

**Cultural heritage impact assessment for the
PROPOSED EASTERN FREE STATE, LESOTHO BORDER ROAD
DEVELOPMENT, FREE STATE PROVINCE**

**CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED
EASTERN FREE STATE, LESOTHO BORDER ROAD DEVELOPMENT, FREE
STATE PROVINCE**

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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. Furthermore, I take no personal or professional responsibility for the misuse of the information contained in this report, but take all reasonable measures to prevent such misuse.



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February 2015

EXECUTIVE SUMMARY

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED EASTERN FREE STATE, LESOTHO BORDER ROAD DEVELOPMENT, FREE STATE PROVINCE

The border line between Lesotho and the Free State Province of South Africa is the international border for which both countries are responsible. The South African Defence Force (SANDF) and Department of Agriculture Forestry and Fisheries (DAFF) respectively, have been entrusted with the guarding and protection of the border and to ensure that diseases such as foot and mouth disease do not spread to South Africa.

To address the above need the Defence Force as client of the Department of Public Works, initiated a project that entails the preparation of a comprehensive site audit and obtaining of the required environmental authorizations that will form the basis for the redesign and re-construction of the road and to secure the required and defined servitude (Right of Way) in favour of the state for the road reserve. Therefore the main objective of this project is to determine and establish the site for the road and to obtain "site clearance" for the road. **Delta Built Environment Consultants** was contracted by the Department of Public Works to obtain environmental authorisation for the construction of the border patrol road and border fence.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Delta Built Environment Consultants** to conduct a cultural heritage impact assessment to determine if any sites, features or objects of cultural heritage significance occur within the area where it is planned to develop the border patrol road and border fence.

The cultural landscape qualities of the region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

This human occupation have given rise to a variety heritage sites in the larger region, ranging across the spectrum from Stone Age sites through to the Iron Age and sites of historic significance:

- The Stone Age sites are known to contain rock art and are therefore viewed to have high significance on a regional level.
- Less is known about the Iron Age sites, but, based on available information they are viewed to have medium significance on a regional level.
- The historic sites are mostly related to the early pioneering and farming days and are viewed to have high significance on a regional level.



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January 2015

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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 & 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. These people, according to archaeological evidence, spoke early variations of the Bantu Language. Because 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
BP	Before Present
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 EASTERN FREE STATE, LESOTHO BORDER ROAD DEVELOPMENT, FREE STATE PROVINCE

1. INTRODUCTION

The border line between Lesotho and the Free State Province of South Africa is the international border for which both countries are responsible. The South African Defence Force (SANDF) and Department of Agriculture Forestry and Fisheries (DAFF) respectively, have been entrusted with the guarding and protection of the border and to ensure that diseases such as foot and mouth disease do not spread to South Africa.

According to a settlement agreement between National Departments, Free State Provincial Departments and Free State Agriculture, the National Department of Public Works (DPW) is responsible for the border fences and the border patrol road between South Africa and Lesotho. The patrol road has fallen into disrepair and cannot be effectively used for its intended purposes. Although the road has been in existence and used for several decades, the state has not secured rights to the land or the use thereof for the purpose. The road itself covers a distance of approximately 500 km, traversing approximately 240 properties.

The road is needed to enable the effective patrol of the border between South Africa and Lesotho by the South African National Defence Force and for use by the Department of Agriculture, Forestry and Fisheries, to manage and control the possible trans-border spreading of animal disease, through managing and maintaining the border fence, amongst others.

To address the above need the Defence Force as client of the Department of Public Works, initiated a project that entails the preparation of a comprehensive site audit and obtaining of the required environmental authorizations that will form the basis for the redesign and re-construction of the road and to secure the required and defined servitude (Right of Way) in favour of the state for the road reserve. Therefore the main objective of this project is to determine and establish the site for the road and to obtain "site clearance" for the road. **Delta Built Environment Consultants** was contracted by the Department of Public Works to obtain environmental authorisation for the construction of the border patrol road and border fence.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Delta Built Environment Consultants** to conduct a cultural heritage impact assessment to determine if any sites, features or objects of cultural heritage significance occur within the area where it is planned to develop the border patrol road and border fence.

This 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

2.1 Scope of work

The aim of this assessment, 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 border patrol road.

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;
- Describe the importance of each site identified.
- 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 Assumptions and 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.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- 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.
- An important concept in the management of heritage resources is that it is non-renewable: damage to or destruction of most resources, including that caused by bona fide research endeavours, cannot be reversed or undone. Accordingly, management recommendations for heritage resources in the context of development are as conservative as possible.
- Large sections of the regions in which the study areas are located have not yet been subjected to systematic archaeological surveys, creating huge gaps in available knowledge. Furthermore, most information that was generated in specific regions is based on impact assessments done for the purpose of development projects of some sort, with the result that it covers these regions only selectively.
- Long sections of the existing road are densely vegetated by exotic tree growth, limiting archaeological visibility.
- 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 sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 5 and as illustrated in Figures 1 - 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 on events, sites and features in the larger region were obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General (CS-G)* and the *National Archives of South Africa (NASA)* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.

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 site visit took place over the period 23 November 2014 to 3 December 2014. The area that had to be investigated was identified by **Delta BEC** by means of maps. In addition, the *kml* file indicating the location of the proposed development sites was loaded onto a Nexus 7 tablet. This was used, in Google Earth, during the field survey to access the areas and determine to location of identified sites and features.

During the field survey the members of the Department of Public Works (DPW) and members of the SANDF responsible for patrolling of this particular border accompanied the consultants, pointing out the various areas that were under consideration for the development of the border patrol road and border fence.

4.2.3 Documentation

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

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

5. PROJECT DESCRIPTION

The border line between Lesotho and the Free State Province of South Africa is the international border for which both countries are responsible. The South African Defence Force (SANDF) and Department of Agriculture Forestry and Fisheries (DAFF) respectively, have been entrusted with the guarding and protection of the border and to ensure that diseases such as foot and mouth disease do not spread to South Africa.

To address the above need the Defence Force as client of the Department of Public Works, initiated a project that entails the preparation of a comprehensive site audit and obtaining of the required environmental authorizations that will form the basis for the redesign and reconstruction of the road and to secure the required and defined servitude (Right of Way) in favour of the state for the road reserve. Therefor the main objective of this project is to determine and establish the site for the road and to obtain "site clearance" for the road.

To achieve this objective require the execution of basic road planning activities through:

- Conducting of a detailed technical (engineering and geotechnical), environmental, planning and land use, cadastral and land tenure assessment of the existing road and its access roads.
- Determining of the class of road required. The road must be a usable road of a durable and permanent nature that enables the effective patrolling of the border, whilst minimising future maintenance requirements. The road need to comply with minimum Departmental specifications.
- Execution of road planning and design work to determine possible route and road alternatives (3 alternatives) for the road route/alignment and selection, to the level required to secure environmental authorisation.
- Determining of the need for the repair and reconstruction of the service road and its access roads.
- Selection of the preferred road route and obtaining of environmental authorization for the preferred road route.

The above work will form the basis for informing the subsequent project phases of detailed road design and construction of the road. The expected final deliverable for this project is an approved road route including environmental authorisation, secured servitudes, Project Execution Plan (PEP) and a cost report.

The project will be executed through implementation of three project phases comprising of nine main tasks:

- Phase One : Inception and Status Quo analysis
- Phase Two : Legalisation Processes
- Phase Three: Submission of a Final Site Clearance Report

The tasks to be executed during implementation of the above project phases include the following:

- Task One: Inception and Status Quo Analysis
- Task Two: Legalisation Processes
- Task Three: Submission of Final Site Clearance Report
- Task Four: Land Surveying and Orthophoto Mapping
- Task Five: Environmental Screening and Impact Assessment
- Task Six: Civil Engineering: Traffic Engineering and Road Design
- Task Seven: Geotechnical Investigation
- Task Eight: Conveyancing
- Task Nine: Heritage Assessment (HIA)

The extent of the border road stretches from Clarens in the northern parts of the Free State to Zastron in the southern parts of the Free State Province (Fig. X).

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

6.1 Site location and description

Fig. 1. Location of the study area in regional context.

6.2 Regional overview

Frontiers have always been important and may imply a distinct border or a broader region within which contact between groups take place (Green & Perlman 1985). Copeland (2001:81) argues that the current inhabitants of Lesotho and the Free State perceive the Caledon River (or Mohokare) as a political border that forms “the centre of a cross-border way of life...”. Whereas rivers generally serve to demarcate territories and social groups, rivers are permeable borders and this certainly applied to demographics during the prehistoric period. The movement of hunter-gatherers across rivers, with some constraints, was apparently quite common (van der Ryst 2006). This is consistent with observed mobility across geographical and environmental boundaries. However, the traveller and artist Baines (1872:33, 1877:64-6; in Wallis 1946:745-6) during his travels in the interior observed that some of his Masarwa (Bushmen) guides refused to cross the Limpopo. One of them asserted that “... he had brought us out of the limits of his own tribe and into the country of the next ...” (Baines 1877:64). The Caledon River was undoubtedly not a major impediment to the movement of people (Mitchell et al. 1998). As a result archaeologists tend to treat the “whole of the Caledon Valley ... as a single unit...” (Mitchell et al 1998:107). This survey accordingly reviews archaeological data on the occupation of land by hunting, fishing and gathering groups on both sides of the Caledon River during the prehistoric period.

6.2.1 Stone Age

- *Rock art*

Rock art localities abound in differential densities within Lesotho and the Free State and occur on both sides of the border between the two regions (Herbert 1998). Most, if not all, painted and archaeological shelter sites are located in the sandstones of the Clarens Formation of the Karoo System. Deposition occurred during an arid climate. The massive sandstone formations form prominent features on the landscape. It is overlain by the basalts of the Drakensberg Formation. Underlying the Clarens Formation is the Elliot Formation comprised of mudstones, siltstones and sandstones (Castro & Bell 1995; Plug 1997). Surface weathering processes of this sandstone rock surface and moisture from mainly water pockets in the near-surface zone cause flaking of the rock art (Summer *et al.* 2009; Mol & Viles 2010).

Whereas most of the painted panels are in rock shelters, many of the shelters with occupation deposits are devoid of rock art. Through the Analysis Rock Art Lesotho project (ARAL) Lucas Smits (1967, 1973, 1975, 1983) and other researchers documented the rock art distribution. Lesotho is said to be one of the richest rock art regions in the world with an excess of 5000 sites with more than 10 000 paintings that have been documented. It is estimated that the number of paintings could be around 100 000 (Smits 1975:75). High concentrations have been recorded in areas such as the Tsoelike River Valley in the Quacha's Neck District to the

southeast of the study area, and in shelters recorded to be occupied during the historical period up to the 20th century (Cain 2009). Vinnicombe's (1976) rock art survey references most of the major rock art sites in Lesotho.

Through the ARAL project Smits (1983) focused on four study areas, namely the Phuthiatsana, Qhoqhoane and Sebapala and Sehlabathe areas (Smits 1983). It is significant that many shelters around Leribe and Botha Bothe in western Lesotho, where numerous LSA localities have been recorded, also contain rock art. Most of the rock art is ascribed to the hunter-gatherers, with some panels depicting contact images such as horses, cattle and confrontational incidents between the hunter-gatherers and incoming groups. The most recent paintings have been created by the Mountain Bushmen, also known as the Baroa (Smits 1975).

Observations and accounts by early travellers, missionaries and linguists (e.g. Orpen 1874; Stow 1910; Dornan 1909; Bleek and Lloyd 1911; Arbousset & Daumas 1968) are important in deciphering the meaning of the rock art of southern Africa. Dornan (1909) supplied data on several of the painted shelters in Lesotho. Accounts on painted shelters in Lesotho and the Free State feature prominently in our understanding of the rock art of southern Africa. Ethnographic observations are extensively used to interpret the art (Mitchell et al. 2011). A significant explanation on some of the very numerous paintings at Melikane and Sehonghong in the study area was given to Joseph Orpen, Chief Magistrate of the St John's Territory, by his Bushman scout Qing. These accounts provide a basis for the interpretation of the art and complex belief system of the Bushmen (Challis 2005). In 1971 several rock art researchers retraced in part the journey of Orpen and his guides to locate painted sites in this part of Lesotho and furthermore recording additional ones (Smits 1973). Jolly (1995, 1996a, 1996b) argues that the rock paintings at the Melikane and Upper Mangolong rock shelters commented on by Qing also feature the earlier symbiotic relationships between the eastern San of Lesotho and African farmers and that images in San art demonstrate aspects of ideological change resulting from interactive contact.

The rock art displays aspects of the ideology and beliefs of the hunter-gatherers such as the complex depictions of shamanic practices in the rock art at Kerkenberg (RARI RSA ABE1) in the Harrismith district (Blundell 1998). Challis (2005:11) maintains that "the key to understanding the paintings lies in their structure as opposed to individual occurrences." The paintings contain symbols of their cosmology and belief system. The context of the painted contents is often diagnostic and aids interpretation. Human figures, half-humans and animals in various guises or postures, specific outfits in the form of cloaks, caps and decorations, ceremonies, and items of material culture reflect shamanistic practices and ceremonies relating to hunting, marriage, girls' puberty rituals, boys' first kill rituals, healing and shamanic practices as expressed in the trance dance and in rain control (Stow 1910; Arbousset & Daumas 1968; Vinnicombe 1972, 1976, 2009a; Lewis-Williams 1996; Challis 2005).

Following on the Lesotho Highlands Water Project (LHWP) several painted panels from affected sites were collected for storage and curation (e.g. Loubser 1993b). The paintings at Liphofung (Place of the Eland), located at a tributary of the Hololo River in the Lesotho highlands, are protected as this locality features as a site museum and the information centre provides data on other heritage resources and the archaeology of the shelter (ORASECOM 005/2007).

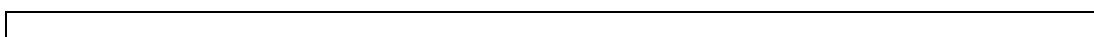




Fig. 2. Rock art at Liphofung shelter in Lesotho.

Free State

The Rock Art Division of the National Museum, Bloemfontein has been active for many years in recording, interpreting and managing the very rich rock art resources of the region as is borne out in the long list of publications and tracings of panels accessioned in their data base (<http://www.nasmus.co.za/departments/rock-art/scientific-articles>). Note that the exact location of rock art sites is seldom given in publications in order to protect the paintings against possible future damage.

Tandjiesberg rock shelter, close to Ladybrand, contains a very large number of painted panels and the archaeological deposit dates back to around 800 years ago (Loubser 1993a; Ouzman 1997; Wadley & McLaren 1998; Morris et al. 2001). Tandjiesberg was declared a National Monument in 1992 (Herbert 1998). The contents of the rock art include a range of animals such as rhebuck, elephant, wild dog and a feline, rain animals, birds and superpositioned humans painted over eland and not under as is commonly found in the rock art of southern Africa. The French historian Abbé Breuil visited the site twice during 1947 on his visit to South Africa (Loubser 1993a).

The Abbé also visited Rose Cottage Cave (RCC) on the Platberg near Ladybrand where the rock images contain a rare painting of ichthyoids, identified as freshwater mormyrid fish (Ouzman 1995; Ouzman & Wadley 1997). A site 22 km north-east of RCC show 54 fish in a shoal and at another on the banks of the Little Caledon river near Fouriesburg a shoal of six fish is depicted in association with people in karosses and bags (Ouzman 1995). A shelter near Harrismith contains the unusual painting of two crabs enclosed within a thick line (Lewis-Williams et al. 1986). Smits (1967) also recorded fishing scenes at Botsabelo, north-east of Maseru. These consist of three fishing scenes, two with humans trapping fish in baskets within a barrier area and a poorly preserved fragment showing fish funnelled towards conical baskets.

Woodhouse (1989) recorded three sites in the Free State where bees are depicted. One panel at Aberdeen near Harrismith show a honeycomb and in the Fouriesburg District there is a similar painting accompanied by bees.

At Bedford Shelter, Braamhoek 389 in the Harrismith District a panel was removed before the locality was flooded by the dam development (Anderson, G. No. 80/08/05/003/40, Extension of permit No. 0/06/08/021/40). The occupation sequence begins in the mid-Holocene and this locality was occupied intermittently up to the contact period. The LSA lithic sequence also contains some lithics made on fossil wood, which can be sourced within a 20 km radius. The excavations also yielded a large sample of faunal remains, mostly of bovinds. Ochre pencils and ochre with cut marks were also present. A relatively large sample of Late Iron Age ceramics was also recovered (Anderson & Anderson 2004, 2005, 2006a, 2006b; Anderson 2008).

Loubser et al. (1990) recorded rock art depicting six antelope identified as the extinct blue antelope *Hippotragus leucophaeus* in the Caledon Valley near Ficksburg. The bodies are in red ochre, shading into white on the faces, bellies and legs and with some facial features, horns and hoofs painted in black. The contents accordingly provide a relative date for both the painting and the geographical distribution of the antelope (Herbert 1998). This antelope was last seen in 1800 (Fock & Fock 1986).

Images of cattle, sheep and shields in the Caledon River valley near the border of Lesotho and Free State show the transformation of the San following on contact with African farmers moving into the region (Loubser & Laurens 1994). Significant changes in the style of painting such as the 'poster painted' images found along the Caledon and western Lesotho attest to interaction and integration into agriculturist communities through stock-keeping (King et al. 2014).

Rock art panels at Ventershoek and at Tienfontein show what is interpreted as a cattle raid (Van Riet Lowe 1946 quoting Bleek, D. & Stow, G.W. *Rock Paintings in South Africa* 1930:62; Sampson 1970; Klein 1979). Van Riet Lowe (1946) also makes reference to Basuto shields and spears in the cattle raid painting at Ventershoek.

Research undertaken by Carolyn Thorp in 1990 at Orange Springs formed part of her Caledon Valley interaction studies. The rock paintings that included detailed trance scenes and images of women carrying bored stones were traced in 1992 and 1993. In a recent report of this registered Free State heritage site an overview is provided of the preservation measures and the results of the interventions at Orange Springs (Moodley n.d.).

Hampson (2014) illustrates and interprets a complex panel at site BOS 1 near Wepener of a conflict scene. Twelve figures have club-like objects in raised hands. In subgroups are 29 figures that form part of the incident, carrying implements, bags and sticks that are interpreted to be in some instances weapons. According to Hampson the scene cannot be linked to a particular historical narrative where a San man was treated in a derogative manner, but that it features the cosmological belief system of the San.

Mauermanshoek shelter, occupied from 3500 to 200 BP by successively Bushmen, Kora stock raiders and Sotho, has multiple rock art traditions (Wadley 2001; Ouzman 2005; King et al. 2014). Finger and rough brush paintings in red, white and orange are dominated by an iconography of armed horse riders attributed to the Korana descendants of the Khoekhoen (Ouzman 2005). Similar paintings have been recorded in the Mantsopa, Motheo and Thabo Mofutsanyana districts (Ouzman 2005).

Paintings in the Platberg mountain range at the Modderpoort locality Ladybrand and Clocolan too exhibit the complexity of religious belief of the San. The Sotho name for Modderpoort Farm, *Lekhalong La Bo Tau*, means *The Pass of the Lions*. The San that lived at this locality were known as the Makhomokholo or the people *great at cattle* (Ouzman 1999). The images at the shelter include paintings of a cattle raid, human and animal figurines, birds and zigzag figures.

The shelter was declared as a National Monument in 1936, but since suffered a great deal of vandalism. Graffiti on the paintings and the burning of candles, the wax of the candles and other human activities contribute to the destruction of the heritage resources of the shelter. Nzumbululo Heritage Solutions (2010) in an HIA for the Mantsopa Local Municipality provide an overview of the cultural landscape of Legkalong La Mantsopa/Modderpoort. This locality comprises four sacred sites that include the Cave Church, the Anglican Christian Church, a cemetery, the grave of Mantsopa Makhetha (a renowned Basotho prophetess), a sacred spring (associated with the Mantsopa legend) and the painted shelter. The shelter features prominently in current religious and ritual ceremonies (Ouzman 1999).

The archaeology

Lesotho

Geographically Lesotho can be divided into a lowland area that borders the Free State in the west, and the inland highlands with major and minor river valleys, mountains and foothills. The region has been occupied over millions of years. Sites generally occur along river systems between 1600 and 2000 m in altitude (Cain 2009). Earlier Stone Age (ESA) occurrences are rare and usually located in river valleys. Several sites with ESA lithics have been recorded at Leribe and Botha Bothe, consisting of usually medium-sized quartzite handaxes and large flakes 70-100 mm in length (Cain 2009). Middle Stone Age (MSA) assemblages have been documented at many open sites and rock shelters, the latter containing deep stratigraphic occupation sequences. Quartzite, dolerite and hornfels dominate MSA assemblages but cryptocrystalline silicas (CCS) have also been used. Leribe and Botha Bothe feature prominently in MSA localities and the typology is characteristic of MSA technologies in the use of the prepared core technique to obtain primary flaked products that were used to produce formal tool types such as points, knives and scrapers (Cain 2009).

Most parts of Lesotho were inhabited during the latter part of the Holocene. LSA occupations are more recognizable through the utilization of rock shelters and rock art localities (Cain 2009). Hunting and gathering groups survived in Lesotho until the late nineteenth century (Dornan 1909; How 1962; Jolly 1995, 1996, 2003; Mitchell 2002). Some of them were still living on farms in the late 1920s and van Riet Lowe interviewed one of them on his knowledge of stone tools (Bousman and Sampson 1997). Interviews in 1971 by Patricia Vinnicombe (2009b) with two old men who lived near Sehonghong contributed to the ethnographic observations. They gave accounts on their lifestyle, interaction with black farmers, and skirmishes with them.

The publications of Orpen (1874), Dornan (1909) and Arbousset and Daumas (1968) contain vital contemporary observations on San groups. Dornan (1909:438) wrote there were different groups of Bushmen and that some of them exhibited signs of admixture with the Sotho, in being taller and with clan names derivative from Sotho: "These Bushmen were not numerous. There were two small clans, one at Qeme, the other at Qoaling, a mountain beyond the Phutiatsana, nearer Maseru. Moshesh found them there when he settled at Thaba Bosiu."

In the 1860s travellers and missionaries recorded stone tools from open sites, river terraces and rock shelters that were mostly ascribed to these people and their ancestors. Dornan (1909:439) also reported on the Bushmen groups who lived in a cave on the river Melikane and those who lived at Sehonghong Cave in the Upper Senqu or Orange River Valley. Vivian Ellenberger (1953) wrote a synthesis on the San. P. Ellenberger noted in particular sites within the western lowlands and he also conducted excavations at shelters in the Leribe District.

Berry D. Malan recorded ESA Acheulean and MSA artefacts from terraces along the Makhaleng River and from open sites near Leribe. However, it was only around the late 1960s/1970s that archaeological research in the highlands was initiated by Pat Carter at Moshebi's Shelter in the south-eastern Qacha's Nek District. His long-term project focused on

the eastern part of Lesotho were he excavated several large shelters including Ha Soloja and Moshebi's Shelter in the Sehlabathebe Basin; and at Melikane and Sehonghong on tributaries of the Orange River (Mitchell 1992). All of these contained LSA deposits underlain by extensive MSA occupations. One of the last chiefs of the Maluti Bushmen, Swai, lived at Sehonghong (Dornan 1909:449). Carter and Patricia Vinnicombe recorded more than 300 sites during their survey.

Contract archaeology contributed to the archaeology data set on Lesotho beginning when Parkington *et al.* (1978) surveyed the footprint of the Southern Perimeter road. The Lesotho Highlands Water Project and subsequent mitigation measures preceding infrastructural development documented numerous heritage resources. Mitchell (1999) undertook excavations at Sehonghong where he noted similarities in the MSA and LSA sequences with RCC.

A survey of all heritage resources in Lesotho was conducted in 2005-2006 in view of the Maloti-Drakensberg Transfrontier Project (MDTP). Dense concentrations of LSA sites were recorded in the Leribe district. The LSA lithic sequence includes a range of formal tool types made on primary flaked blanks, including a range of scrapers (Clarke 1958), segments, borers, spokeshaves and adzes (Deacon 1984a, 1984b; Mitchell 2002). The small microlithic tools were probably hafted with mastic onto bone and wooden handles, similar to examples found in archaeological contexts (Clarke 1958; Deacon 1976; Deacon & Deacon 1980).

Mitchell (1999) commented on the presence of bifacially pressure-flaked bladelets, points and tanged arrowheads in Holocene Wilton assemblages from several sites. These include Ha Soloja, and Moshebi's Shelter in the Sehlabathebe Basin; Sehonghong Shelter and Lehaha-la-Masekou in the eastern Lesotho highlands; in southern Lesotho Bolahla, Ha Mototane; in southwestern Lesotho and Mount Moorosi; and finally, in the Phuthiatsana-ea-Thaba Bosiu Basin (PTB), Central Lesotho Lowlands at Leqhetsoana and at 2927DA11. These artefact forms date from at least the last 2000 years and probably served as inserts and for barbed arrowheads. Similar pressure-flaked points have been recorded in the Free State from Dewetsdorp, Harrismith, Ladybrand, RCC, Smithfield, Thaba Nchu and Wepener (Humphreys 1991; Mitchell 1994; Mitchell *et al.* 1994; Wadley 1997; Mitchell 1999).

Large dam projects, such as the LHWP of Lesotho, which will ultimately constitute six completed dams, constitute a major threat to heritage resources. The positive side of such developments is that they also provide opportunities for recording and/or mitigating archaeological and other heritage localities (Arthur *et al.* 2011). The PTB basin of western Lesotho borders on the Free State Province. The major research undertaken by Lyn Wadley at RCC complements the research derived from the Lesotho dams' projects and provides a unique opportunity to compare the Stone Age at roughly contemporary sites within the two bordering regions of the Caledon River Valley (Mitchell 2000).

A vast amount of data is therefore available on the Stone Age archaeology of Lesotho. The PTB Basin entails an area of around 1000 km² that can be divided into lowlands, foothills and mountain zones (Mitchell 2000). Most of the shelters are located in the foothills. Excavations were initiated in 1988 and complemented a systematic rock art recording project undertaken through the ARAL project (Smits 1967, 1983). An excavation by Peter Mitchell in 1990 at a large rock shelter near the southern bank of the Koro-Koro River, a major tributary of the Phuthiatsana-ea-Thaba Bosiu in the Maseru District, yielded LSA tool types such as adzes, bladelets, backed microliths and scrapers mostly made on CCS and dating to the last 1000 years (Mitchell 1994).

Research on Stone Age localities with a long succession and within a bounded area provides important data on cultural responses to environmental change across the Pleistocene/Holocene boundary (Mitchell 1992). The extensive excavation and sampling programmes undertaken at Ha Makotoko, Liphofung and Muela, Ntloana, Tsoana, Tloutle and in the Free State RCC, Rooikrans and Leliehoek, allowed for a reconstruction the organization of LSA lithic technologies in the Caledon River Valley (Mitchell 2000).

The dense concentrations of occupied Stone Age localities are significant for the reconstruction of prehistoric demographics. Tloutle, Ha Makotoko, Ntloana Tsoana and Leqhetsoana are all located within the Phuthiatsana-ea-Thaba Bosiu Basin, with Ha Makotoko and Ntloana Tsoana also not far from the Phuthiatsana River. Tloutle is close to the Liphiring River, and Leqhetsoana near the Koro-Koro River, both tributaries of the Phuthiatsana (Plug 1997). The Free State localities are also focussed on suitable shelters within an ecozone where lithic resource availability and the earlier extensive subsistence resources supported stable occupations. The lithic assemblages are mainly late LSA, with or without ceramics, at these localities but Liphofung, Muela and RCC also have evidence for earlier occupations during the Holocene as evidenced by Early Wilton and Oakhurst sequences (Kaplan & Mitchell 2012).

The earlier investigations by Mitchell at Ha Makotoko and Ntloana Tsoana demonstrated that these localities contain long LSA sequences relating to the Pleistocene/Holocene transition. Assemblages are characterised by distinctive scrapers that combine convex scraper end-retouch with adze-like lateral backing. This is followed by more recent occupational sequences (Mitchell 1993a, 1993b; Mitchell *et al.* 1994). Ntloana Tsoana was the first stratified MSA sequence to be excavated in this area. The three stratigraphically distinct MSA occurrences within Ntloana Tsoana include a Howiesons Poort and post-Howiesons Poort (Mitchell & Steinberg 1992). Based on OSL dating Ntloana Tsoana was first occupied ca. 61 kya (Jacobs *et al.* 2008).

Localities in the Caledon Basin that contain important MSA sequences in addition to Ntloana Tsoana are Ha Makotoko in Lesotho and RCC on the Platberg near Ladybrand in the Free State. The latter is well-known for an intensive research programme where excavations of the deep deposits provided evidence for stratified representative MSA and LSA sequences and allowed a reconstruction of the palaeo-environment (Mitchell & Steinberg 1992; Mitchell 1993a). All of these localities have LSA rock art traditions. Ntloana Tsoana is in close proximity to RCC lying at a distance of about 2 km. The CCS and tuffs used mainly as raw materials at Ntloana Tsoana are similar to the suite of materials used at RCC. A small shelter 2 km upstream from Ntloana Tsoana also has MSA deposits (Mitchell & Arthur 2010).

Excavations at Tloutle rock shelter in the Roma Valley, also in western Lesotho, yielded a representative Holocene lithic sequence. It comprises an ephemeral Robberg (18 000 to 12 000 years ago) at the base of the deposit, followed by a late Oakhurst assemblage and early and later phases of the Wilton in the upper occupation levels. Tloutle is the largest of several shelters in this part of Lesotho (Mitchell 1990). Archaeological investigations were also undertaken at three shelters in western Lesotho for the LHWP. Muela, and Lithakong, located within the highveld grasslands (Plug 1997) near the Hololo River in the upper Senqunyane Valley, northern Lesotho, were both subsequently drowned, while Liphofung is now a protected site. Liphofung was the first excavated shelter in this part of Lesotho that delivered evidence for the presence of hunter-gatherers during the second half of the Holocene (Kaplan & Mitchell 2012).

Arthur and Mitchell (2010) undertook an assessment of archaeological resources of the area impacted by the Metolong Dam, western Lesotho. The dam would inundate an area of 14 km along the Phuthiatsana River between the villages of Ha Makhale and Ha Monamoleli. Some 30 rock shelters, 29 with paintings and three with substantial deposits, will be impacted (Arthur *et al.* 2010). Ha Baroana also contain rock paintings (Mitchell 1992). The project revisited 27 rock art sites previously recorded by Smits (1983). They documented additional open-air lithic scatters. Several MSA lithic scatters were also recorded.

Aquatic resources were certainly utilized in the area under review (also refer to fish images in the rock art as discussed above). At the open-air site of Likoaeng on the Senqu River in the eastern highlands evidence for the harvesting of fish during spawning runs has been found (Mitchell *et al.* 2006; van der Ryst 2006; Mitchell *et al.* 2011). Sehonghong also yielded fish remains, but not on the same scale as at Likoaeng where more than a million fish bones of mostly *Labeo* spp. of mudfish and the yellowfish *Labeobarbus* spp. have been recovered. At

Likoaeng the Living space was organized around hearths and small samples of mammal, bird, reptile, amphibian and molluscan remains were associated with lithic toolkits.

The Free State

Research at Rose Cottage Cave, located about 3 km east of Ladybrand and 6 km from the Caledon River, forms a basis for the reconstruction of hunter-gatherer occupation in the Caledon River Valley. This locality was visited by van Riet Lowe in the early 1920s (Wadley 1991). RCC was first excavated by Malan (1952) and then Beaumont (1978), and subsequently reinvestigated by Mason (1969) and Kohary (1988). It is the only large shelter in the Free State with such a deep deposit and the occupation sequence spans all periods of the MSA and also the LSA up to the contact period. RCC featured for a number of years as a major research project for the MSA and LSA in extensive excavations conducted by Lyn Wadley (1991, 1992, 1995, 1996, 1997, 2000a, 2000b). It also served as a teaching venue for archaeological practicals. Moreover, several significant research projects and post-graduate studies emanated from the research (Wadley & Vogel 1991; Plug & Engela 1992; Wadley *et al.* 1992; Harper 1997; Mitchell *et al.* 1998; Wadley & Harper 1998).

RCC contain import MSA and LSA sequences (Wadley 1995, 1996, 2000a, 2000b). The sequence includes Howiesons Poort sandwiched between earlier and later MSA, an Early LSA, Robberg, Holocene final Robberg, Oakhurst, Wilton and a final LSA up to the contact period. The Howiesons Poort contains a significant component of retouched tools (Harper 1997). CCS raw materials, obtained from river contexts and fossil rivers, featured prominently in the production of what is often described as a suite of precocious lithics in view of the sophistication of the formal tool types. This techno-complex is broadly associated with MIS 4 (~70 000 years ago) and recognized across various ecological zones. There is much variability in MSA assemblages. To this end Wurz (2013:305) points out that there is no 'cumulative trend of increasing complexity and diversity' during the MSA so that innovative changes lapse and are taken up again in a somewhat random manner. A reconstruction of the use of space within RCC during the more recent occupations could be undertaken on account of the large-scale excavations. The charcoal and faunal analyses also allowed a reconstruction of the palaeo-environment (Plug & Engela 1992; Wadley *et al.* 1992; Plug 1997).

Leliehoek close to RCC (Esterhuysen *et al.* 1994) is the only other locality in the region that was occupied during the mid-Holocene (Mitchell *et al.* 1998). The excavations at Leliehoek produced low densities of lithics characteristic of the Wilton (Lombard *et al.* 2012) but with relatively high levels of formal retouch. Similar high indices for formal tools have been noted at levels that date to the late Holocene, for example at RCC (Wadley 1992; Esterhuysen *et al.* 1994). The faunal and charcoal data from Lelieshoek have been used to reconstruct the mid-Holocene environment. The research findings demonstrated that the general dearth of LSA occupations during the mid-Holocene cannot be attributed to arid conditions as previously suggested. A focus on excavations at rock shelters may contribute to the skewed data and it would seem that open-air localities formed a focus of occupation during this period (Esterhuysen *et al.* 1994).

Ventershoek on the South African border was excavated by Garth Sampson (Klein 1979). The excavated assemblage was described as Smithfield C without pottery. Ventershoek Shelter served as the type site for the Smithfield (Goodwin & Van Riet Lowe 1929; Wadley 1986). The assemblage conforms to what is now labelled a final LSA technocomplex (Lombard *et al.* 2012). The fauna included major prey species and also abundant fish remains. Tienfontein shelters 2, 4A and 7 to the south of Ventershoek were excavated by Mary Brooker in 1973 (Klein 1979). Preserved plant remains were recovered at Tienfontein 2 and 7 (Klein 1979).

Lithics from several Free State localities in the area under review are in the collection of the British Museum (Mitchell *et al.* 2002). These include MSA and LSA from the Van Heerden Collection; and Christol Cave. The two shelters at this locality are close to the stream and lies

within 100 m of each other (Mitchell *et al.* 2002). The Braunholtz Collection from Ventershoek comprises late LSA lithics and ceramics, some lithics from the talus and another collection to the west of the cave, with the lithics mostly on hornfels and CCS (Mitchell *et al.* 2002).

Rautenbach (1967) published a paper on rock art at a small shelter on the farm Dunkblane in the Clarens area where he also observed LSA and also some MSA lithics. The shelter is oriented to the west of a sandstone spur that straddles the Little Caledon Valley and the Dunblane Valley.

To the north of RCC test excavations at Adullam Cave overlooking Golden Gate yielded some Oakhurst lithics and an ephemeral LSA. Most Oakhurst assemblages date to between 12 000 and 7000 BP (Lombard *et al.* 2012). Some ceramics and a few glass beads were recovered from the surface. There is no rock art at the shelter (Wadley & Laue 2000). Adullam is adjacent to Schaapplaats, both at a distance of 10 km south of Clarens. Van Riet Lowe (1927) made mention of the Schaapplaats paintings. Excavations by Wits archaeology on Schaapplaats Farm at Twin Caves recovered an ephemeral MSA. Low levels of lithics were also found on the nearby Clifton where a large cave yielded an impoverished LSA assemblage (Wadley & Laue 2000).

In a long-term project initiated by Susan Kent to date open-air MSA sites in the eastern Free State, Henderson *et al.* (2006) dated an archaeological horizon to around 30 000 ya. The excavated sequence from Sunnyside 1425, located about eight kilometres southeast of the town of Clarens and north of Schaapplaats, has a clear MSA signature with some LSA elements. It has been suggested that the climate was relative wet when the site was occupied (Kent and Scholtz 2003). The OSL dating supports a final MSA or Transitional MSA/LSA. At Bethel 1, just north of Sunnyside farm near the Little Caledon River, Kent (SAHRIS n.d.) documented an open-air MSA living site with discrete activity areas.

Historical accounts by Stow, Arbousset and Daumas and others reflect the complex social and political processes in this area during the nineteenth century (Klatzow 2010). Oral histories and several historic observations confirm that the Sotho, hunter-gatherers and people of mixed descent lived at caves and shelters, which often also served as places of refuge (Orpen 1874; Dornan 1909; Stow 1910; Vinnicombe 2009b; Hampson 2014).

The rich alluvial soils of the Caledon Valley encouraged the settlement of agriculturists. Caroline Thorp (1996, 2000) in her research investigated the ways in which the Caledon Valley served as a frontier and how the forms of interrelationships that resulted between hunter-gatherers and African farmers were reflected in the archaeological record. Forager and farmer contact during the last 1800 years is evident at several sites close to the Metolong area of the Phuthiatsana River in western Lesotho and across the Caledon north of Ladybrand in the eastern Free State at Mauermanshoek (Korannaberg), Rose Cottage Cave, Roosfontein, Tandjiesberg, Tienfontein, De Hoop and Westbury (Wadley 1992, 2001; Behrens 1992; Klatzow 1994, 2010; Thorp 1996; Ouzman 2005; King *et al.* 2014).

All the contact occupations date to the final LSA or a ceramic final LSA (Lombard *et al.* 2012). The ceramics from contact levels at RCC include rare grass-tempered vessels and mostly Iron Age ceramics, the latter probably obtained through exchange networks (Thorp 1996, 1998) and also some undiagnostic ceramics (Klatzow 2010). Twyfelpoort near Marquard also yielded ceramics, glass beads and peach stones, which suggest a late contact period. Small-scale excavations at Westbury located approximately 22 km north-west of Ficksburg yielded stone tools in association with grit-tempered ceramics (Thorp 1996).

Thorp's investigations at Rooikrans Shelter that lies on the eastern side of Tandjiesberg close to a tributary of the Caledon River, recovered cultural material from both these groups (Thorp 1996, 1968; Plug 1997; Klatzow 2010). The Rooikrans deposits are quite shallow. The contact levels at Rooikrans have relatively high frequencies of formally retouched tools in association with peach stones, pumpkin and maize. This may suggest a close association with African farmer groups (Thorp 1998).

Tandjiesberg is located within 1 km from the Caledon River and is approximately 25 km east of Ladybrand (Klatzow 2010). A microlithic assemblage in association with grit-tempered ceramics and sections of stone bowls, all of the latter found within a level, confirm a ceramic final LSA association (Lombard et al. 2012). The ceramics are associated with dates of around 350 years before the arrival of agriculturists in the Free State suggesting hunter-gatherer long-distance exchange relations (Thorp 1998).

Ceramics were also present at Roosfontein some 400 years prior to the ceramics found at Tandjiesberg. It has been suggested (Thorp 1998:158) that the ceramics may originate from contact with inland hunter-gatherers in KZN or groups within the Seacow Valley (Klatzow 2010). Roosfontein is situated between Clocolan and Ficksburg

Mauermanshoek in the Excelsior District was successively occupied from 3500 to 200 BP by Bushmen, Kora stock raiders and Sotho (Wadley 2001; Ouzman 2005; King *et al.* 2014). It is an east-facing shelter higher up from the Wesleyan Mission Station of Merumetsu that catered for the Korana. The lithic assemblages do not show changes over time but ceramics, a few glass beads and domestic animal remains are present in the uppermost levels. The ethnic composition of the eastern Free State was fluid and interactive relationships were at times cooperative but often also hostile (Wadley 2001; Hampson 2014). The Korannaberg was occupied by both the Kora and San as recounted by contemporary observers. A clientship relation was often in place between the San and the Sotho or Kora (Engelbrecht 1936). In an account given by Theal 1964:32 he found an abandoned kraal where San had been living in 'alcoves of leafy boughs large enough for two or three persons to sit under' (Wadley 2001:161).

From Stow's (1908) account on the San it is evident that several groups were also living on or near the Platberg. The large cave of De Hoop lies on the western slopes of the Platberg Mountain at a distance of around 5 km from the Caledon River (Klatzow 2010). The occupation sequence begins at >3500 years ago and ends with a final LSA occupation. After an interim of many hundreds of years the locality was re-occupied in the late 18th and 19th century by hunter-gatherers. The ceramic final LSA (Lombard et al 2012) that includes Sotho ceramics and European artefacts signals contact. There are several Iron Age settlements close to De Hoop around the Viervoetberg (Maggs 1976; Klatzow 1997, 2010). In the levels with ceramics domesticated plant remains such as maize, sorghum, pumpkin and melon species have been recovered.

Archaeological Impact Assessments

Consultation of the SAHRIS data base did not yield much data as most of the AIA reports reported that no evidence was found for Stone Age heritage resources (Dreyer 2008a, 2008b). Van Ryneveld (2009) conducted a Phase I AIA for the proposed 43 ha Qibing Ext 7 Residential Development 5km east of the intersection between the R62 and the R702 east of the confluence of the Sandspruit and Caledon rivers (1:50 000 map 2927CA). The area investigated is directly west of Qibing on a portion of the property Jammersberg 276, approximately 3.5km west northwest of Wepener and 6.5 km west of the South African/Lesotho border in the Free State Province of South Africa. She identified no surface archaeological or cultural heritage resources in the approximate 55 ha of the area that was assessed. Vhufa Hashu Heritage Consultants (2011) recorded a rock shelter on the western bank of the Meulspruit near Rosendal with stone walling in their scoping report on the water pipeline to Senekal.

Similarly Van der Walt (2013) in a scoping report for Portion 2 of Farm Kalkoenkrans 225 north of Theunissen in the Matjhabeng Local Municipality reported that no significant archaeological sites have been found. Investigations at Verkykerskop east of Warden along the R722 road between Harrismith and Memel, recorded no evidence for Stone Age localities (Dreyer 2008c, 2008d; Rossouw 2013). In a Phase 1 AIA for the proposed alterations to the Wilge River Bridge no Stone Age localities were noted (Rossouw 2012).

Palaeontology and Earlier Stone Age (ESA)

Botha-Brink (2012) (SAHRA permit 80/10/08/009/60) in a study that focuses on the end-Permian mass extinction conducted field work on the farm Bokpoort, Wepener District. The Cornelia formation contains fossil-rich alluvial exposure and in particular at the Cornelia-Uitzoek vertebrate locality. In a Phase 1 Palaeontological and Archaeological Impact Assessment conducted by Paleo Field Services (2013) MSA scatters were recorded. The report also mentions that a large ESA lithic assemblage has been excavated at the Cornelia-Uitzoek vertebrate locality, containing Acheulean bifaces and flakes in Quaternary alluvial and colluvial gravels. This locality yielded a tooth dated to ~1 Ma found in association with the lithics (Brink *et al.* 2012; Dusseldorp *et al.* 2013).

6.2.2 Iron Age

No traces of Early Iron Age occupation (during the first millennium CE) have yet been discovered on the Highveld or in the Free State. The first farmers to colonize the higher altitude grasslands of South Africa's interior did so in the fourteenth century in KwaZulu-Natal. In doing so they opened up possibilities for greater economic specialization and interdependence, not least because of the impossibility of smelting iron where suitable fuel was lacking. Lack of timber encouraged the adoption of stone as a building material in the Free State, as it did in the interior grasslands of KwaZulu-Natal. These parallels may, indeed, reflect real historical connections between Nguni and the Free State Sotho.

These early farming communities built numerous stone walled settlements throughout the southern Highveld of the Free State and in the highland grasslands of KwaZulu-Natal. In the Free State these sites are associated with the predecessors of the Sotho-Tswana. Oral traditions clearly identify the fifteenth to sixteenth century settlement at Ntsuanatsatsi as a capital of the Fokeng, and this identification has been accepted for some time (Maggs 1976). According to Bryant (1929), the Fokeng were originally MboNguni. Although this view may be extreme, ceramic features such as applique decoration indicate Nguni interaction.

6.2.3 Early Colonial Period

European hunting parties allegedly crossed the Orange River in the first two decades of the 19th century, exploring as far as the current Wepener district. On the heels of these explorers cattle farmers from the Cape Colony started moving out of the northern Cape Colony borders from 1821 for seasonal grazing, but did not encounter any Bantu tribes. Driven by droughts in the Cape, loss of livestock during the seasonal travels and the uninhabited district of the Transgariep led to numerous farmers settling themselves permanently in the area after 1824.

Between 1825 and 1841 European settlers started to occupy the area of the Modder River between the Orange and Caledon Rivers, west of Langeberg. In 1829 Rudolph van Wyk settled on the farm Rietpoort, where the town of Smithfield was founded in 1848, and P.E. Wepener claimed the farm Zuurbult, which would become Rouxville in 1863. Roughly at the same time fifteen families occupied the farm Zevenfontein which eventually became the Beersheba Mission Station. The town of Zastron was founded on the farm named Verliesfontein, which was settled between 1836 and 1840, and by that time nearly 300 families had settled in the area currently known as the Eastern Free State. During the beginnings of the 1830's a new, organised group of European settlers, the forerunners of the Groot Trek, saw a large but temporary influx of settlers. During this time A.H. Potgieter also bought land from the Bataung captain Makwana in 1836.

It was only after the annexation of Natal in 1843 that many Trekkers returned to the Transgariep as well as to the northern parts of the Eastern Free State's Borderbelt. Notable amongst these settlers were J.I.J.Fick, after whom Ficksburg was named, W. van de Venter - founder of Fouriesburg and P.R. Botha who settled in Rietvlei. French missionaries were the

last to settle in the area, and in 1833 E. Casalis and T. Arbusset opened the Missionary Station at Morija after a request from Moshoeshoe. North of Smithfield hon. S. Rolland, accepting the jurisdiction of Moshoeshoe without any reservation, founded the Beersheba Mission Station in 1835. This meant that a part of the southeast Transgariep immediately became declared as a Basotho region, and ensured that Moshoeshoe received ownership over a region where no Basotho lived. French missionaries also founded mission stations Carmel (near Smithfield), Hebron (near Zastron) and Mequatling (in the Ladybrand district) and their influence would play a crucial role in the relationship between European settlers and the Basotho in the Transgariep future.

The settling of the Eastern Free State and Transgariep areas did not occur without conflict however, as the permanent settling of Europeans and the start of the Groot Trek out of the Cape colony meant that Moshoeshoe, although originally amicable towards the settlers, was suddenly faced with a much larger number of European farmers than originally anticipated. Where the settlers had first served as a buffer between Moshoeshoe and the Korannas, the vast number of new farmers unsettled the captain and made him fearful of his rulership over the area. Ironically it was actually the Voortrekkers that facilitated the expansion of the Basotho people from their traditionally isolated stronghold at Thaba Bosigo into the bordering, unsettled areas around them. The European migrants also served to break the might of Mzilikazi and ended the reign of the much feared Zoeloe nation. During the 1930's the migration of European settlers deeper into the Transgariep and the Basotho's own expansion further west and southwest wards led to inescapable clashes over land rights and ownership. The settlers based their claim on the principals of first occupation, while Moshoeshoe - eager to increase the size of his cattle herds and land ownership - laid claim based on the historical ownership of the region by his forefathers. This would usher in an era in which Moshoeshoe, with the help of the French missionaries and the sympathetic British rulers of the Cape Colony, aimed to rapidly expand the living area for his steadily growing followers. The Basotho were already better organised in the expansion and settlement of the area, whereas the European settlers lived outside of any official governing, and did not have a chosen leader that could represent them in the matter of land ownership. The difference in nationalities and politics further divided the European settlers. Particularly after 1839 Moshoeshoe complained to A. Stokenstrom who was the Lieutenant Governor of the Eastern Province that the Europeans were living on his property without permission. Because of this many settlers took it as a given to seek permission from Moshoeshoe to settle on farms in the southeast Transgariep area. J.P. Hoffman, who would later become the President of the Orange Free State, asked Moshoeshoe permission to settle a farm called Hoffmansrust near the current Wepener. What the settlers were not aware of was that they were unknowingly through these transactions giving jurisdictions to the Basotho.

In September of 1842 the Cape Governor, Sir George Napier, proclaimed that the farmers in the Transgariep violated the Basotho landownership and warned them that in future they should conduct themselves in a quiet and respectful manner and refrain from settling on any property of Basotho and other Banto groups. A year later in 1843 Napier signed a treaty with Moshoeshoe that outlined the rightful borders of the Basotho land, which included the entire western bank of the Caledon River. This was named the Napier-Line that included Smithfield, Rouxville, Zastron, DeWetsdorp, Wepener, Hobhouse, Ladybrand, Clocolan and Ficksburg up to the Hlotse River, and sowed the seeds for future unrest. Sir P. Maitland, Cape Governor after Napier, was of the opinion that Napier's agreement with Moshoeshoe was not a solution as to the land claim dispute between the Boere and the Basotho. Therefore he was a proponent of territorial segregation of land claims and requested that a section of the Basotho land be given to the Boers. Moshoeshoe then offered them a triangular section which lay above the conjunction of the Orange and Caledon Rivers and in the north bordered by a line that ran from Commissiedrif that lay on the Caledon River up to Buffelsvleidrif on the Orange River. At the same time he demanded that all European settlers that already lived outside said area immediately returned to the agreed upon area. Maitland requested G. D. Joubert to investigate where all European settlers were currently based both within and without the area agreed upon. Only 37 farms were found within the agreed area whereas a 100 were located outside the new border, therefore they wanted to extend the border further northeast into Moshoeshoe's territory but this request was denied. Despite the grant of land from

Moshoeshoe no attempt was made to relocate the Boers living outside of the triangle. In an effort to maintain peace in the Transgariep Captain Henry Douglas Warden was appointed as British resident in Bloemfontein in 1846. However, as he was tasked with mediating between the Boer and Basotho communities outside of British rule, his attempts were futile. Instead of paying attention to settling the land claim disputes he rather attempted to woe the Basotho, refusing to declare Moshoeshoe as a treat to the peace and went as far as to place the blame for the unrest in the Transgariep area solely on the shoulders of the European settlers.

By the end of 1847 Sir Harry Smith, new governor of the Cape paid a personal visit to the Transgariep. In an effort to defuse the growing tension he made a proclamation, on the 3rd of February 1848 that led to the establishment of the Oranjerivier-Soewereiniteit (ORS). In future the land mass between the Orange and Vaal Rivers and the Drakensberg would fall under British rule, which included the Banto states. This was not done with the intent to undermine the rule of the Banto chiefs but rather to establish amicable relationships. The Boere, however, viewed this as the British being pro-Banto and created anti-British sentiments. In May 1848 Moshoeshoe complained that the European settlers unlawfully transgressed onto his property, leading Smith to ask his secretary Richard Southey to create a new border in the Caledon River area. This line caused that Smithfield, Rouxville, Zastron and Wepener for the first time were no longer part of the Basotho land area. Masjwesjwe however refused to accept this new border, as he felt that it unfairly benefited the Boers and decreased his area of control. In 1849 the Basotho had already taken back over 70 farms and proceeded to plunder and created intolerable living conditions for the Boers in the area. Sir Harry Smith then said to Warden that in conjunction with Moshoeshoe a new border line should be drawn up. However this proposition did not come to fruition and many Boers abandoned their farms while the Basothos continued to destroy any land marks erected to delineate the new border. However after many negations and intense pressure from Warden, Moshoeshoe in December 1849 agreed to the new borders. Despite his agreement unrest amongst the Boers and Basotho remained, and because of this Smith and Warden realised that only brute force from the British could settle the dispute. Battles at Viervoet and Berea in 1851-1852 saw the British forces suffering humiliating defeats against the Basotho leading to the dismantling of the ORS. Sir George Clerk was sent for this purpose as special commissioner to Bloemfontein, but his efforts were also futile.

Numerous inhabitants of the sovereignty were against the withdrawal of the British forces due to fear of the Basotho presented; the Bloemfontein convention was signed on the 23rd of February 1854: this meant that the area between the Orange and Vaal River henceforth would be known as the Orange Free State - a free republic. But in no sense it was freed from the land and border claims of the Basotho. It still took three skirmishes against the Basotho to ensure the right of existence of its inhabitancy over the stretch of two decades.

In the Bloemfontein convention there was no mention of any borders, and this would lead to renewed confusion and clashing claims between both parties. With the withdrawal of British sovereignty over the area the Basotho were of the opinion that all previous agreements became null and void. The first president of the Free State J.P. Hoffman felt it important that a firm policy regarding the Basotho issue be put in place in order to end the unrest. Fear of skirmishes with the Basotho which could lead to the fall of the Free State led to a policy of reconciliation towards the Banto state. Diplomatic attempts to avoid conflict proved ineffective, as the Basotho continued to raid and plunder Boer farms. After many failed attempts at pacify Moshoeshoe through gifts and personal meetings, Hoffman was forced to step down as state head in 1855. His successor J.N. Boshof followed a different policy and would not yield to pressure from the Basotho, while at the same time realising that the Free State could not stand alone against the might of the Basotho and thus requested assistance from the Cape Government. In October 1855 Boshof along with Cape governor Sir George Grey had a meeting with Moshoeshoe, which led to temporary peace in the border area. This however, was short-lived as the Basotho had since 1849 crossed the border in great numbers and kept raiding and reclaiming farms, especially in the Vechtkop and Koesberg district. This led to the Boers pulling together in lairs and almost 300 farms were abandoned. President Boshof still took a stand against violent opposition, knowing that they lacked the military strength to repel

the Basotho; however he did start implementing the necessary safety precautions by building forts in case they needed to flee.

By 1858 both sides realised that diplomatic policy was futile and that war was unavoidable. On the 11th of March President Boshof gave Moshoeshoe an ultimatum demanding the immediate withdrawal of Basotho out of the Free State and that a compensation for stolen cattle be made. As Moshoeshoe did not comply with these demands Boshof declared war. The lack of military personal and organisation of forces led to the Free State being unsuccessful in their attempt to expel the Basotho. Altogether a 124 farm houses, 644 horse, 2619 head of cattle and 4739 sheep were destroyed. Due to this Boshof requested a truce with Moshoeshoe on the 1st of June 1858. With Grey as mediator the first treaty of Aliwal North was signed on the 29th of September which stated that both parties had to recall their subjects out of the other's territory. The border of 1858 caused that the biggest parts of Zastron, Wepener, Ladybrand, Excelsior, Cloclan, Marquard, Ficksburg and Fouriesburg were now under Basotho control. Despite this agreement Moshoeshoe took advantage of the vague border lines to further enlarge his territory, and the Free State remained powerless to halt his conquest of new territory. Due to this Boshof resigned his position in 1859.

In 1860, M.W.Pretorius became the new president. He was a supporter of the campaign of diplomacy and friendly negotiations in an effort to resolve the border issues. Regardless of numerous discussions and agreements he was not able to find a workable resolution and in fact made the Free State an even easier target for raiding parties so that by the beginning of 1863 he also resigned from the post of presidency. During this time the relationship between the Boere and the Basotho were at an all-time low and it appeared that the only solution would be a violent one. In February 1864 the fourth president J.H. Brand decided that the only way to ensure economic, political and cultural growth in the Boere republic would be by taking a firm and aggressive stand. Either Moshoeshoe had to respect the boundaries in place or he would face the Boers in battle. One of his first tasks was to set a clear divide between the Boers and Basotho. With the help of Sir Philip Wodehouse a binding agreement stating that the Warden-Line of 1849 be respected by Moshoeshoe and his followers, wherein Ladybrand, Cloclan, Fouriesburg, Ficksburg, Wepener, Zastron and parts of Marquard and Excelsior still counted as parts of Lesotho. Yet, the area between Caledon and the Orange River would be lost to the Basotho. After the clear demarcation of a border between the Free State and Moshoeshoe was formally instated, Brand took an increasingly firm stand against the Basotho, giving an ultimatum that all Basotho had to withdraw from Free State land by 30 November 1864, or face the consequences. Despite this agreement the Basotho were largely in favour of openly engaging in battle rather than withdrawing from the Free State land. By the end of 1864 there reigned a general feeling in the Free State that they had tried everything to find a peaceful resolution but that the onus fell on the Basotho for creating the circumstances leading towards warfare. On 6 June 1865 a final ultimatum was given to the Basotho head. When the grace period of three days had passed full blown war broke out between the Free State and the Basotho. This time, by following a different strategy in an organised, offensive and purposefully driven offensive campaign by the Free State commandos, great victories were achieved. The Basotho suffered great defeats and lost significant parts of Lesotho especially from the northern commando under leadership of Commander General J. I. J Fick and the southern commando under Commander L.J. Wepener. Towards the end of 1865 in the Caledon River district the Smithfield commando annexed the land of the Baphuti headman Moorosi. This area of land, widely known as the Verowerde Gebied was the homeland of numerous Bantu chiefs, and due to this military action the eastern border between the Free State and Lesotho was pushed further east than originally delineated by either Grey (1858) or Wodehouse (1864), and for the first time since the start of the prolonged unrest all the current towns and districts in the Eastern Free State Border became part of the Boere Republic. BY the 23rd of October 1865 the Verowerde Gebied formally became part of the OVS and during the sitting of the Volksraad in February 1866 this annexation was ratified.

As early as August 1865 Moshoeshoe started sending out peace offerings to the Free State. When this failed he even reached out to Wodehouse, being willing to allow Lesotho to come under British sovereignty rather than face a humiliating defeat by the Free State. On April 3rd 1866 after mediation by Wodehouse the agreement of Thaba Bosigo was reached between

the Free State and Lesotho which entailed that Moshoeshoe was forced to withdraw from the Verowerde Gebied; forth while he to accept the new border between the two states, remove his followers from the area and to pay reparation of thousands of heads of cattle. Despite the loss of land suffered by the Basotho many of the captains chose to remain on their previous property and rather live under the reign of the Free State.

During February 1866 the Volksraad commissioned five members to investigate the habitation of the Verowerde Gebied. They decided rows of farms each a 1500 ha would be set up along the entire borderline. Each commission would consist of three members with a government land surveyor as the head; the first row of farms would be given to European farmers of the Free State who were part of the second Basotho war active commandos. The rest would be sold in an open auction. Theoretically the government's plan to create a "wall of flesh" on these farms was sound, albeit in practise it was clearly flawed as the occupants of these farms would have to maintain the safety of the border without any aid from the state or the strength of a permanent border patrol. The greatest mistake made by the Free State was implementing their population plan before ensuring the complete destruction of Moshoeshoe military forces. This tardiness in the implementation of the new farms made it easy for many of the Basotho to return to their former homes, reap crops and further work the land. They would not peacefully or contently leave this area of land unless forcibly driven out by Free State military power. The lack of military support made it almost impossible for the land commissions to fulfil their task and they were often met by strong opposition from the Basotho. By the time occupation was due to commence in 1867 it was practically impossible for most citizens to move onto their new farms due to the resistance and hostility of the Basothos who still lived and farmed in the area. The reluctance of the Free State citizens to occupy their new territory was seen as, and exploited as, a weakness by many Basotho which led to President Brand having to send a warning to Moshoeshoe in February 1867, reminding him to honour the Thabo Bosigo agreement and remove all his subjects from the Verowerde Gebied. With the approval of the Governing Body, Brand set up an armed force that would serve to forcibly remove any Basotho from the area, although strict orders were given to all commanding officers on how to handle the situation should any chief ask for protection. The inhabitants of the Verowerde Gebied gave very little resistance as they were afraid of the destruction of their crops by the Free State troops. Chieftains Letsie and Paulus Mopeli requested permission to remain in the territory under Free State rule, and the Volksraad eventually granted this request on May 10 1867 as this was considered a way to further diminish the strength of Moshoeshoe. The area formerly won by commander Wepener was created as a reservation area where Letsie and his 18 captains could settle.

After this incident it was decided, during the 1867 sitting of the *Volksraad* that the settling of the *Verowerde Gebied* alone would not be enough to deter future Basotho migration, and as such it was decided to create "military" towns in strategic places to ensure a higher concentration of white citizens in the border area. Although tenders to measure up and lay out the towns of Ladybrand, Wepener and Ficksburg were speedily put in place, this scheme once again proved ineffective to draw white settlers to the *Verowerde Gebied*. By this time Moshoeshoe was already preparing for another war against the Free State and the military role and dangers that these towns would face deterred the majority of settlers from applying for land in the new towns. The outbreak of the Third Basotho War in August of 1867 meant that the proposed border town projects had to be postponed indefinitely. The reluctance of white settlers to occupy and defend the border area meant that the Basotho renewed their aggressive approach towards the settlers, freely crossing the border and driving numerous white farmers to abandoning their farms and retreating to safer areas. By June of 1867 the violence of the Basotho had escalated to the point where a British trader, M. Bush, and two white farmers were murdered by followers of Moletsane. When President Brand demanded that Moshoeshoe deliver the murderers for justice, Moshoeshoe replied that he had never agreed to the new border and thus there was neither question nor dispute about the presence of the Basotho in the perceived Free State territory. After this the Free State decided that the Basotho dispute had to be finally and forcefully settled once and for all. Commandos were recalled, martial law declared and the third and final war between the Free State and Basotho commenced. The iron willed tactics of the Free State during this war consisted of never before seen brutality: with destruction of Basotho crops, silos and farms as well as vicious

raids and occupation of mountainous strongholds deep in the Basotho territory it became clear to Moshoeshe that his grip on his territory was fragile and crumbling further every day. In a last attempt to protect his territory Moshoeshe renewed his petitions to Wodehouse to place Lesotho under the protection of the British Government – a request that auspiciously coincided with Wodehouse's own plans and negotiations about Lesotho with the British Government. In December 1867 Wodehouse received permission from the Government to implement his annexation of Lesotho, and informed President Brand that the war against the Basotho had to end immediately. When Brand refused to discontinue the battle, Wodehouse banned the importation of ammunition from the Cape harbour to the Free State and threatened Brand in regards to his defiant attitude against the British. 12 March 1868 saw the proclamation of Lesotho and the Basotho themselves as part of the British colony, a proclamation that raised obstinate opposition amongst the citizens of the Free State who were still calling for the complete destruction of the Basotho, while at the same time negating the sovereignty of their territory and the agreement of the Bloemfontein convention (1854). Wodehouse, however, was of the opinion that the annexation of Lesotho would serve to bring peace to the borderland and as such be in the best interest of both the Free State – who were incapable of maintaining the peace in anyway – and the Basotho, who were now under the protection of British rule. Negotiations between the Free State and the British High Commissioner on 4 February 1869 led to the signing of the second Aliwal-Noord agreement, in which the borders between the Free State and the Basotho territory were once again redrawn. When Molapo and his followers decided in 1870 to exchange the sovereignty of the Free State for that of the British, it meant that the Free State lost even more of their territory. However, the new border between the two states had the advantage of being a much clearer and natural division that would minimise confusion and quarrels. It was not only the Free State that saw heavy losses in territory; the Basotho themselves could do nothing but watch as large areas of Moshoeshe's land were lost to them forever – a price they had to pay in order to maintain the protection of the British. Despite the British enforcement of peace between the two neighbours, there was still much unrest in the *Verowerde Gebied*, as many early white settlers had to abandon their farms in the area during the Third Basotho War to take part in commando warfare which had left their farms open to Basotho occupation and theft by the Basotho people were still common in the area. The sporadic fighting and raiding between the two states would only end when on 31 July 1869 the British ordered the Basotho's to move out of the *Verowerde Gebied*. It was only after this that the *Volksraad's* plan to build towns and create districts in the *Verowerde Gebied* would come to fruition, and by 1880 this area was one of the most densely populated in the entire OVS.

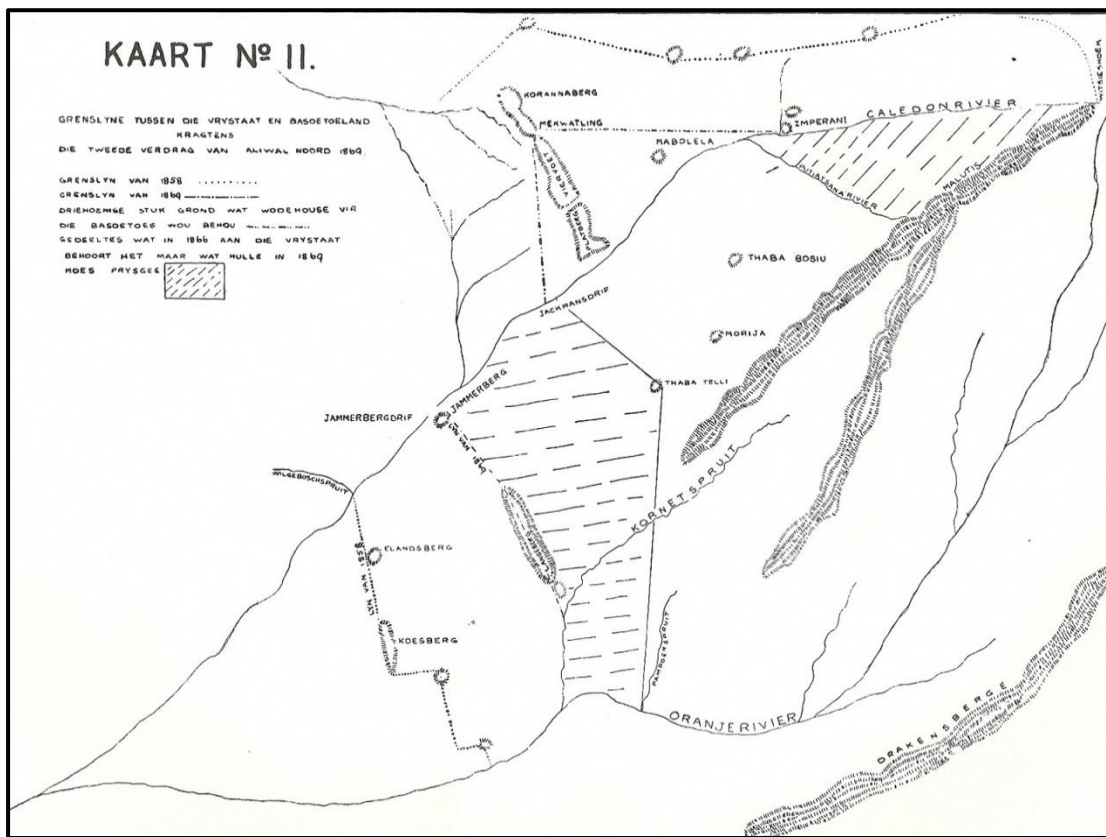


Fig. 3. The borders as determined in 1869 (Grobelaar 1939).

Lesotho

It becomes clear that the kingdom of Lesotho owes its origins largely to the genius of Moshoeshe, who lived from 1786 to 1870. During the wide-spread dispersal of Sotho-speaking peoples, Moshoeshe's ancestors settled close to the Vaal River in what is now the Free State Province. As the eldest son Moshoeshe took as his principal wife the daughter of the chief of the Bafokeng clan, which started the the Basotho royal lineage. By 1825 Moshoeshe had entrenched himself and his followers in the mountain stronghold at Thaba Bosiu near modern day Maseru, where he managed to keep at bay the war and chaos caused by the *Difaqane* through successful military and diplomatic strategies, and his kingdom gave refuge to thousands of displaced peoples. Before the end of that decade Moshoeshe asserted his sovereignty over some 20 groups of defeated people which he would eventually forge into the Basotho nation. 1933 saw the French Protestant Missionaries, under Moshoeshe's protection, started their work at Morija although the king himself never converted. Numerous other protestant groups and the Roman Catholic missionaries followed suit by 1862, which brought literacy, medicine, modern agriculture and building methods to the Basotho nation. Because they were often consulted by the king and the chiefs they would exert a lasting influence over the Basotho people. The arrival of white settlers in the 1830's saw a shift in power in the area, and the various skirmishes and outright war between the OVS and the Basotho people led to Moshoeshe being forced to sign agreements giving away much of his best land to secure British protection. The British maintained their sovereignty over the chiefs largely through a policy of indirect rule, and Basutoland would only become a British protectorate in 1884 after over a decade of being part of the Cape Colony. This occurred during the reign of Moshoeshe's eldest son King Letsie I who succeeded his father upon his death in 1870. Moshoeshe's royal lineage would continue its rule over Basutoland, although by the 1950's rapid social, economic and political change in both

Basutoland and South Africa would see educated commoners beginning to take more prominent roles in Basutoland, displacing the historical power of the chiefs.

In 1952 Ntsu Mokhele established the Basutoland African Congress, later renamed the Basutoland Congress Party (BCP), that immediately started to campaign for self-government and fought against the racial discrimination that had started to filter across the border from South Africa. By 1960 a nominated national council became a legislative council responsible for all internal matters pertaining to Basutoland. It was accepted that the paramount chief would become the constitutional monarch, and various parties struggled to gain control of the new government structures. Although the BCP had a broad following among the Basotho splits soon began to appear and numerous other political parties were started. Oxford-educated crown prince Constantine Bereng was proclaimed King Moshoeshoe II on 12 March 1960 and became the progressive, dynamic leader for the MFP party, while Chief Leabua Jonathan established the conservative Basutoland National Party (BNP). In the elections for the legislative council the BCP took 32 of the 40 seats. Moshoeshoe II appointed another commission to draft the constitution under which Lesotho would become independent in 1961. Britain approved the independence constitution in 1964, and in 1966 it was the BNP that led Lesotho to independence on 4 October 1966.

7. SITE SIGNIFICANCE AND ASSESSMENT

7.1 Heritage assessment criteria and grading

The NHRA stipulates the assessment criteria and grading of heritage sites. A matrix was developed whereby the criteria, as set out in Sections 3(3) and 7 of the NHRA, Act 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.

The following grading 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 Methodology for the assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The physical **extent**, wherein it is indicated whether:
 - 1 - the impact will be limited to the site;
 - 2 - the impact will be limited to the local area;
 - 3 - the impact will be limited to the region;
 - 4 - the impact will be national; or
 - 5 - the impact will be international;
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
 - 1 - of a very short duration (0–1 years);
 - 2 - of a short duration (2-5 years);
 - 3 - medium-term (5–15 years);
 - 4 - long term (> 15 years); or
 - 5 - permanent;
- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
 - 0 - small and will have no effect;
 - 2 - minor and will not result in an impact;
 - 4 - low and will cause a slight impact;
 - 6 - moderate and will result in processes continuing but in a modified way;
 - 8 – high, (processes are altered to the extent that they temporarily cease); or
 - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
 - 1 - very improbable (probably will not happen);
 - 2 - improbable (some possibility, but low likelihood);
 - 3 - probable (distinct possibility);
 - 4 - highly probable (most likely); or

- 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
- The degree to which the impact can be reversed;
- The degree to which the impact may cause irreplaceable loss of resources; and
- The degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$$S = (E+D+M) \times P; \text{ where}$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are calculated as follows:

Table 1: Significance ranking

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
-	-	-	-	-	-

Points	Significant Weighting	Discussion
< 30 points	Low	where this impact would not have a direct influence on the decision to develop in the area
31-60 points	Medium	where the impact could influence the decision to develop in the area unless it is effectively mitigated
> 60 points	High	where the impact must have an influence on the decision process to develop in the area

7.4 Impact assessment

For ease of understanding the impact of the proposed development on the different environmental parameters are presented below in a generalised format. The impact on each individual identified site is then presented with reference to this in Appendix 4.

Environmental Parameter	Pre-colonial: Stone Age sites
Issue/Impact/Environmental Effect/Nature	Many sites are still unknown. Their potential and significance are therefore unknown. The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the road, border fence, access roads, borrow pits, laydown areas and construction camps.
Extent	Local
Duration	Permanent

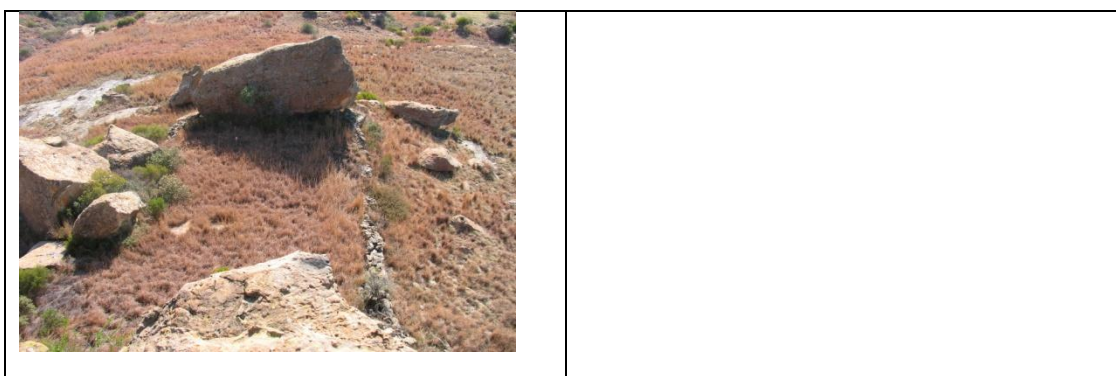
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a high significance on a region level – viewed as NHRA Grade III sites. Distinguish from find spots, which have low significance. Rock art sites are viewed to have high significance on a regional level – viewed as NHRA Grade II sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. Sites that cannot be avoided should be excavated/documentated in full by an archaeologist qualified in Stone Age archaeology.



Rock art

Environmental Parameter	Pre-colonial: Iron Age sites
Issue/Impact/Environmental Effect/Nature	Many sites are still unknown. Their potential and significance are therefore unknown. The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the road, border fence, roads, borrow pits, laydown areas and construction camps.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. Sites that cannot be avoided should be excavated in full by an archaeologist qualified in Iron Age archaeology.

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Environmental Parameter	Colonial Period: farmsteads
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Easier to identify and therefore easier to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. In exceptional cases mitigation can be implemented after required procedures have been followed.



Environmental Parameter	Colonial Period: cemeteries
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Not always easy to identify and therefore makes it difficult to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.
Extent	Local
Duration	Permanent
Magnitude	Moderate

Probability	Probable
Significance Rating	Sites have a high significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. In exceptional cases mitigation can be implemented after required procedures have been followed.



Burial places

Environmental Parameter	Colonial Period: public monuments and battle fields
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Usually identified by a monument, but total extent of a battlefield is not always easy to demarcate. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Improbable
Significance Rating	Sites have a high significance on a provincial level – some viewed as NHRA Grade II sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection.



Monuments

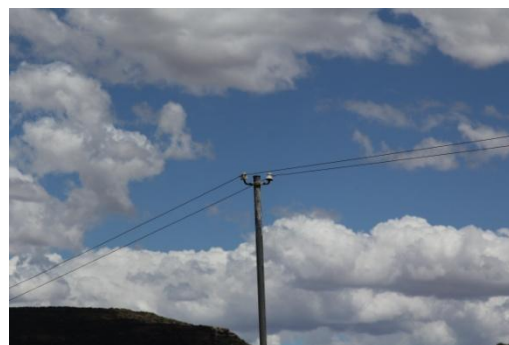


Battle fields

Environmental Parameter	Colonial Period: industrial heritage
Issue/Impact/Environmental Effect/Nature	Different features are subject to damage. Some might be unique – no alternatives or second examples. Usually easy to identify and therefore easy to avoid.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Improbable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. In exceptional cases mitigation can be implemented after required procedures have been followed, but only as last case scenario.



Bridges



Communication

Environmental Parameter	Colonial Period: urban environment
Issue/Impact/Environmental Effect/Nature	Different features are subject to damage. Some might be unique – no alternatives or second examples. Easy to identify and therefore easy to avoid.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Improbable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection. In exceptional cases mitigation can be implemented after required procedures have been followed, but only as last case scenario.

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Churches



Shops

8. RECOMMENDED MANAGEMENT MEASURES

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded and a management plan can be developed for future action. Those sites that are not impacted on can be written into the management plan, whence they can be avoided or cared for in the future.

8.1 Objectives

- Protection of archaeological, historical and any other site or land considered being of cultural value within the project boundary against vandalism, destruction and theft.
- The preservation and appropriate management of new discoveries in accordance with the NHRA, should these be discovered during mining activities.

The following shall apply:

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

8.2 Control

In order to achieve this, the following should be in place:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

9. CONCLUSIONS

The aim of the survey was to evaluate potential heritage resources that would occur within the boundaries of a proposed border fences and the border patrol road between South Africa and Lesotho.

The cultural landscape qualities of the region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age and Iron Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

This human occupation have given rise to a variety heritage sites in the larger region, ranging across the spectrum from Stone Age sites through to the Iron Age and sites of historic significance:

- The Stone Age sites are known to contain rock art and are therefore viewed to have high significance on a regional level.
- Less is known about the Iron Age sites, but, based on available information they are viewed to have medium significance on a regional level.
- The historic sites are mostly related to the early pioneering and farming days and are viewed to have high significance on a regional level.

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9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps

1: 250 000 Cadastral maps

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. RELOCATION OF GRAVES

If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.

If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.
- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been received, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any items found in the grave.

Information needed for the SAHRA permit application

- The permit application needs to be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- If graves have not been identified and there are no headstones to indicate the grave, these are then unknown graves and should be handled as if they are older than 60 years. This information also needs to be given to SAHRA.
- A letter from the landowner giving permission to the developer to exhume and relocate the graves.
- A letter from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

APPENDIX 4: INVENTORY OF IDENTIFIED CULTURAL HERITAGE SITES

A 4.1 Stone Age

NHRA Category	Archaeological and palaeontological sites – Stone Age
Protection status	
	General Protection - Section 35: Archaeology, palaeontology and meteorites

Very little research has been done on the archaeology of the larger region and only a few published papers and studies are available. In contrast, cave sites have been subjected to intensive investigation, which contributed much to our understanding of human occupation of the region during the past few millennia.

The larger countryside contains probably thousands of find spots dating from the Middle and Later Stone Age. Of importance in this region are the various stratified sites (i.e. occurring in rock shelters and caves) and sites with rock art dating to the Later Stone Age and early historic period.

Many sites are still unknown. Their potential and significance is therefore unknown. The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the road, border fence, roads, borrow pits, laydown areas and construction camps.

Location	No. A 4.1.1	Pietersdal 8	S 28.97935, E 27.71788
Description			
Small area where LSA material is eroding out. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz.			

Significance of site/feature	Medium on a regional level – Grade III
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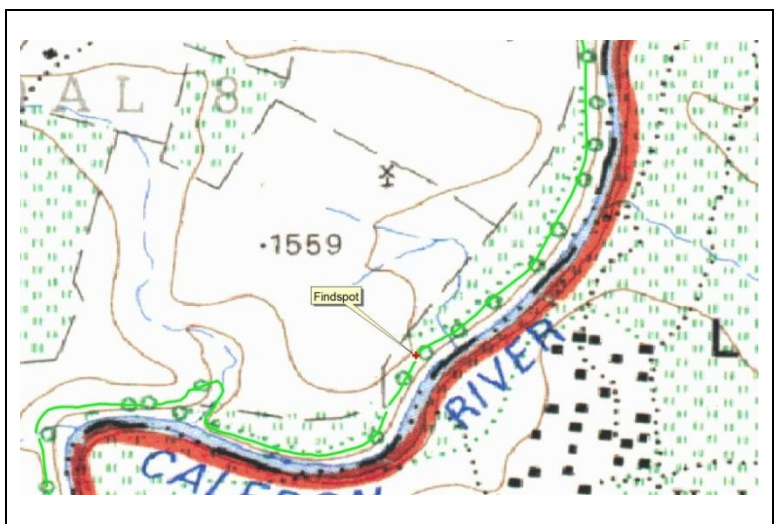
Impact assessment
This area is located in the current border patrol road and would therefore be impacted on by the proposed development.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	3	39	Medium

Mitigation
It is recommended that a qualified Stone Age archaeologist do a surface collection on the site and that this material is then deposited in a national repository.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map: 2827DC



A 4.2 Iron Age

NHRA Category	Archaeological and palaeontological sites – Iron Age
Protection status	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

Very little research has been done on the archaeology of the larger region and only a few published papers and studies are available. An exception, for example, is the work done by Maggs (1976). In contrast, much more is known about the early contact period through the writings of travellers and missionaries (e.g. Dreyer 2001), as well as later reconstructions by historians (e.g. Ellenberger 1912; Legassick 2011).

The larger countryside contains sites dating mostly from the Later Iron Age, most of which can be linked to the occupation of the region by Sotho/Tswana-speakers during the last 400 years.

Many sites are still unknown. Their potential and significance is therefore unknown. The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the road, border fence, roads, borrow pits, laydown areas and construction camps.

A 4.3 Farmsteads and homesteads

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	General Protection - Section 34: Structures older than 60 years

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

The architecture of these farmsteads can be described as an eclectic mix of styles modified to adapt to local circumstances. Farm buildings were generally single storied. Walls were thick and built in stone. The roof was either flat or ridged and thatched or tiled and was terminated at either end by simple linear parapet gables.

In some cases outbuildings would be in the same style as the main house, if they date to the same period. However, they tend to vary considerably in style and materials used as they were erected later as and when they were required.

Location	No. A 4.3.1	Braamhoek 345	S 28.60387, E 28.49646
Description			
Sandstone built house farm house. Probably dating to the early 20 th century. No outbuildings or other structures are located in the immediate vicinity.			

Significance of site/feature	High on a regional level – Grade III
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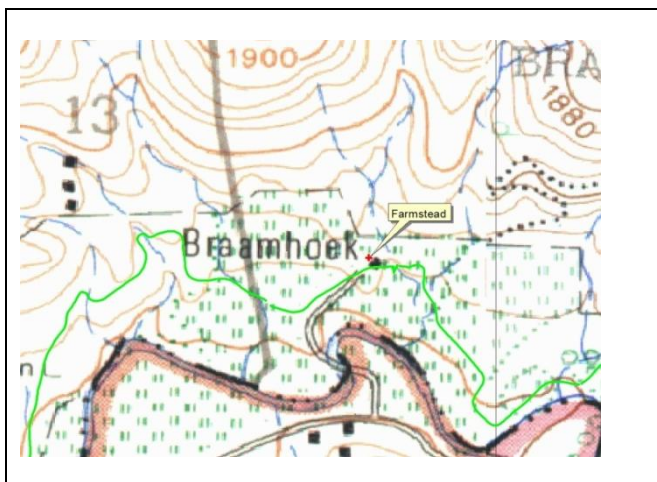
Impact assessment
Currently the border patrol road passes about 40 m from this feature and would therefore have an impact on the house and its immediate surroundings.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the south. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the house and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.3.2	Riverland 935	S 28.78582, E 28.09055
Description			
Ruins of farmstead. Main buildings constructed with dressed sandstone. Other buildings constructed with different materials, e.g. cement bricks, indicating that they are later in time. All the structures are in ruins and all fixtures have been removed.			

Significance of site/feature	High on a regional level – Grade III
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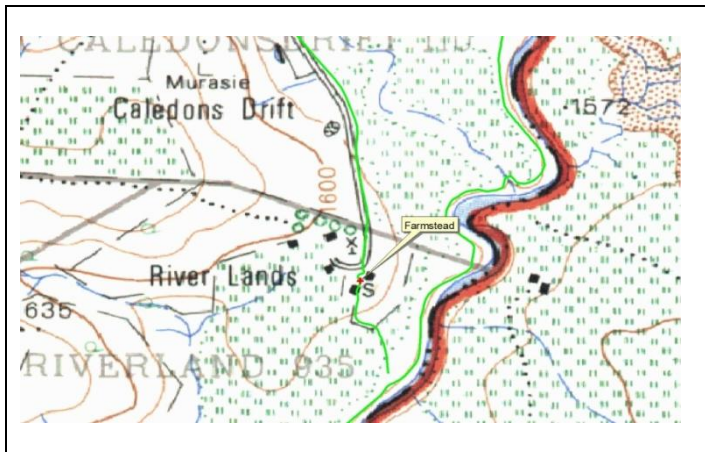
Impact assessment
Currently the access road to the border patrol road passes between the various structures. It would therefore have an impact on these features.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the south. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the house and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map: 2828CC



Location	No. A 4.3.3	Frognaal 13	S 28.60580, E 28.48782
Description			
What appears to have been a farm labourer homestead. Consisting of some outer stone walling and the remains of house structures built with clay.			

Significance of site/feature	High on a local level – Grade III
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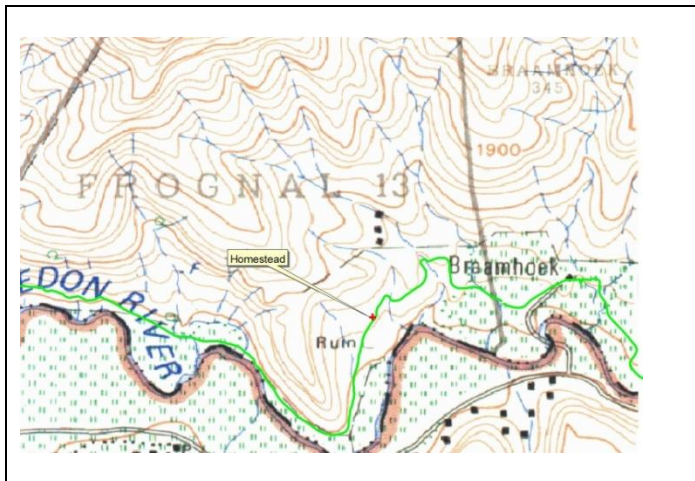
Impact assessment
Currently this feature is located within 10 m of the border patrol road. The proposed development would have an impact on it.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the east. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the house and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.3.4	Frognaal 13	S 28.61095; E 28.48622
Description			
Rectangular structure of packed stone. Probably served as a stock pen of some sort for cattle of sheep.			

Significance of site/feature	Low on a regional level – Grade III
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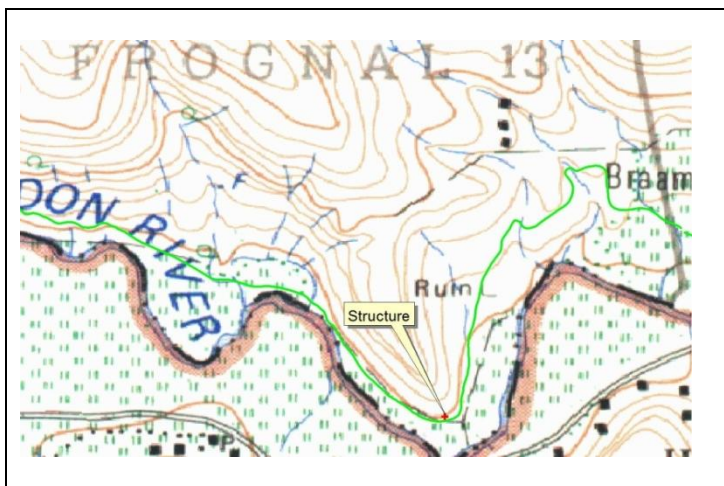
Impact assessment
Currently this feature is located within 10 m of the border patrol road and would be impacted on by the proposed development.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the south. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the house and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.4.5	Mombasa 419	S 28.64277, E 28.3978
Description			
Ruins of a farmstead, consisting of different structures, all built with dressed sandstone. The main house does not exist anymore and it is only outbuildings that remain.			

Significance of site/feature	High on a regional level – Grade III
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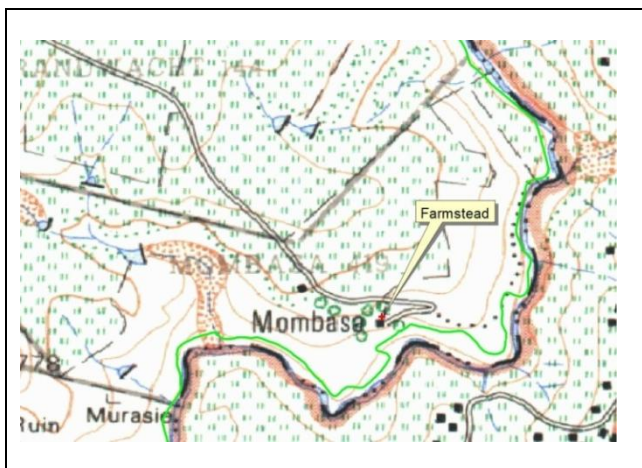
Impact assessment
Currently this feature is located within 80 m of the military road, on top of a low ridge. It is therefore unlikely that the proposed border partol road would have an impact on this feature.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
If the area cannot be avoided, the structures and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.3.6	Kornetspruit 399	S 30.28166, E 27.37969
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Description
 Extensive farmstead, consisting of a main house, a number of outbuildings and stock pens. The building style is eclectic and different materials have been used for different buildings, indicating that the whole developed over a number of years. Most of the structures show a significant amount of decay due to neglect.

Significance of site/feature	High on a regional level – Grade III
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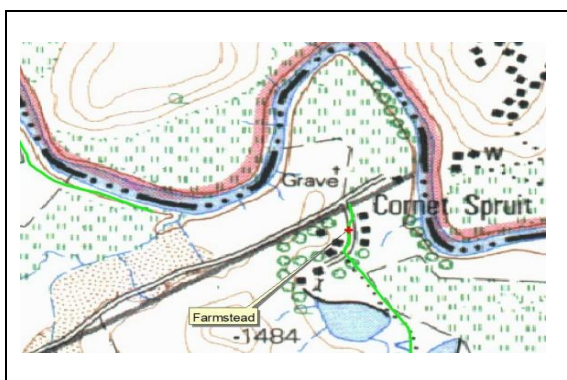
Impact assessment
 Currently the border patrol road passes through this feature and would therefore definitely have an impact on it.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
 If at all possible, this feature should be avoided by rerouting the road more to the east or west of the site to bypass it. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the houses and surrounding yard should be documented (mapped and photographed) in full.

Requirements
 SAHRA permit

References
 1: 50 000 topocadastral map



Location	No. A 4.3.7	Vincennes 353	S 30.19524, E 27.36852
Description			
The remains of a smallish house structure. Although some dressed sandstone remains, the rest have already been removed. It is also likely that the structure was built from wattle and daub. IT probably served as a farm labourer homestead.			

Significance of site/feature	Low on a regional level – Grade III
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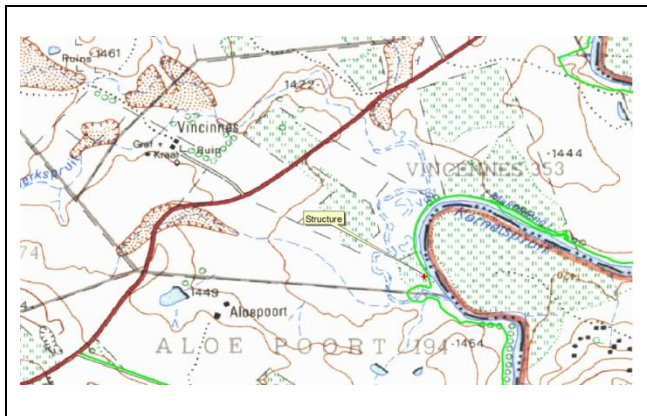
Impact assessment
Currently the border patrol road passes about 20 m from this feature and therefore would have an impact on it.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the west. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the structure be documented (excavated, mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 3027AB



Location	No. A 4.3.8	Aloe Port 194	S 30.2168, E 27.36493
Description			
Farmstead consisting of number of buildings in different styles. All seems to have been built with dressed sandstone. Some have corrugated iron roofs and other thatched roofs. All are still in good condition.			

Significance of site/feature	High on a regional level – Grade III
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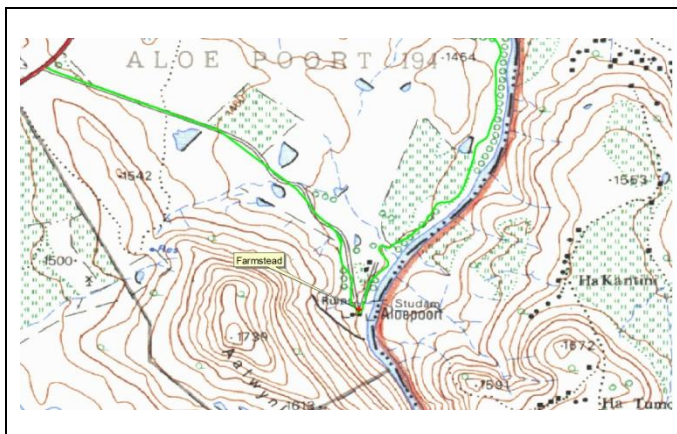
Impact assessment
Currently the border patrol road passes through the farmstead and would therefore have an impact on it.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the west to bypass the farmstead. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the houses and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 3027AB



Location	No. A. 4.3.9	Zamestroom 397	S 30.31584, E 27.37040
Description			
Sandstone built house farm house, with associated outbuildings. All have been stripped of fixtures and the roofs. Some outbuildings consist only of the foundations and low sections of walls.			

Significance of site/feature	High on a regional level – Grade III
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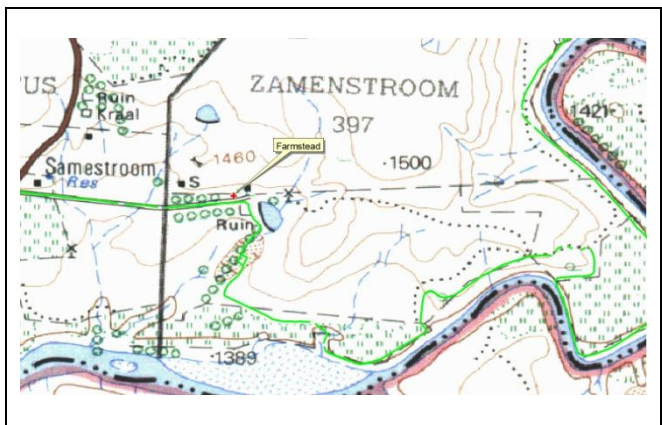
Impact assessment
Currently the access road to the border patrol road passes about 40 m from this feature. If upgraded, it might have an impact on it.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	3	39	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the south. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, the house and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 3027AD



4.4 Graves and burial places

NHRA Category	Graves, cemeteries and burial grounds
Protection status	
General Protection - Section 36: Graves or burial grounds	

Apart from the formal cemeteries that occur in municipal areas (towns or villages), some quite informal, i.e. without fencing, can be expected to occur almost anywhere. Most of these cemeteries/burial places, irrespective of the fact that they are for land owner or farm labourers (with a few exceptions where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.

Location	No. A 4.4.1	Boschfontein 934	S 28.85812, E 27.96893
Description			
Single grave. The headstone has been smashed, making the identification of the inscriptions impossible. A later cross was erected in its place.			

Significance of site/feature	High on a local level – Grade III
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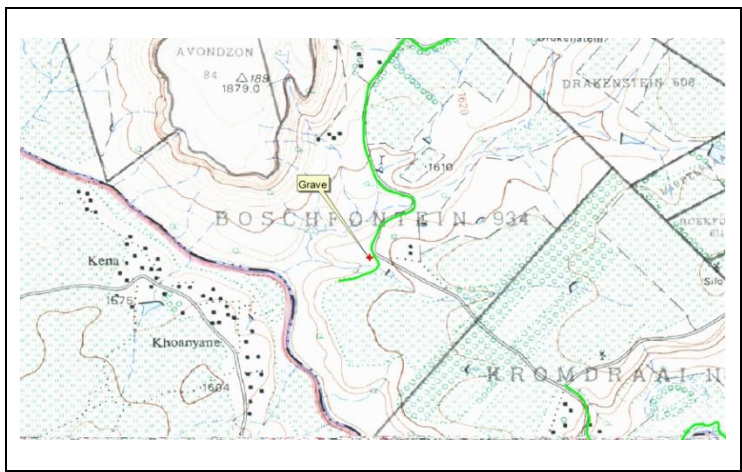
Impact assessment
This feature is located in proximity of the access road leading to the border patrol road.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
The burial site should be avoided and fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, it is recommended that grave is relocated after the proper procedure has been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2827DD



Location	No. A 4.4.2	Kromdraai 106	S 28.66468, E 28.36579
Description			
Large informal burial place with possibly more than 100 graves. Many are only marked with stone cairns. Most do not have names on their headstones and fewer have any dates.			

Significance of site/feature	High on a local level – Grade III
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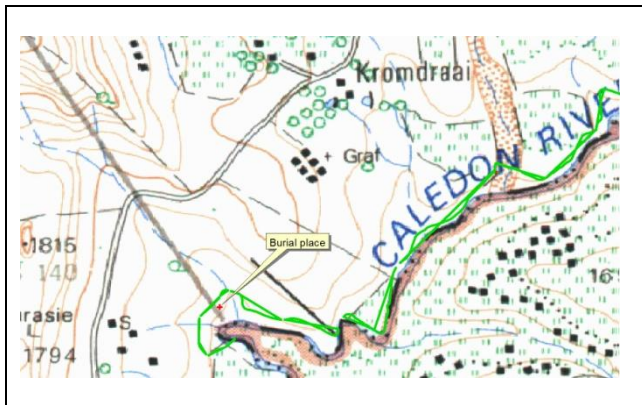
Impact assessment
The layout of the cemetery is very haphazard, making it difficult to determine the outer boundaries. The current border patrol road passes very close to the graves: < 10m. Therefore the possibility that the development might impact on it is calculated as high.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, the burial site should be avoided and fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, it is recommended that graves are relocated after the proper procedure has been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.4.3	Kromdraai 106	S 28.65850, E 28.37008
Description			
What appears to be a single grave fenced off with a stone wall.			

Significance of site/feature	High on a local level – Grade III
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Impact assessment
This feature is about 500m away from the proposed border patrol road and border fence. The possibility of an impact on this feature is therefore viewed to be low.

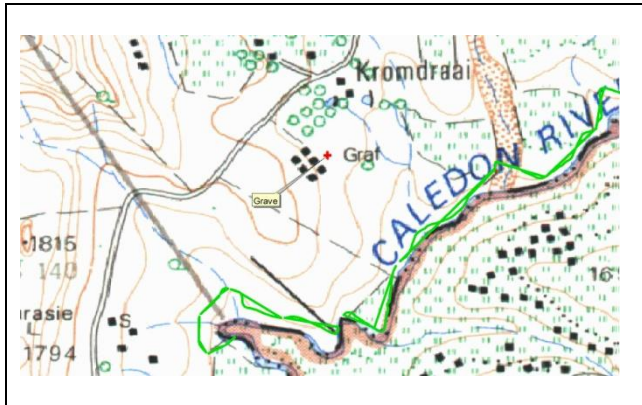
Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
It is recommended that this feature is fenced off with danger tape for the duration of the construction of the border patrol road and border fence.

Requirements
None

References
1:50 000 topocadastral map 2828CB

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Location	No. A 4.4.4	Boomplaat 219	S 30.28166, E 27.37969
Description			
What appears to be a small informal burial site, probably containing graves of former farm owners or farm labourers.			

Significance of site/feature	High on a local level – Grade III
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Impact assessment
It is uncertain about the relation of this feature to the border patrol road and border fence. However, due to its location it is judged that the possible impact on this feature is low.

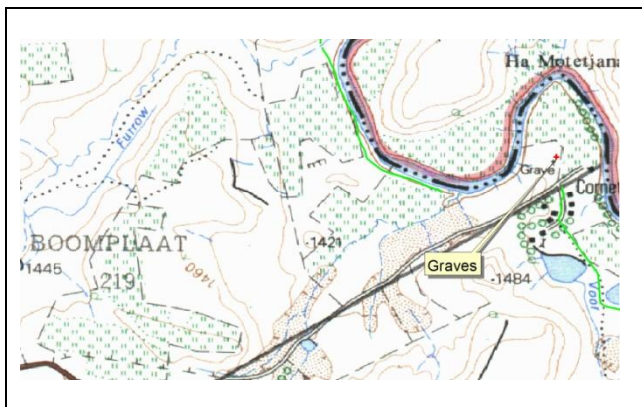
Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
It is recommended that this feature is fenced off with danger tape for the duration of the construction of the border patrol road and border fence.

Requirements
None

References
1:50 000 topocadastral map/Google Earth

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4.5 Public monuments and battlefields

NHRA Category	Places, buildings, structures and equipment of cultural interest
Protection status	
General Protection - Section 37: Public Monuments and Memorials	

Although most of these usually occur in urban areas, some also occur in rural areas where some event of significance took place.

As the sites (battlefields) are difficult to delineate the possibility of an impact on it is possible. Features such as monuments and commemorations are subject to damage. However, they are easy to identify and as a result are easier to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.

Location	No. A 4.5.1	Holywell 42	S 29.88173, E 27.16817
Description			
Cross marking the spot where a helicopter crashed and one SANDF member died – November 2007. Major Mario de Bruin, on left, was one of the survivors of the crash.			

Significance of site/feature	High on a regional level – Grade III
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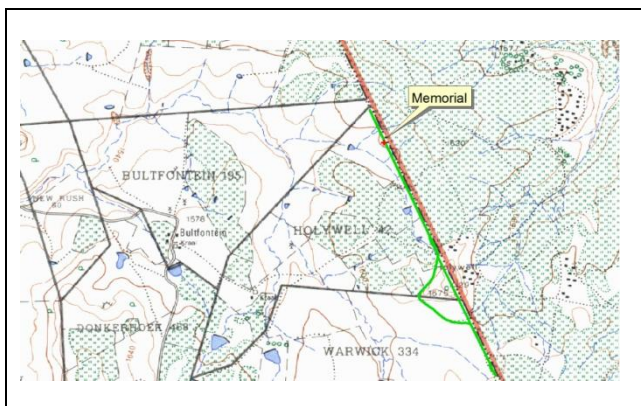
Impact assessment
This feature is currently located within the boundary of the border patrol road and in close vicinity of the border fence.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	5	65	High

Mitigation
It is recommended that the memorial is moved a few metres to the west, away from the border patrol road and border fence.

Requirements
Although this feature is not protected under the NHRA, it is recommended that SAHRA should be informed of its existence and relocation. The SANDF as “owners” of this feature should also agree to relocate the memorial away from road and border fence.

References
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4.6 Infrastructure and industrial heritage

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	

Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole. The various features are subject to damage. Fortunately, these features are easier to identify and therefore easier to avoid.

Location	No. A 4.6.1	Beginsel 346	S 28.61380, E 28.45618
Description			
Old bridge used by Lesotho people to cross the Caledon river to get to the old mill close by. Since the closure of the trading post and mill during the last 10 years, it has fallen into a state of disrepair.			

Significance of site/feature	Medium on a provincial level – Grade III
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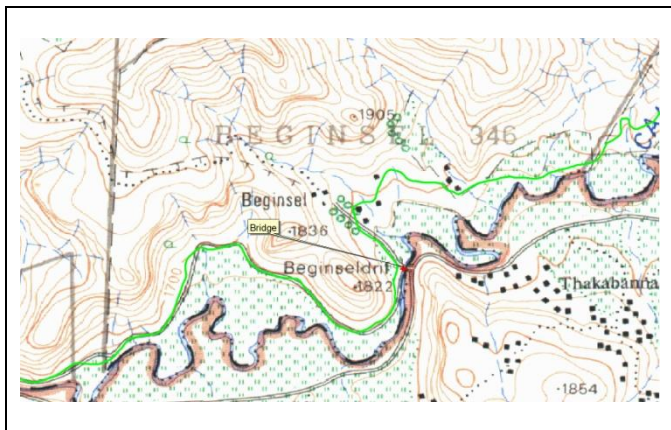
Impact assessment
This feature is about 50m away from the proposed border patrol road and border fence. It is a fixed feature close to the river bank. The possibility of an impact on this feature is therefore viewed to be low.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
None required

Requirements
None

References
1: 50 000 topocadastral map 2828CB



Location	No. A 4.6.2	Schuttes Draai South 768	S 28.94490, E 27.73442
Description			
Peka Border Bridge: a three span single lane steel truss bridge across the Caledon River. The bridge heads and pylons are constructed with dressed sandstone.			

Significance of site/feature	Medium on a provincial level – Grade III
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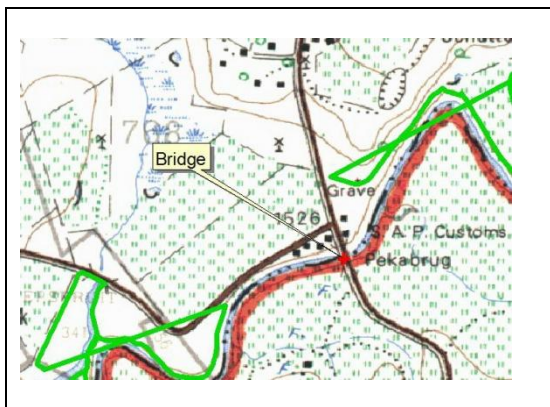
Impact assessment
This feature is about 200m away from the proposed border patrol road and border fence. It is a fixed feature and part of existing infrastructure. The possibility of an impact on this feature is therefore viewed to be low.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
None required

Requirements
None

References
1: 50 000 topocadastral map 2827DC



Location	No. A 4.6.2	Maghaleen 287	S30.16414, E 27.39977
Description			
Maghaleen Border Bridge: a two span single lane steel truss bridge across the Caledon River.			

Significance of site/feature	Medium on a provincial level – Grade III
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Impact assessment
This feature is about 300m away from the proposed border patrol road and border fence. It is a fixed feature and part of existing infrastructure. The possibility of an impact on this feature is therefore viewed to be low.

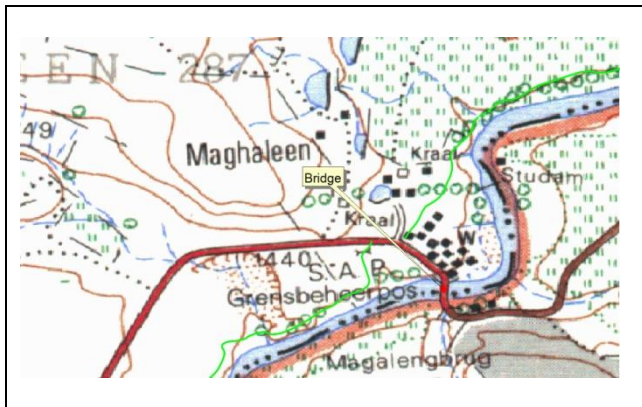
Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
None required

Requirements
None

References
1: 50 000 topocadastral map

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Location	No. A 4.6.3	Beginsel 346	S 28.61025, E 28.45351
Description			
Old stamp mill used to grind maize, especially for the people from Lesotho who crossed the Caledon River at the bridge in record no. A 4.6.1. It formed part of the larger trading post. Recently the whole complex has been abandoned.			

Significance of site/feature	Medium on a provincial level – Grade III
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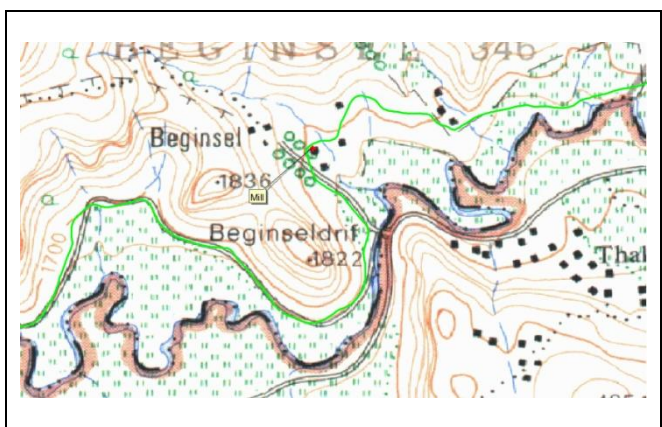
Impact assessment
This is a complex site with the existing border patrol road passing through it, dividing the complex in two.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the west. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, all the structures and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
Staples, C.O. 2006. <i>Mills of Southern Africa. Water, wind and horse</i> . Pretoria: Umdaus Press. 1: 50 000 topocadastral map 2828CB



Location	No. A 4.6.3	Don Don 52	S 29.52154, E 27.30252
Description			
Don Don Watermill, originally dating to the late 1880s. Most of the machinery is of Swedish origin.			

Significance of site/feature	Medium on a provincial level – Grade III
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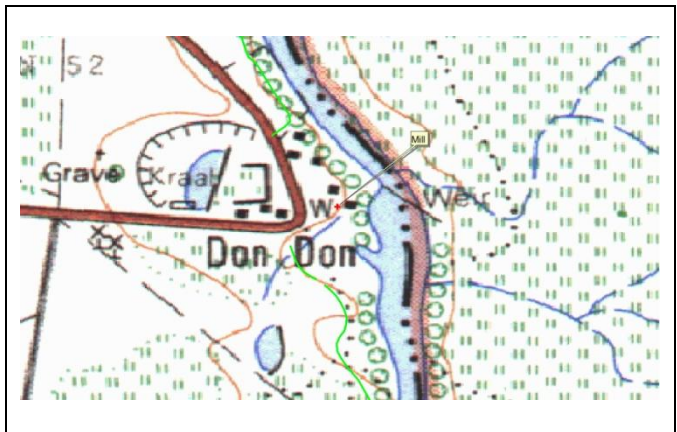
Impact assessment
This is a complex site with the existing border patrol road passing through it, dividing the complex in two.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
If at all possible, this feature should be avoided by rerouting the road more to the west. It should be fenced off with danger tape during construction of the border patrol road and border fence. If the area cannot be avoided, all the structures and surrounding yard should be documented (mapped and photographed) in full.

Requirements
SAHRA permit

References
Staples, C.O. 2006. <i>Mills of Southern Africa. Water, wind and horse</i> . Pretoria: Umdaus Press. 1: 50 000 topocadastral map 2927CA



Location	No. A 4.6.4	Maghaleen 287	S 30.16006, E 27.40115
Description			
Watermill:			

Significance of site/feature	Medium on a provincial level – Grade III
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Impact assessment
This site is located approximately 90m from the current border patrol road.

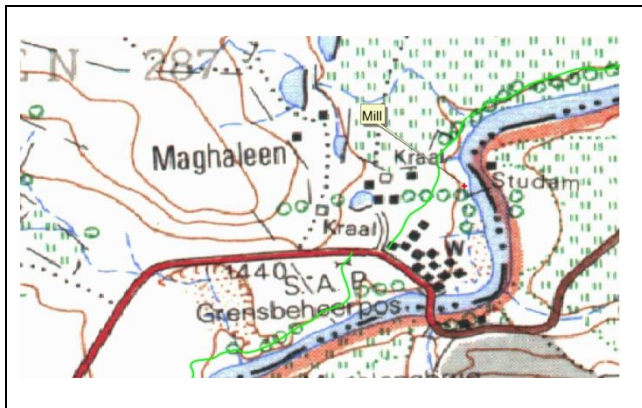
Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	4	52	Medium

Mitigation
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Requirements
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References
Staples, C.O. 2006. <i>Mills of Southern Africa. Water, wind and horse</i> . Pretoria: Umdaus Press.

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4.7 Urban environment

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	General Protection - Section 34: Structures older than 60 years

These are complex features in the landscape, being made up of different yet interconnected elements. Most towns in the region have, according to various databases, about 20 buildings that are listed to be of provincial heritage significance.

Fortunately roads follow existing alignments and therefore do not usually impact on towns. The various features are subject to damage. Fortunately, these features are easy to identify and therefore are easier to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.

Location	No. A 4.7.1	Alpha 112	S 29.11430, E 27.64572
Description			
Old sandstone built church. It is only the walls and roof that remains, as all the fittings, windows and even the floor have been removed. A number of other structures, probably part of a larger farmstead occur about 100 m to the west of the church. Two old graves occur to the southwest of the church, below the ridge. Unfortunately, the inscriptions on the headstones are illegible.			

Significance of site/feature	High on a regional level – Grade III
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Impact assessment
These features are located on a small ridge overlooking the Caledon River. The current military road passes approximately 80 m to the east of the church, below the ridge. It is therefore unlikely that the proposed development would have an impact on any of the structures or the graves.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
2	5	6	2	26	Low

Mitigation
None required

Requirements
None

References
1:50 000 topocadastral map 2927BA



