summary presented above (p. iv).

5.2 Project description

A number of new manganese mines are planned for the area and the current electricity supply will not be sufficient. The new infrastructure will cater for the needs of future planned mines.

The proposed development consists of the construction of a 132kV electricity power line that will link up with a new substation. Two substation alternatives have been identified. In both cases, two alternative power line routes with loop-in/loop-out lines have also been identified. For Alternative A the power line will be 5,5 km long, whereas for Alternative B it is only 1 km long (see Fig. 2).

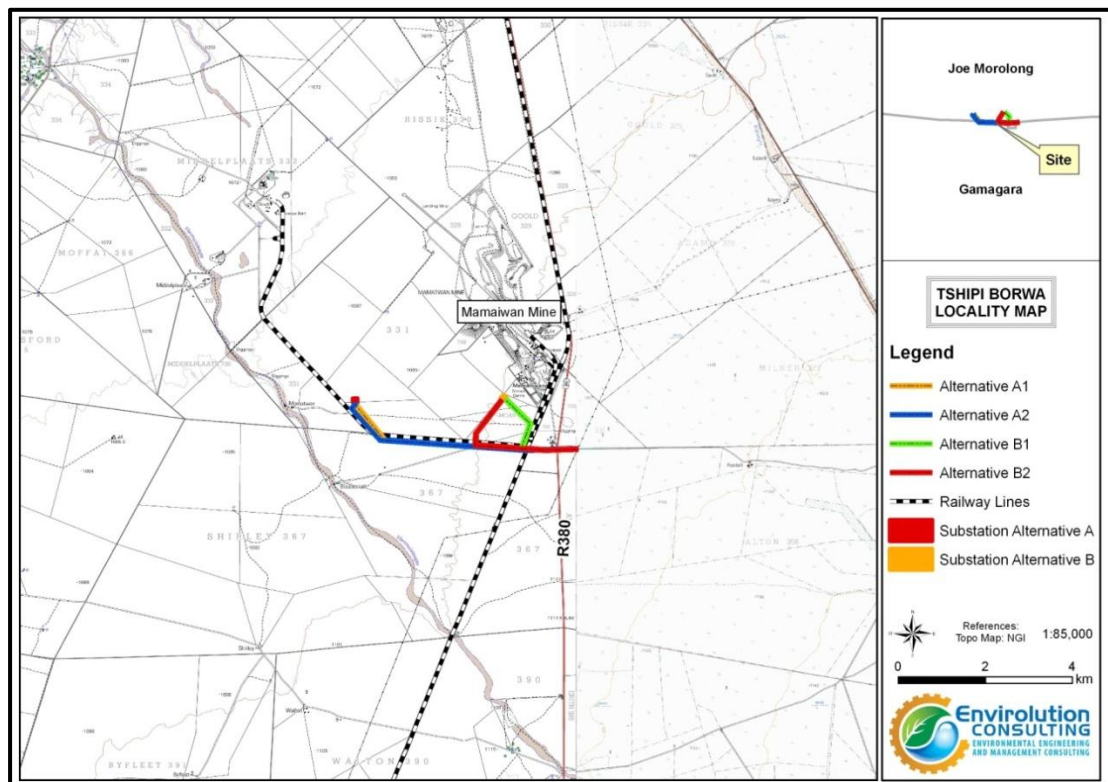


Fig. 2. Layout of the proposed development.

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 Site description

The geology of the area is made up of sand and the topography is described as plains. The original vegetation is classified as Kalahari Plains Thorn Bushveld. In some areas the proposed power line would follow exiting corridors or roads, and in other areas it would cross areas that can be described as “greenfields”. The Vlermuisleegte spruit passes approximately 1 km to the west of the proposed substation sites.

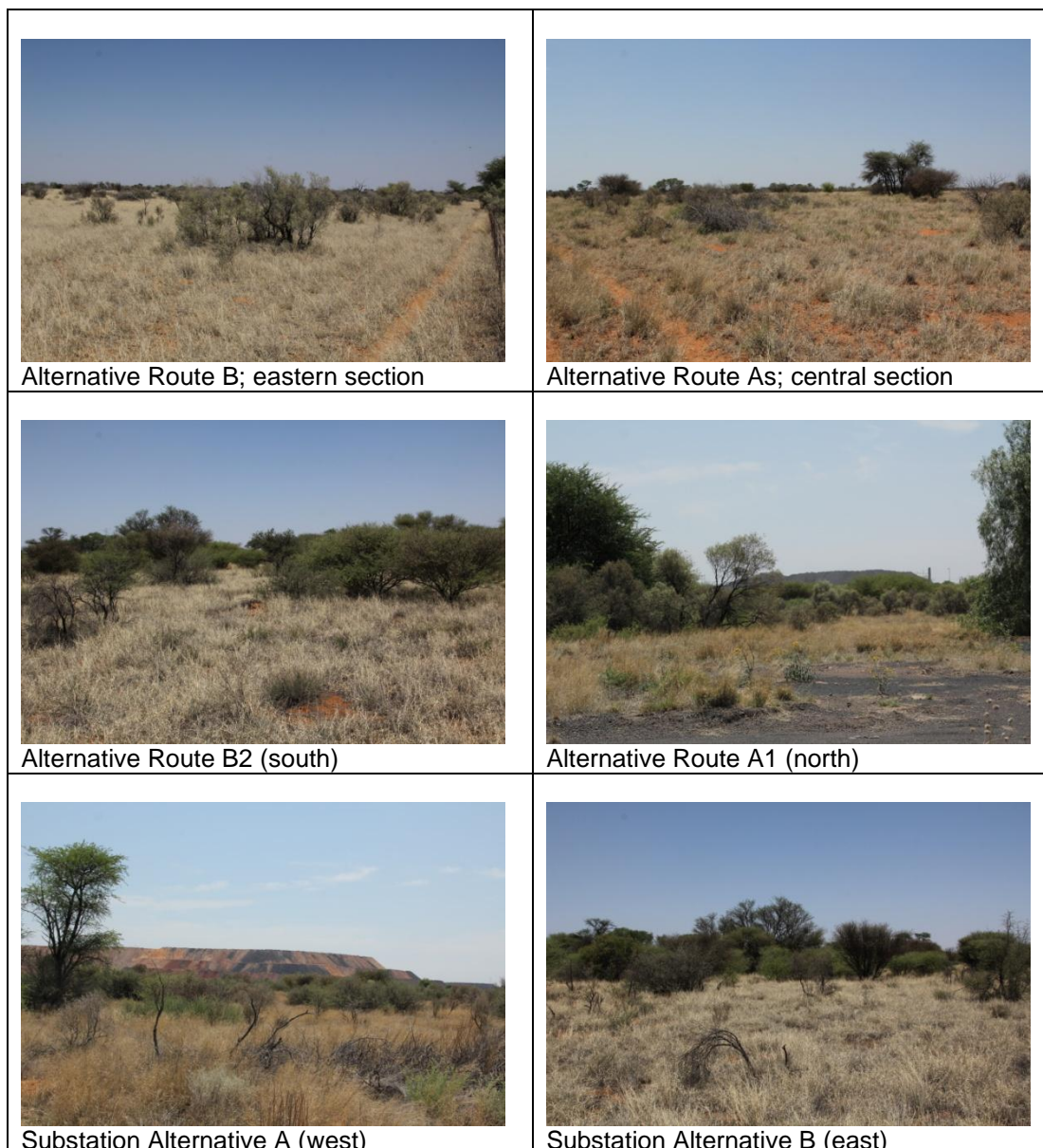


Fig. 3. Views over the study area.

6.2 Regional overview

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 1 for more information.

The cultural landscape qualities of the study area, as well as the larger region, essentially consist of a single component. This is a sparsely populated rural area in which the human occupation is made up of a limited (known) pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. It was only with the development of drilling rigs that sub-surface water sources could be accessed, allowing people to settle more permanently in the region. The discovery of rich mineral resources such as manganese and iron gave rise to the development of a mining component.

6.2.1 Stone Age

Surveys in the area have revealed that the archaeological record is temporarily confined to the Middle and Later Stone Age and is spatially concentrated around the riverine edges (Fourie 2013a; Hutten & Hutten 2013; Coetzee & George 2013).

However, more to the south in the region of Kathu, occupation of the region already took place during the Early Stone Age (e.g. Beaumont & Morris 1990; Dreyer 2007).

Less obvious in its presence are the Later Stone Age sites, some of which are indicated by Beaumont & Vogel (1984). They equate these sites, some which occur in the larger region, with Cape Coastal pottery associated with amorphous LSA (herders) or Wilton (hunter-gatherers) in the period 100 BC to AD 1900.

6.2.2 Iron Age

Early Iron Age occupation did not take place in the region and seems as if the earliest people to have settled here were those of Tswana-speaking origin (Tlhaping and Tlharo) that settled mostly to the north and a bit to the west of Kuruman. However, they continued spreading westward and by the late 18th century some groups occupied the Langeberg region. With the annexation of the Tswana areas by the British in 1885, the area became known as British Betchuana Land. A number of reserves were set up for these people to stay in. In 1895 the Tswana-speakers rose up in resistance to the British authority as represented by the government of the Cape Colony. They were quickly subjected and their land was taken away, divided up into farms and given out to white farmers to settle on (Snyman 1986).

6.2.3 Historic period

Many early explorers, hunters, traders and missionaries travelled through the area on their way to Kuruman on what was to become known as the “missionary road”. Anderson, Burchell, Harris, Holub, Lichtenstein and Moffat are but a few of the better-known names to pass through here.

In 1902 Olifantshoek got its first permanent inhabitant, Edward Finnis and in 1903 Michael Colley opened a shop. The slow growth of Olifantshoek can be attributed to the fact that for many years Deben (Dibeng) was the main seat of the church in the region and local people preferred to go there.

Although prospecting for minerals, especially diamonds occurred in the area and some knowledge was available on the iron deposits, it was only during the 1940s that the extent of the iron and manganese deposits were established. This was followed by the establishment of towns such as Sishen (1952) and Kathu in 1972.

As already indicated, the larger region as well as the study area has been sparsely populated and has largely been used for cattle farming.

6.3 Identified sites

The following cultural heritage resources were identified in the study area (Fig. 4):

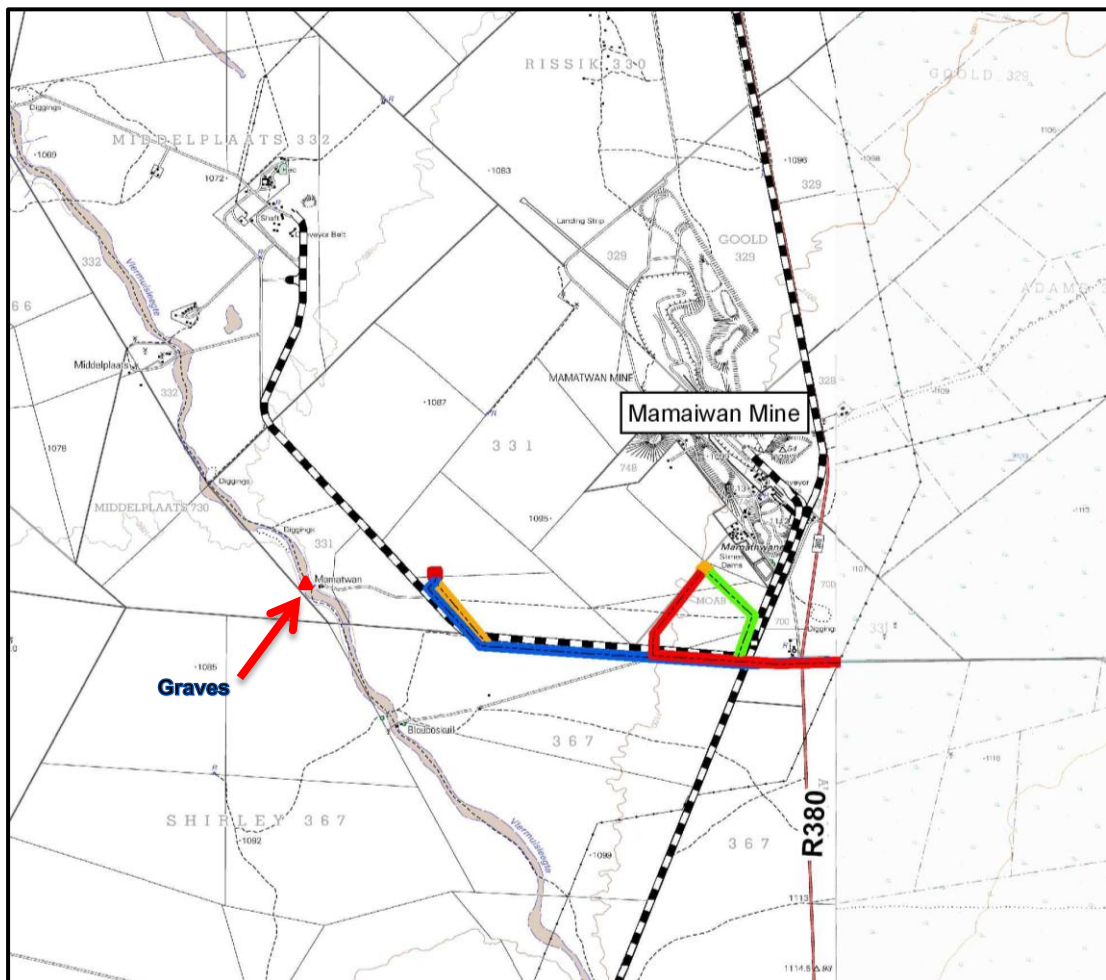


Fig. 4. Identified sites in relation to the proposed development.

6.3.1 Stone Age

- No sites, features or objects dating to the Stone Age were identified in the study area.

A survey by Coetzee & George (2013) of the farm Mamatwan 331 on which the bulk of the development will take place, has shown that very few sites, features or objects of cultural heritage could be identified on the farm. Concerning the Stone Age, they only

located a very thin scatter of stone tools in a 200 m radius along the river bed (Vlermuisleegte). This area is sufficiently far away (c. 1 km) from the proposed development area in order for it not to be impacted upon.

6.3.2 Iron Age

- No sites, features or objects dating to the Iron Age were identified in the study area.

6.3.3 Historic period

- No sites, features or objects dating to the historic period were identified in the study area.

A survey by Coetzee & George (2013) of the farm Mamatwan 331 on which the bulk of the development will take place, has shown that very few sites, features or objects of cultural heritage could be identified on the farm. Concerning the historic period, they only identified a small farm cemetery in the region of the farmstead, which is located approximately 1 km west of the Substation Alternative A site. This area is sufficiently far away from the proposed development area in order for it not to be impacted upon.

7. SITE SIGNIFICANCE AND ASSESSMENT

7.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, on a local authority level.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

7.2 Statement of significance

A matrix was developed whereby the above criteria, as set out in Sections 3(3) and 7 of the NHRA, No. 25 of 1999, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites. Three categories of significance are recognized: low, medium and high. In terms of Section 7 of the NHRA, all the sites currently known or which are expected to occur in the study area are evaluated to have a grading as identified in the table below.

Table 1. Summary of identified heritage resources in the study area.

| Identified heritage resources | |
|--|-----------------------------------|
| <i>Category, according to NHRA</i> | <i>Identification/Description</i> |
| Formal protections (NHRA) | |
| National heritage site (Section 27) | None |
| Provincial heritage site (Section 27) | None |
| Provisional protection (Section 29) | None |
| Place listed in heritage register (Section 30) | None |
| General protections (NHRA) | |
| structures older than 60 years (Section 34) | None |
| archaeological site or material (Section 35) | None |
| palaeontological site or material (Section 35) | None |
| graves or burial grounds (Section 36) | None |
| public monuments or memorials (Section 37) | None |
| Other | |
| Any other heritage resources (geological) | None |

7.3 Impact assessment

Impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

Based on available information and the site visit the following can be said:

- None of the proposed power line routes – Alternatives A1, A2, B 1 & B2 – would have an impact on sites, features or objects of cultural heritage significance and any of them can be used for the development of the power line route.
- None of the proposed substation locations – Alternatives A or B – would have an impact on sites, features or objects of cultural heritage significance and either of them can be used for the development of the substation.

8. CONCLUSIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural significance found within the area in which it is planned to construct an electricity power line and substation.

The cultural landscape qualities of the study area, as well as the larger region, essentially consist of a single component. This is a sparsely populated rural area in which the human occupation is made up of a limited (known) pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. It was only with the development of drilling rigs that sub-surface water sources could be accessed, allowing people to settle more permanently in

the region. The discovery of rich mineral resources such as manganese and iron gave rise to the development of a mining component.

The proposed development consists of the construction of a 132kV electricity power line that will link up with a new substation. Two substation alternatives have been identified. In both cases, two alternative power line routes with loop-in/loop-out lines have also been identified. For Alternative A the power line will be 5,5 km long, whereas for Alternative B it is only 1 km long.

Based on available information and the site visit the following can be said:

- None of the proposed power line routes – Alternatives A1, A2, B 1 & B2 – would have an impact on sites, features or objects of cultural heritage significance and any of them can be used for the development of the power line route.
- None of the proposed substation locations – Alternatives A or B – would have an impact on sites, features or objects of cultural heritage significance and either of them can be used for the development of the substation.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue.

Conditions for inclusion in the environmental authorisation:

- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

9. REFERENCES

9.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa

9.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Coetzee, C.B. (ed.) 1976. Mineral resources of the Republic of South Africa. Handbook 7, Geological Survey. Pretoria: Government Printer.

Coetzee, T. & George, L. 2013. *Mamitwan Archaeological Impact Assessment (Phase 1) for Environmental Assurance (Pty) Ltd*. Unpublished report.

Fourie, W. 2013a. *Proposed Lehating Mining (Pty) Ltd underground manganese mine on Portion 1 of the Farm Lehating 714 and Portion 2 of the farm Wessels 227, approximately 20km northwest of Hotazel, Northern Cape Province*. Pretoria: Unpublished report.

Fourie, W. 2013b. *Heritage Impact Assessment for the proposed prospecting activities for Tshipi é Ntle Manganese Mining on Remaining extent of the farm Wessels 227 and Portions 1 and 2 and the remaining extent of the farm Dibiaghomo 226 in the Northern Cape Province*. Pretoria: Unpublished report.

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Pelser, A. & van Vollenhoven, A.C. 2011. *A report on a heritage impact assessment (HIA) for a proposed new rail crossing over the Gamagara River for the Gloria Mine operations, Assmang Black Rock, on Gloria 266, North of Hotazel, Northern Cape*. Pretoria: Unpublished report.

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9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2722BD
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE SIGNIFICANCE OF HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of heritage sites and artefacts is determined by its aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the 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.

Matrix used for assessing the significance of each identified site/feature

| | | | | |
|---|--------|------|--------|-----|
| 1. Historic value | | | | |
| Is it important in the community, or pattern of history | | | | |
| Does it have strong or special association with the life or work of a person, group or organisation of importance in history | | | | |
| Does it have significance relating to the history of slavery | | | | |
| 2. Aesthetic value | | | | |
| It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group | | | | |
| 3. Scientific value | | | | |
| Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage | | | | |
| Is it important in demonstrating a high degree of creative or technical achievement at a particular period | | | | |
| 4. Social value | | | | |
| Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons | | | | |
| 5. Rarity | | | | |
| Does it possess uncommon, rare or endangered aspects of natural or cultural heritage | | | | |
| 6. Representivity | | | | |
| Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects | | | | |
| Importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class | | | | |
| Importance in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality. | | | | |
| 7. Sphere of Significance | | High | Medium | Low |
| International | | | | |
| National | | | | |
| Provincial | | | | |
| Regional | | | | |
| Local | | | | |
| Specific community | | | | |
| 8. Significance rating of feature | | | | |
| 1. | Low | | | |
| 2. | Medium | | | |
| 3. | High | | | |

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) 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 assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 36):

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) No person may, without a permit issued by SAHRA or a provincial 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, 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 equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

APPENDIX 3. SPECIALIST COMPETENCYJohan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.