

Phase 1 Archaeological and Heritage Impact Assessment on the farm
The Boblands 247 JU in respect of the construction of an irrigation dam,
Nkomazi, Mpumalanga Province.

Compiled by:



For **Enpact Environmental Consultants**

Surveyor: Mr JP Celliers

23 April, 2018

I, Jean-Pierre Celliers as duly authorised representative of Kudzala Antiquity CC, hereby confirm my independence as a specialist and declare that neither I nor the Kudzala Antiquity CC have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which the client was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

SIGNATURE:

A handwritten signature in black ink, appearing to read 'J. Celliers', written over a horizontal line.

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Executive summary

Site name and location: A small portion (9 ha) of the farm The Boblands 247 JU.

Purpose of the study: An archaeological and heritage study in order to identify cultural heritage resources in respect of the proposed construction of an irrigation dam for agricultural purposes.

Topographical Maps: 1:50 000 2531 CA (1943, 1968, 1984, 1988); 1:250 000 2530 (1942).

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Report date: 23 April 2018

Description and findings:

An Archaeological and Heritage Impact Assessment was undertaken by Kudzala Antiquity CC in respect of the proposed construction of an irrigation dam on a portion of the farm The Boblands 247 JU, near Kaapmuiden, Nkomazi, Mpumalanga Province. The study was done with the aim of identifying sites which are of heritage significance on the identified project areas and assess their current preservation condition, significance and possible impact of the proposed action. This forms part of legislative requirements as appears in section 38 of the National Heritage Resources Act (Act No. 25 of 1999) and the National Environmental Management Act (NEMA, 17 of 1998).

The survey was conducted on foot and with the aid of a motor vehicle in an effort to locate archaeological remains and historic sites, structures and features. Archival information including scrutiny of previous heritage surveys of the area formed the baseline information against which the survey was conducted.

No sites or features of archaeological or heritage significance was located.

A total of fourteen (14) survey orientation locations were documented (SO 1-14) which includes a GPS location and photographs of the landscape at that particular location.

It is not within the expertise of this report or the surveyor to comment on possible palaeontological remains which may be located in the study area.

Disclaimer: *Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be*

overlooked during the study. Kudzala Antiquity CC will not be held liable for such oversights or for costs incurred as a result of such oversights.

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- The results of the project;
- The technology described in any report; and
- Recommendations delivered to the client.

Introduction

1.1. Terms of reference

Kudzala Antiquity CC was commissioned to conduct an archaeological and heritage resources survey in respect of a proposed irrigation dam on a portion of the farm Boblands 247 JU near Kaapmuiden in Mpumalanga Province. The survey was conducted in order to assess the potential impact that the proposed dam construction may have on archaeological and heritage resources. The survey was conducted for Enpact Environmental Consultants.

1.1.1 Project overview

The client is in the process of obtaining environmental authorization to construct a dam approximately 9 hectares in extent. The proposed dam, to be named the Olienhout Dam, is to be an earth-fill structure for irrigation purposes. The dam will be fed by the Blinkwater Spruit. The dam will be located on the farm Boblands 247 JU which is located a few kilometres southwest of Kaapmuiden, Nkomazi, Mpumalanga Province.

1.1.2. Constraints and limitations

The piece of land earmarked for the project consists of typical Granite Lowveld, this veld type often has dense thicket and this is the case with the study area which is located in a valley with dense vegetation. This limits surface visibility and accessibility.

1.2. Legislative Framework

The National Heritage Resources Act (NHRA) (Act No. 25, 1999) and the National Environmental Management Act (NEMA) (Act No. 107 of 1998) require that individuals or institutions have specialist heritage impact assessment studies undertaken whenever development activities are planned and such activities trigger activities listed in the legislation. This report is the result of an archaeological and heritage study in accordance with the requirements as set out in Section 38 (3) of the NHRA in an effort to ensure that heritage features or sites that qualify as part of the national estate are properly managed and not damaged or destroyed.

The study aims to address the following objectives:

- Analysis of heritage issues;
- Assess the cultural significance of identified places including archaeological sites and features, buildings and structures, graves and burial grounds within a specific historic context;
- Identifying the need for more research;
- Surveying and mapping of identified places including archaeological sites and features, buildings and structures, graves and burial grounds;
- A preliminary assessment of the feasibility of the proposed development or construction from a heritage perspective;
- Identifying the need for alternatives when necessary; and
- Recommending mitigation measures to address any negative impacts on archaeological and heritage resources.

Heritage resources considered to be part of the national estate include those that are of archaeological, cultural or historical significance or have other special value to the present community or future generations.

The national estate may 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 paleontological sites;
- graves and burial grounds including:
 - (i) ancestral graves;
 - (ii) royal graves and graves of traditional leaders;
 - (iii) graves of victims of conflict;
 - (iv) graves of individuals designated by the Minister by notice in the *Gazette*;
 - (v) 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 slavery in South Africa;
- movable objects including:
 - (i) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (ii) objects to which oral traditions are attached or which are associated with living heritage
 - (iii) ethnographic art and objects;

- (iv) military objects
- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and
- (vii) 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 of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

Cultural resources are unique and non-renewable physical phenomena (of natural occurrence or made by humans) that can be associated with human (cultural) activities (Van Vollenhoven 1995:3). These would be any man-made structure, tool, object of art or waste that was left behind on or beneath the soil surface by historic or pre-historic communities. These remains, when studied in their original context by archaeologists, are interpreted in an attempt to understand, identify and reconstruct the activities and lifestyles of past communities. When these items are removed from their original context, any meaningful information they possess is lost, therefore it is important to locate and identify such remains before construction or development activities commence.

1.3. Approach and statutory requirements

The SAHRA Minimum standards of 2007 guideline document, forms the background against which the survey was planned and the report compiled. An Archaeological Impact Assessment (AIA) consists of three phases. This document deals with the first phase. This (phase 1) investigation is aimed at getting an overview of cultural resources in the project area, assigning significance to these resources, assessing the possible impact that the proposed activity may have on these resources, making recommendations pertaining to the management of heritage resources and putting forward mitigation measures where applicable.

When the archaeologist or heritage specialist encounters a situation where the planned project will lead to the destruction or alteration of an archaeological/ heritage site or feature, a second phase investigation is normally recommended. During a phase two investigation mitigation measures are put in place and detailed investigation into the nature of the cultural material is undertaken. Often at this stage, archaeological excavation and detailed mapping of a site is carried out in order to document and preserve the cultural heritage.

Phase three consists of the compiling of a management plan for the safeguarding, conservation, interpretation and utilization of cultural resources (Van Vollenhoven, 2002).

Continuous communication between the developer and heritage specialist after the initial assessment has been carried out may result in the modification of a planned route or development to incorporate or protect existing archaeological and heritage sites.

2. Description of surveyed area

The study area falls within the Nkomazi Local Municipality, Mpumalanga Province.

The survey was carried out on a project footprint consisting of approximately 9 hectares of dense and often impenetrable vegetation which limits the visibility of archaeological and heritage sites and features. The proposed dam is located on a portion of the farm The Boblands 247 JU, known as Paradors Lodge.

Veld type: The vegetation is classed as Granite Lowveld comprising tall shrubland with few trees to moderately dense woodland on the deep sandy uplands with *Terminalia sericea*, *Combretum zeyheri* and *C. Tricholaena Eragrostis rigidior*. Dense thicket to open savanna in the bottomlands. The dense herbaceous layer contains the dominant *Digitaria eriantha*, *Panicum maximum* and *Astrida congesta* on fine-textured soils. The brackish bottomlands support *Sporobolus nitens*, *Urochloa mosambicensis* and *Chloris virgata* (Mucina and Rutherford, 2009).

Geology and soils: Swazian Goudplaats Gneiss, Makhutswi Gneiss and Nelspruit Suite occur from north to south. Further south, the younger Mpuluzi Granite, form the major base geology of the area. Archaean gneiss and granite weather into sandy soils in the uplands and clayey soils with high sodium content in the lowlands.

Limiting factors: As mentioned under Constraints and Limitations above, in most parts of the project areas dense undergrowth and impenetrable thicket limited the exploration of certain areas.

3. Methodology

This study consists of a detailed archival study in order to understand the study area in a historical timeframe, an archaeological background study which include scrutiny of previous archaeological reports of the area, obtained through the SAHRIS database, and published as well as unpublished written sources on the archaeology of the area, social consultation with people who live nearby and a lastly a physical survey of the affected and immediate area.

The South African Heritage Resources Agency (SAHRA) and the relevant legislation (NHRA) require that the following components be included in an archaeological impact assessment:

- Archaeology;
- Shipwrecks;
- Battlefields;
- Graves;

- Structures older than 60 years;
- Living heritage;
- Historical settlements;
- Landscapes;
- Geological sites; and
- Paleontological sites and objects.

All the above-mentioned heritage components are addressed in this report, except shipwrecks, geological sites and paleontological sites and objects.

The **purpose** of the archaeological, archival and heritage study is to establish the whereabouts and nature of cultural heritage sites should they occur on project area. This includes settlements, structures and artefacts which have value for an individual or group of people in terms of historical, archaeological, architectural and human (cultural) development.

The **aim** of this study is to locate and identify such objects or places in order to assess and rate their significance and establish if further investigation is needed. Mitigation measures can then be suggested and put in place when necessary.

3.1. Archaeological and Archival background studies

The purpose of the desktop study is to compile as much information as possible on the heritage resources of the area. This helps to provide an historical context for located sites. Sources used for this study include published and unpublished documents, archival material and maps. Information obtained from the following institutions or individuals were consulted:

- Published and unpublished archaeological reports and articles;
- Published and unpublished historical reports and articles;
- Archival documents from the National Archives in Pretoria;
- Historical maps; and
- South African Heritage Resource Information System (SAHRIS) database.

3.1.1. Previous archaeological studies in the area

An archaeological impact study focusing on a section of the Mozambique-Secunda gas pipeline in the Barberton District, conducted by Mr J.A. van Schalkwyk in 2002, resulted in the recording of a

single rock art site on Salisbury Kop and a few surface finds of pottery on the farm Thankerton 175 JU.

The same author compiled a heritage survey report in 2007, in respect of a housing development on the farm Stentor Reservaat 656 JU located north of The Boblands 247 JU. Finds included a historic structure, possibly an old house and a grave.

3.1.2. Historic maps

Historical maps were scrutinized and features that were regarded as important in terms of heritage value were identified and if they were located within the boundaries of the project area they were physically visited in an effort to determine:

- (i) whether they still exist;
- (ii) their current condition; and
- (iii) significance.

3.1.3. Physical survey

- The survey of the proposed dam location was conducted on 16 April 2018
- The survey took one day to complete.
- The documented sites were numbered sequentially.
- Sites were recorded by using a handheld Garmin Oregon 450 GPS unit and the unit was given time to reach an accuracy of at least 5 metres.
- Sites were plotted on 1:50 000 topographical maps which are geo-referenced (WGS 84) and also on Google Earth.
- No sites or archaeological or historical significance were identified. A number of survey orientation sites were mapped for survey purposes.

3.1.4. Social Consultation

The owner of the farm, Mr Jan Nel, has been living on the farm for many years and was consulted in order to obtain information about the presence of heritage sites on the property. He is not aware of any sites of heritage significance. The dam will be located on “Paradors Lodge”, a portion of the farm Boblands 247 JU. Mr Nel described that his grandfather visited this land on horseback many years ago and was struck by its beauty despite it being a very dry year at the time. Upon his return home he described the beauty of this valley and also the serious drought to his wife and added that it was

indeed so dry that the frogs (paddas in Afrikaans) were thirsty (dors). They bought the land later and then named it Paddadors (thirsty frogs).

3.3. Heritage site significance

The South African Heritage Resources Agency (SAHRA) formulated guidelines for the conservation of all cultural resources and therefore also divided such sites into three main categories. These categories might be seen as guidelines that suggest the extent of protection a given site might receive. They include sites or features of local (Grade 3) provincial (Grade 2) national (Grade 1) significance, grades of *local significance* and *generally protected* sites with a variety of degrees of significance.

For practical purposes the surveyor uses his own classification for sites or features and divides them into three groups, those of low or no significance, those of medium significance and those of high significance (**Also see table 5.2. Significance rating guidelines for sites**).

Values used to assign significance and impact characteristics to a site include:

- **Types of significance**

The site's scientific, aesthetic and historic significance or a combination of these is established.

- **Degrees of significance**

The archaeological or historic site's rarity and representative value is considered. The condition of the site is also an important consideration.

- **Spheres of significance**

Sites are categorized as being significant in the international, national, provincial, regional or local context. Significance of a site for a specific community is also taken into consideration.

To arrive at the specific allocation of significance of a site or feature, the specialist considers the following:

- Historic context;
- Archaeological context or scientific value;
- Social value;
- Aesthetic value; and
- Research value.

More specific criteria used by the specialist in order to allocate value or significance to a site include:

- The unique nature of a site;
- The integrity of the archaeological deposit;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined or is known);
- The preservation condition of the site;
- Quality of the archaeological or historic material of the site; and
- Quantity of sites and site features.

Archaeological and historic sites containing data, which may significantly enhance the knowledge that archaeologists currently have about our cultural heritage, should be considered highly valuable. In all instances these sites should be preserved and not damaged during construction activities. However, when development activities jeopardize the future of such a site, a second and third phase in the Cultural Resource Management (CRM) process is normally advised. This entails the excavation or rescue excavation of cultural material, along with a management plan to be drafted for the preservation of the site or sites.

Graves are considered very sensitive sites and should never under any circumstances be jeopardized by development activities. Graves and burial grounds are incorporated in the NHRA under section 36 and in all instances where graves are found by the surveyor, the recommendation would be to steer clear of these areas. If this is not possible or if construction activities have for some reason damaged graves, specialized consultants are normally contacted to aid in the process of exhumation and re-interment of the human remains.

4. History and Archaeology

4.1. Historic period

4.1.1. Early History

In Southern Africa the domestication of the environment began only a couple of thousands of years ago, when agriculture and herding were introduced. At some time during the last half of the first millennium BC, people living in the region where Botswana, Zambia and Angola are today, started moving southward, until they reached the Highveld and the Cape in the area of modern South Africa. As time passed and the sub-continent became fully settled, these agro-pastoralists, who spoke Bantu languages, started dominating all those areas which were ecologically suitable for their way of life. This included roughly the eastern half of modern South Africa, the eastern fringe of Botswana and the north of Namibia. Historians agree that the earliest Africans to inhabit in the Lowveld in Mpumalanga were of Sotho, or more particularly Koni-origin.

Up until the 1930s, malaria would have occurred sporadically in the study area during the rainy season. During the first half of the nineteenth century, Tsetse flies also thrived in this area. Pastoralists would have avoided the moist low-lying valleys and thickly wooded regions where these insects preferred to congregate. It is unlikely that populations would be dense in areas where malaria and the “sleeping sickness” transferred by Tsetse flies was a constant threat to humans and their stock (Bergh 1999: 3; Shillington 1995: 32). Therefore the elevated location of the stone-walled sites on Bruitieslaagte was probably purposeful to avoid these pests. It also points to the ancient origin of the sites.

In a few decades, the course of history in the old Transvaal province would change forever. The Difaqane (Sotho), or Mfekane (“the crushing” in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820s until the late 1830s. It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka’s Zulus to attack other tribes.

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa – some as early as the 1720’s. One such an adventurer was Robert Schoon, who formed part of a group of Scottish travellers and traders who had travelled the northern provinces of South Africa in the late 1820s and early 1830s. Schoon had gone on two long

expeditions in the late 1820s and once again ventured eastward and northward of Pretoria in 1836 (Bergh, 1999: 13, 116-121).

By the late 1820s, a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek. This migration resulted in a massive increase in the numbers of people of European descent. As can be expected, the movement of whites into the Northern provinces would have a significant impact on the local farmer – herders who populated the land.

By 1860, the population of Europeans in the central Transvaal was already very dense and the administrative machinery of their leaders was firmly in place. Many of the policies that would later be entrenched as legislation during the period of apartheid had already been developed (Ross 2002: 39; Bergh, 1999: 170).

However, relations were at times also interdependent in nature. After the Great Trek, when European farmers had settled at various areas in the northern provinces, wealthier individuals were often willing to lodge needy white families on their property in exchange for odd jobs and commando service. These “bywoners” often arrived with a family and a few cows. He would till the soil and pay a minimal rent to the farmer from the crops he grew. The farmer did not consider him a labourer, but mostly kept native workers for hard labour on the farm.

The discovery of gold in South Africa had a major impact in the region. In 1873 gold was discovered in Pilgrims Rest, 80 kilometres north of Nelspruit. This drew scores of prospectors into the region. The establishment of Barberton in 1884, after the discovery of the Sheba gold reef, also brought about greater activity in the area. The Nelspruit settlement first received official recognition in August 1884 (South African History Online 2013).

A large Homeland was located a small distance to the east of Nelspruit, and later became known as Kangwane. This area was proclaimed by the Land Act of 1936. In the Surplus People Project Report, the forced removal of people to the Kangwane area, or homeland, is discussed. According to this source the area could be regarded as a “dumping ground” allocated to South Africa’s Swazis, consisting of two blocks of land. The first of these, the Nsikazi reserve, was a finger of land stretching along the western boundary of the Kruger National Park, and had been under black occupation for over 50 years. The second block was adjacent to the western and northern boundaries of Swaziland, and consisted of the Nkomazi and Mswati/Mlondozi reserves released under the 1935 Land Act. (Bergh 1999: 42; Surplus people project 1983: 59).

Mswati the son of king Sobhuza’s chief wife, Thandile, was the favoured successor to the throne at a tender age of thirteen. At this stage he had a couple of regents namely Malambule and Malunge both his elder brothers. He was officially installed as king in 1839 or 1840, but as he was still young a

greater part of official affairs were still handled by his regents. Mswati's circumcision, around 1845, marked the start towards his full powers of kingship (Bonner, 1983: 51).

Mswati implemented a coherent military strategy, one of which was to build strategic outposts. Mekemeke was one of these military outposts. The outposts stretched from west to east along the upper Komati River and the Kaap River to ensure that the borders of his domain remain free of invading groups, among them the Pedi (Bornman, 2002: 22; Myburgh, 1949: 47).

This history is reflected in Matsebula's account:

"Mswati continued his attacks on the Pedi tribes to the north of the Olifants River, until eventually he attacked and defeated Sikwati, the paramount chief of the Pedi, and Sikwati was forced to acknowledge Mswati's authority. Mswati's victories over the Pedi were not permanent, for again and again, as soon as the Swazi army retreated, the Pedi returned to their old haunts and reoccupied them.

For this reason Mswati now built a line of military outposts from east to west along the Little Crocodile River. At each outpost he stationed some of his regiments to watch and stop the Pedi returning to the country from which they had been driven out. In each outpost he also placed a chieftainess or *inkhosikati* and a *ndvuna*" (Matsebula, 1972: 45).

Matsebula continues to describe each of the three outposts Mekemeke, Mjindi and Mbhuleni in terms of their location and the individuals who were put in charge by king Mswati. Mswati II, married the daughter of Nyandza Nkosi, a woman by the name of Lanyandza (also referred to as Mekemeke) in 1842 and conferred on her the status of right hand wife or *umfati wakunene* at his village in the Pigg's Peak district (Myburgh, 1949:47).

In the year 1866 Lanyandza was sent as chieftainess to this village (Mekemeke) and the village became known as Mekemeke. "Here Mswati installed his famous *inkhosikati* (wife) Lanyandza as chieftainess of the post and principality, which to this day is still known as Mekemeke" (Matsebula, 1972:45).

4.1.2. The Voortrekkers

The Groot Trek of the Voortrekkers started with the Tregardt- van Rensburg trek in 1835. The two men met where Tregardt and his followers crossed the Orange River at Buffelsvlei (Aliwal North). Here van Rensburg joined the trek northwards. On August 23, 1837 the Tregardt trek left for Delagoabay from the Soutpansberg. They travelled eastwards alongside the Olifants River to the eastern foothills of the Drakensberg. From here they travelled through the Lowveld and the current

Kruger National Park where they eventually crossed the Lebombo mountains in March 1838. They reached the Fortification at Lourenço Marques on 13 April 1838 (Bergh, 1998:124-125).

Permanent European (Voortrekker) settlement of the eastern areas of Mpumalanga can be traced back to a commission under the leadership of A.H. (Hendrik) Potgieter who negotiated with the Portuguese Governor at Delagoabaai in 1844 for land. It was agreed that these settlers could settle in an area that was four days journey from the east coast of Africa between the 10° and 26° south latitudes. Voortrekkers started migrating into the area in 1845. Andries-Ohrigstad was the first town established in this area in July 1845 after the Voortrekkers successfully negotiated for land with the Pedi Chief Sekwati. Farms were given out as far west as the Olifants River. The western boundary was not officially defined but at a Volksraad meeting in 1849 it was decided that the Elands River would be the boundary between the districts of Potchefstroom and Lydenburg as this eastern portion of the Transvaal was then known (Bergh, 1998).

Due to internal strife and differences between the various Voortrekker groups that settled in the broader Transvaal region, the settlers in the Ohrigstad area now governed from the town of Lydenburg decided to secede from the Transvaal Republic in 1856. The Republic of Lydenburg laid claim to a large area that included not only the land originally obtained from the Pedi Chief Sekwati in 1849 but also other areas of land negotiated for from the Swazis. The Republic of Lydenburg was a vast area and stretched from the northern Strydpoort mountains to Wakkerstroom in the south and Bronkhortsspruit in the west to the Swazi border and the Lebombo mountains east.

As can be expected, the migration of Europeans into the north would have a significant impact on the indigenous people who populated the land. This was also the case in Mpumalanga. In 1839 Mswati succeeded Sobhuza (also known as Somhlomo) as king of the Swazi. Threatened by the ambitions of his half brothers, including Malambule, who had support from the Zulu king Mpande, he turned to the Ohrigstad Boers for protection. He claimed that the land that the Boers had settled on was Swazi property. The Commandant General of the Ohrigstad settlement, Andries Hendrik Potgieter, responded that the land was ceded to him by the Pedi leader Sekwati, in return for protection of the Pedi from Swazi attacks (Giliomee, 2003).

However, in reaction to the increasingly authoritarian way in which Potgieter conducted affairs at Ohrigstad, the Volksraad of Ohrigstad saw Mswati's offer as a means to obtain more respectable title deeds for the property (Bonner, 1978). According to a sales contract set up between the Afrikaners and the Swazi people on 25 July 1846, the whites were the rightful owners of the land that had its southern border at the Crocodile River, which stretched out in a westerly direction up to Elandspruit; of which the eastern border was where the Crocodile and Komati rivers joined and then extended up to Delagoa bay in the north (Van Rooyen, 1951). The Europeans bought the land for a 100 heads of cattle (Huyser).

4.1.3. History of the Anglo Boer War (1899-1902) in the area

The discovery of diamonds and gold in the Northern provinces had very important consequences for South Africa. After the discovery of these resources, the British, who at the time had colonized the Cape and Natal, had intentions of expanding their territory into the northern Boer republics. This eventually led to the Anglo-Boer War, which took place between 1899 and 1902 in South Africa, and which was one of the most turbulent times in South Africa's history.

Even before the outbreak of war in October 1899 British politicians, including Sir Alfred Milner and Mr. Chamberlain, had declared that should Britain's differences with the Z.A.R. result in violence, it would mean the end of republican independence. This decision was not immediately publicised, and as a consequence republican leaders based their assessment of British intentions on the more moderate public utterances of British leaders. Consequently, in March 1900, they asked Lord Salisbury to agree to peace on the basis of the status quo ante bellum. Salisbury's reply was, however, a clear statement of British war aims (Du Preez, 1977).

During the British advance between February to September 1900, Lord Roberts replaced Genl. Buller as the supreme commander and applied a different tactic in confronting the Boer forces instead of a frontal attack approach he opted to encircle the enemy. This proved successful and resulted for instance in the surrender of Genl. Piet Cronje and 4000 burghers at Paardeberg on 27 February 1900.

This was the start of a number of victories for the British and shortly after they occupied Pretoria on 5 June 1900, a skirmish at Diamond Hill resulted in the Boer forces under command of Louis Botha, retreated alongside the Delagoa Bay railway to the east. Between the 21-27 August, Botha and 5000 burghers defended their line at Bergendal but were overwhelmed by superior numbers and artillery. This resulted in the Boer forces retreating even further east and three weeks later the British reached Komatipoort and thus the whole of the Eastern Transvaal south of the Delagoa Bay railway line was now occupied by British Forces.

General Louis Botha, with his Boer forces, marched through Nelspruit on 11 September 1900. A week later, on 18 September 1900, the British battalion of Lieutenant General F. Roberts arrived in Nelspruit. No major skirmishes in the war took place near Nelspruit, but a concentration camp for black people was established a small distance to the north of the town. Another event of import in the area was the arrival of the President of the Transvaal, Paul Kruger, in Nelspruit on 29 May 1900, where he received a message saying Lord Roberts had annexed the Transvaal. Kruger declared the annexation illegitimate on 3 September 1900, the same day that Nelspruit was proclaimed as the administrative capital of the Transvaal Republic. Kruger left Nelspruit in June of that year in order to board a ship to Swaziland (Bergh, 1999: 51; 54).

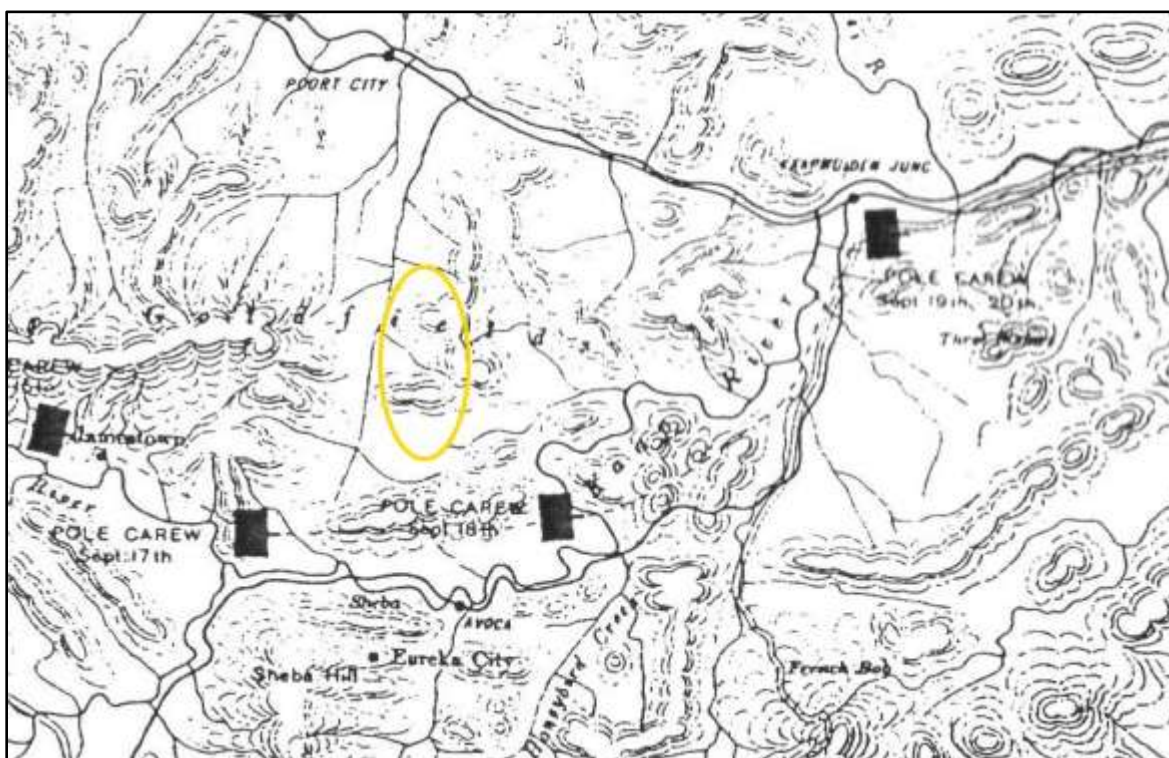


Fig. 4.1. Anglo Boer War map showing “The second stage of the combined advance on Koomati Poort, Sept. 3rd -24th 1900. The approximate location of the study area is encircled in yellow, not to scale.

During the Battle of Helvetia, ZAR forces succeeded in capturing “The Lady Roberts” British naval gun after a 1600-hour attack on enemy fortifications located at Helvetia between Lydenburg and Machadodorp on 28 December 1900. It was the only gun captured during the War and later destroyed by the ZAR forces to prevent the British claiming it back. The largest portions of the gun are at the National Museum in Pretoria but an inscribed piece which comes from the breech of the gun is part of the Lydenburg Museum collection.

4.1.4. Historic maps of the study area

Since the mid-1800s up until the present, South Africa has been divided and re-divided into various districts. Since 1845, the property under investigation would have formed part of the Lydenburg district. This remained the case up until 1902, when the Barberton district was proclaimed. The farm area fell under the jurisdiction of the White River ward in the Barberton district. In 1930 the Nelspruit district was proclaimed, and from that time the property fell under its jurisdiction (Bergh, 1999: 17, 20-27).

By 1933 the property was known as The Boblands 23. Before this time it was known as The Boblands 323, and comprised of Lots 249/53 and 288/95 of Section D of the Kaap Block, Barberton district. After 1950, the property was registered as The Boblands 247 JU.



Fig. 4.2. Map of the Barberton district in 1917. The farm The Boblands had not yet been proclaimed officially (Surveyor-General 1917).

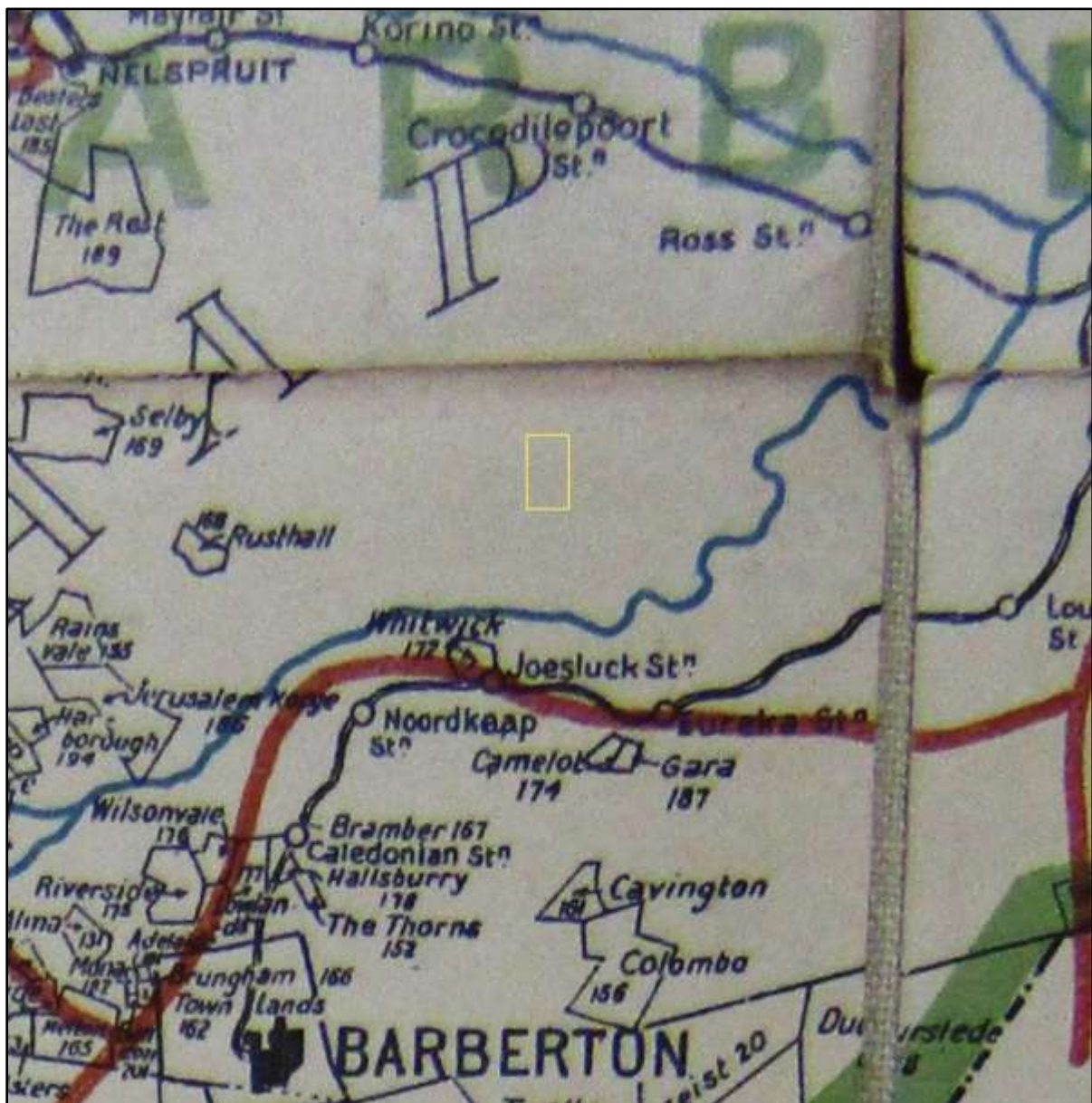


Fig. 4.3. Map of the Transvaal in the 1920's. This map also shows that the farm The Boblands had not yet been proclaimed officially (Anon 1920s).

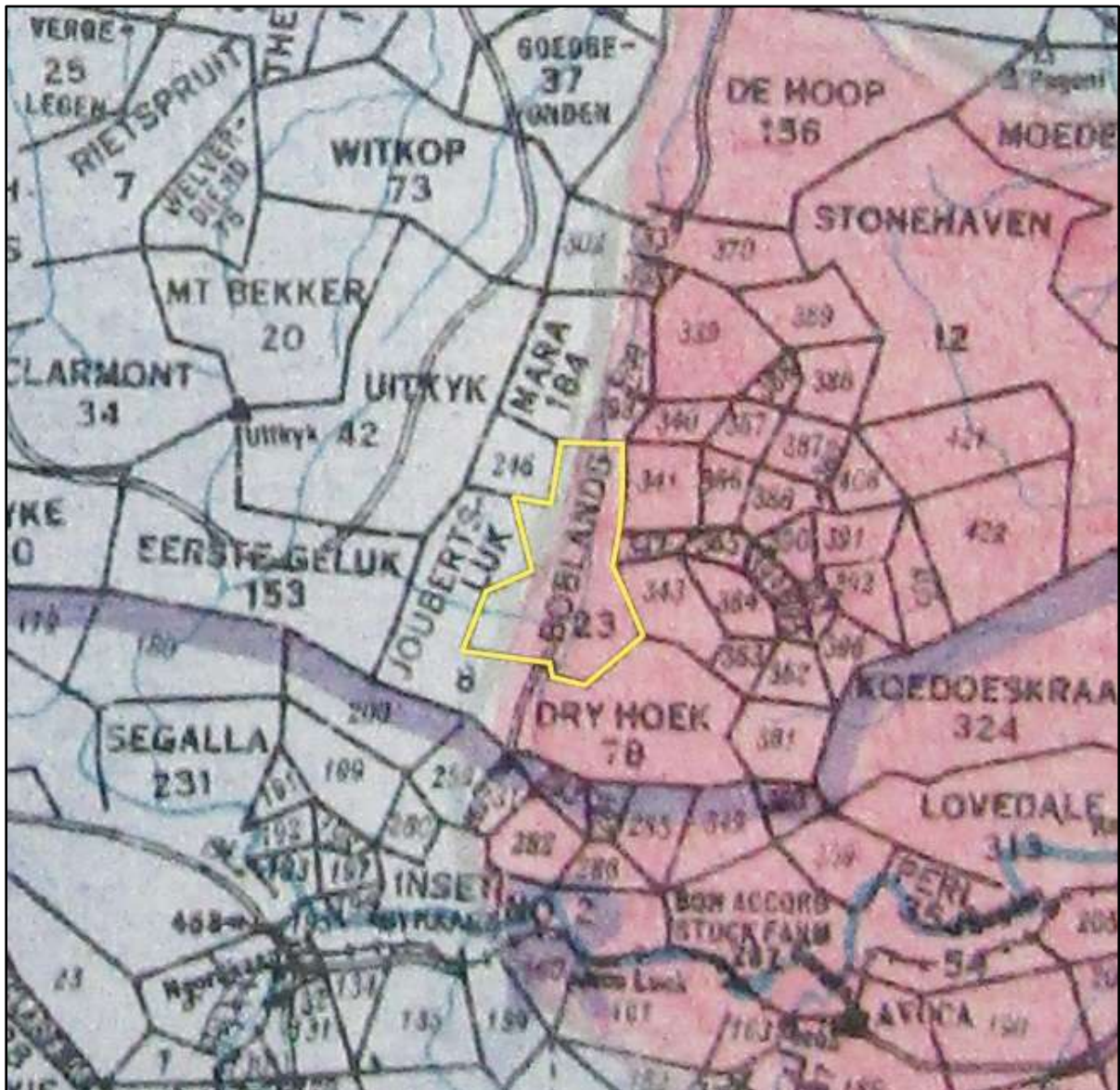


Fig. 4.4. Map of the Kruger National Park, dating approximately to the 1930s. The farm Boblands 23 had been proclaimed by that time (NARSSA Maps: 3/1254).

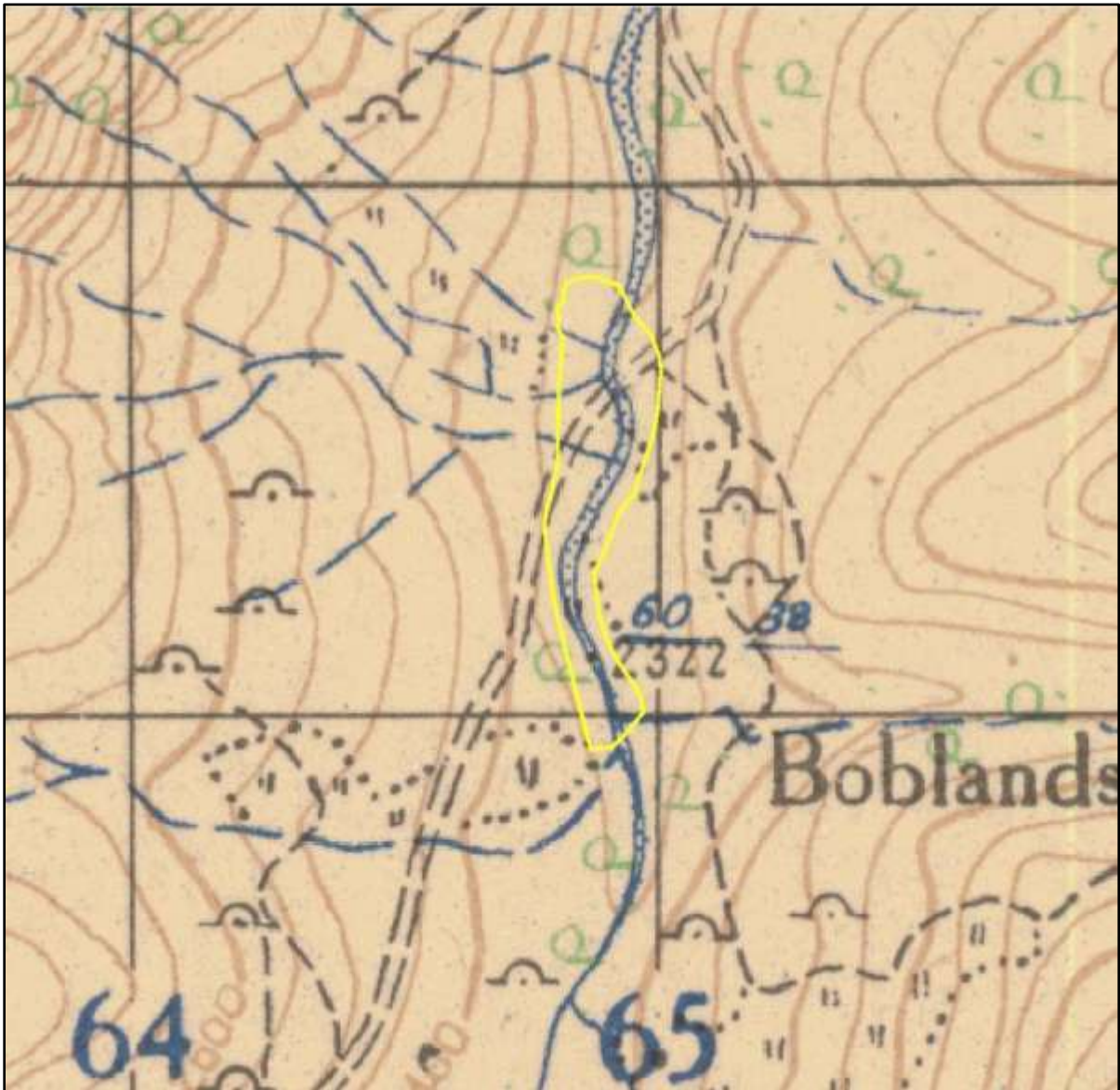


Fig. 4.5. Topographical map of the area dated to 1943. The approximate location of the study area is indicated with a yellow border. Cultivated lands can be seen to the north east, north west and south west of the area under investigation. It seems that a section of land near the river was cultivated. A road went through the northern part of the study area (Topographical Map 1943).

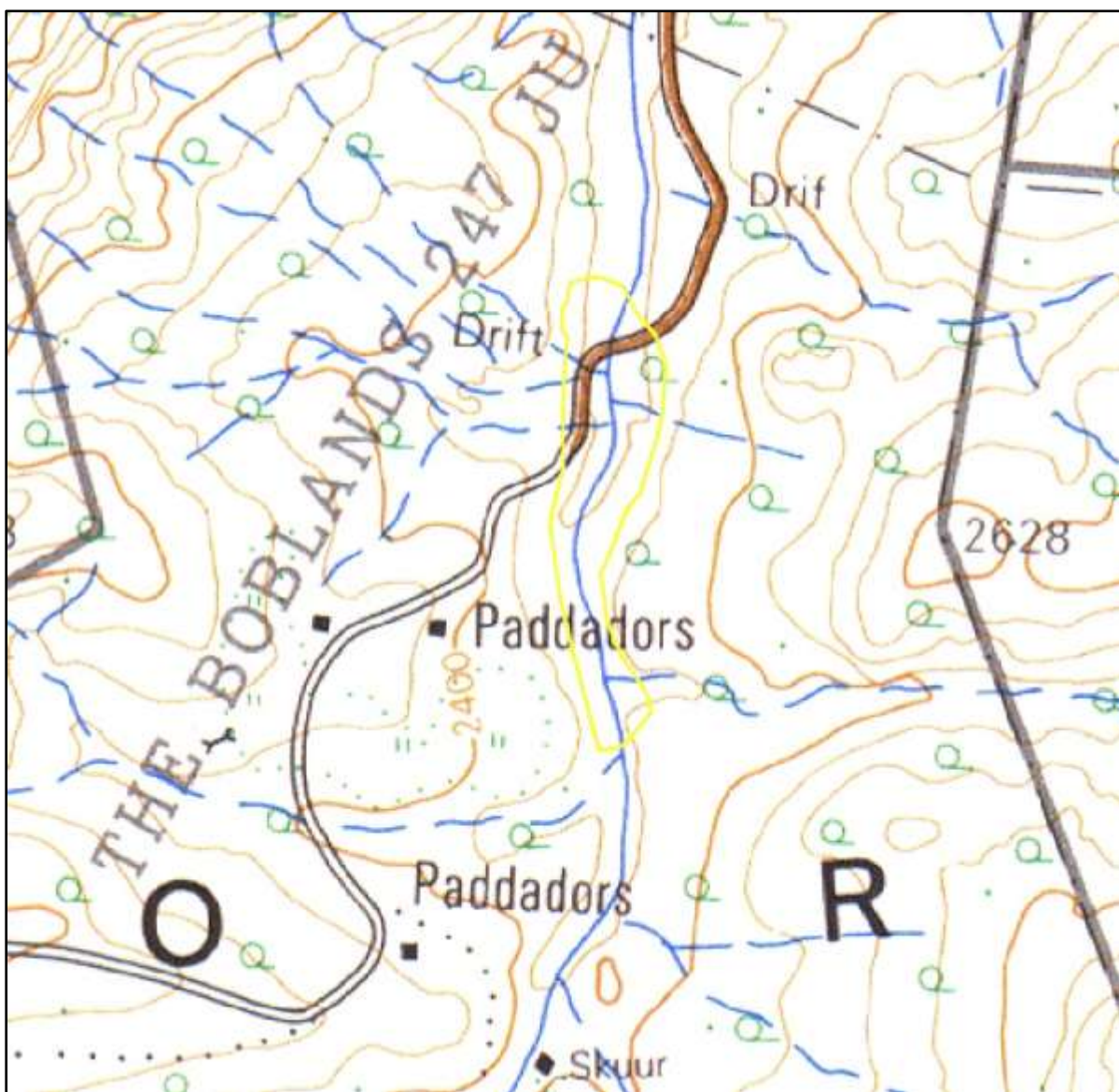


Fig. 4.6. A topographical map of the area in the year 1968. The approximate location of the study area is indicated with a yellow border. A secondary road, which changed to a minor road, went through the northern part of the study area. No buildings or other developments can be seen in the area under investigation. One can see cultivated lands to the south west of the site (Topographical Map 1968).

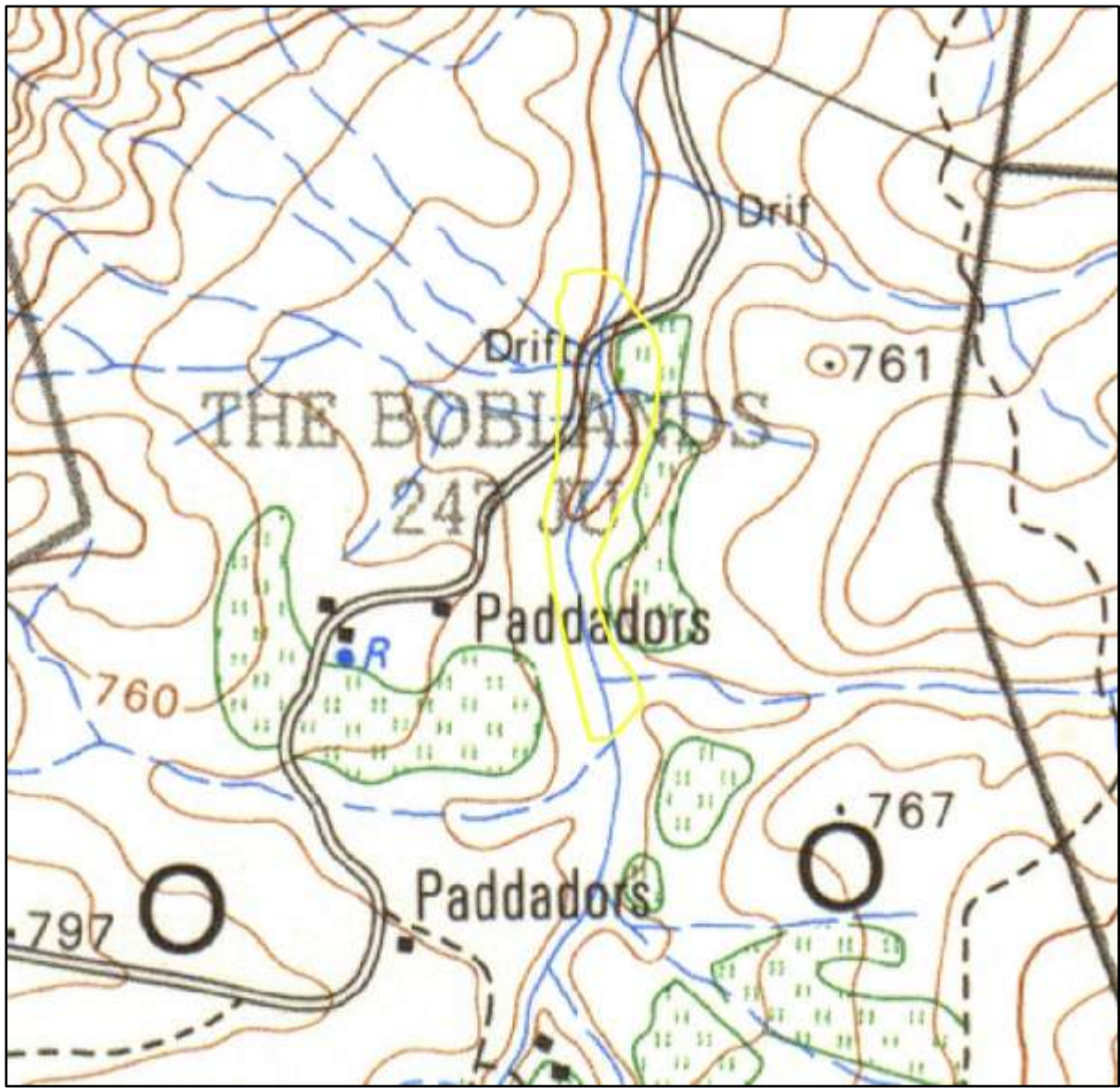


Fig. 4.7. A Topographical map of the area in 1984. The approximate location of the study area is indicated with a yellow border. A minor road went through the northern part of the study area. A north eastern section of the site formed part of a cultivated land. No buildings or other developments can be seen in the area under investigation. Three buildings can be seen along the road, to the west of the study area (Topographical Map 1984).

4.1.5. Historical overview of the ownership and development of the farm The Boblands 247 JU

A number of sources were consulted in the National Archives of South Africa, and together with historical maps it is possible to learn how the landscape changed over time. Firstly, a record of historical landowners will be provided. Thereafter follows a discussion of who lived on the property and for what purpose the land was used.

Record of historical landowners

The farm was first known as The Boblands 323, and comprised of Lots 249/53 and 288/95 of Section D of the Kaap Block, and was 926 morgen 62 square roods in extent. By 1933 the farm was known as The Boblands 23 and formed part of the Nelspruit district (NARSSA TAB, RAK: 2933).

By 1905, the portion under investigation for the purposes of this report was known as Lot 46 of Kaap Block, Section B (NARSSA SAB, LDE: 641 9888 [Part 1]).

Date	Portion	Transported from	Transported to
27/01/1933	Whole farm	Crown Grant (21/01/1933)	Robert Hunter
11/06/1937	Whole farm	Estate late R. Hunter	Johannes van der Merwe Nel

(NARSSA TAB, RAK: 2933; NARSSA SAB, URU: 1300 1936)

Unfortunately no record could be found of the landowners of The Boblands for the period 1937 to 2012. Portion 2 of The Boblands 247 JU is currently owned by the company Trydeals Sixteen Pty Ltd, which purchased the property in 2012 (Windeed Search Engine 2018).

History of land use

By December 1910 The Boblands, which at the time comprised of Lots 249/253 and 288/295, Section D of the Kaap Block, district Barberton, was leased to R. Hunter by the Land and Irrigation Department. By 1910 Hunter had been the lessee of the property for 21 years. In 1910 he applied to also lease Lots 201, 255 and 256 of Section D of the Kaap Block, which bordered on his portions, since he had inadvertently effected various improvements to the value of more than £500 on these lots. This was due to the fact that he had failed to have his beacons pointed out by a surveyor. The adjoining properties were leased to one Mr P. P. Joubert at the time. Hunter received permission to lease these properties soon thereafter. The Inspector of Mines noted that the lots did not lie on known mineralized ground (NARSSA SAB, MNW: 38 MM3263/10).

In 1916, Hunter received the option from the Secretary of Lands to purchase The Boblands. He accepted the conditions regarding the purchase of the property in February 1916. In 1921 he received permission to purchase The Boblands, as well as a holding named Dryhoek 28, comprising

Lots 287 and 344/348, Section D, and a holding named Joubertsluk, comprising Lots 248, 254, 257 and 258 of Section D, Kaap Block (NARSSA SAB, MNW: 38 MM3263/10).

Hunter finally purchased The Boblands in January 1933 (NARSSA SAB, URU: 1300 1936).

Judging by the historical topographical maps that were included in this report, it does not seem that there were structures or developments of cultural or historical value on the specific area under investigation, or that it was ever intensely developed. A river and a minor road run through the area, and have since 1943. There has been some agricultural activity close to the river bank, but no signs could be found of human settlement in the study area (Topographical Map 1943; Topographical Map 1968; Topographical Map 1984).

4.2. Archaeology

4.2.1. Stone Age

In Mpumalanga Province the Drakensberg separates the interior plateau also known as the Highveld from the low-lying subtropical Lowveld, which stretches to the Indian Ocean. A number of rivers amalgamate into two main river systems, the Olifants River and the Komati River. This fertile landscape has provided resources for humans and their predecessors for more than 1.7 million years (Esterhuizen & Smith in Delius, 2007).

The initial attraction of abundant foods in the form of animals and plants eventually also led to the discovery of and utilisation of various minerals including ochre, iron and copper. People also obtained foreign resources by means of trade from the coast. From 900 AD this included objects brought across the ocean from foreign shores.

The Early Stone Age (ESA)

In South Africa the ESA dates from about 2 million to 250 000 years ago, in other words from the early to middle Pleistocene. The archaeological record shows that as the early ancestors progressed physically, mentally and socially, bone and stone tools were developed. One of the most influential advances was their control of fire and diversifying their diet by exploitation of the natural environment (Esterhuizen & Smith in Delius, 2007).

The earliest tools used by hominids date to around 2.5 million years ago from the site of Gona in Ethiopia. Stone tools from this site shows that early hominids had the cognitive ability to select raw material and shape it for a specific application. Many bones found in association with stone tools like these have cut marks which lead scientists to believe that early hominids purposefully chipped cobblestones to produce flakes with a sharp edge capable of cutting and butchering animal carcasses. This supplementary diet of higher protein quantities ensured that brain development of hominids took place more rapidly.

Mary Leaky discovered stone tools like these in the Olduvai Gorge in Tanzania during the 1960s. The stone tools are named after this gorge and are known as relics from the Oldowan industry. These tools, only found in Africa, are mainly simple flakes, which were struck from cobbles. This method of manufacture remained for about 1.5 million years. Although there is continuing debate about who made these tools, two hominids may have been responsible. The first of these was an early form of *Homo* and the second was *Paranthropus robustus*, which became extinct about 1 million years ago (Esterhuizen & Smith in Delius, 2007).

Some time later, around 1.7 million years ago, more specialised tools known as Acheulean tools, appeared. These are named after tools from a site in France by the name of Saint Acheul, where they were first discovered in the 1800s. It is argued that these tools had their origin in Africa and then spread towards Europe and Asia with the movement of hominids out of Africa. These tools had longer and sharper edges and shapes, which suggest that they could be used for a larger range of activities, including the butchering of animals, chopping of wood, digging roots and cracking bone. *Homo ergaster* was probably responsible for the manufacture of Acheulean tools in South Africa. This physical type was arguably physically similar to modern humans, had a larger brain and modern face, body height and proportion very similar to modern humans. *Homo ergaster* was able to flourish in a variety of habitats in part because they were dependent on tools. They adapted to drier, more open grassland settings. Because these early people were often associated with water sources such as rivers and lakes, sites where they left evidence of their occupation are very rare. Most tools of these people have been washed into caves, eroded out of riverbanks and washed downriver. An example in Mpumalanga is Maleoskop on the farm Rietkloof where Early Stone Age (ESA) tools have been found. This is one of only a handful such sites in Mpumalanga.

Middle Stone Age (MSA)

A greater variety of tools with diverse sizes and shapes appeared by 250 000 before present (BP). These replaced the large hand axes and cleavers of the ESA. This technological advancement introduces the Middle Stone Age (MSA). This period is characterised by tools that are smaller in size but different in manufacturing technique (Esterhuizen & Smith in Delius, 2007).

In contrast to the ESA technology of removing flakes from a core, MSA tools were flakes to start with. They were of a predetermined size and shape and were made by preparing a core of suitable material and striking off the flake so that it was flaked according to a shape which the toolmaker desired. Elongated, parallel-sided blades, as well as triangular flakes are common finds in these assemblages. Mounting of stone tools onto wood or bone to produce spears, knives and axes became popular during the MSA. These early humans not only settled close to water sources but also occupied caves and shelters. The MSA represents the transition of more archaic physical type (*Homo*) to anatomically modern humans, *Homo sapiens*.

The MSA has not been extensively studied in Mpumalanga but evidence of this period has been excavated at Bushman Rock Shelter, a well-known site on the farm Klipfonteinhoek in the Ohrigstad district. This cave was excavated twice in the 1960s by Louw and later by Eloff. The MSA layers show that the cave was repeatedly visited over a long period. Lower layers have been dated to over 40 000 BP while the top layers date to approximately 27 000 BP (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Later Stone Age (LSA)

Early hunter gatherer societies were responsible for a number of technological innovations and social transformations during this period starting at around 20 000 years BP. Hunting of animals proved more successful with the innovation of the bow and link-shaft arrow. These arrows were made up of a bone tip which was poisoned and loosely linked to the main shaft of the arrow. Upon impact, the tip and shaft separated leaving the poisoned arrow-tip imbedded in the prey animal. Additional innovations include bored stones used as digging stick weights to uproot tubers and roots; small stone tools, mostly less than 25mm long, used for cutting of meat and scraping of hides; polished bone tools such as needles; twine made from plant fibres and leather; tortoiseshell bowls; ostrich eggshell beads; as well as other ornaments and artwork (Esterhuizen & Smith in Delius, 2007).

At Bushman Rock Shelter the MSA is also represented and starts at around 12 000 BP but only lasted for some 3 000 years. The LSA is of importance in geological terms as it marks the transition from the Pleistocene to the Holocene, which was accompanied by a gradual shift from cooler to warmer temperatures. This change had its greatest influence on the higher-lying areas of South Africa. Both Bushman Rock Shelter and a nearby site, Heuningneskrans, have revealed a greater use in plant foods and fruit during this period (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Faunal evidence suggests that LSA hunter-gatherers trapped and hunted zebra, warthog and bovids of various sizes. They also diversified their protein diet by gathering tortoises and land snails (*Achatina*) in large quantities.

Ostrich eggshell beads were found in most of the levels at these two sites. It appears that there is a gap of approximately 4 000 years in the Mpumalanga LSA record between 9 000 BP and 5 000 BP. This may be a result of generally little Stone Age research being conducted in the province. It is, however, also a period known for rapid warming and major climate fluctuation, which may have led people to seek out protected environments in this area. The Mpumalanga Stone Age sequence is visible again during the mid-Holocene at the farm Honingklip near Badplaas in the Carolina district (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

At this location, two LSA sites were located on opposite sides of the Nhlazatshe River, about one kilometre west of its confluence with the Teespruit. These two sites are located on the foothills of the Drakensberg, where the climate is warmer than the Highveld but also cooler than the Lowveld (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

Nearby the sites, dated to between 4 870 BP and 200 BP are four panels, which contain rock art. Colouring material is present in all the excavated layers of the site, which makes it difficult to determine whether the rock art was painted during the mid- or later Holocene. Stone walls at both

sites date from the last 250 years of hunter gatherer occupation and they may have served as protection from predators and intruders (Esterhuizen & Smith in Delius, 2007; Bergh, 1998).

4.2.2. Early Iron Age

The period referred to as the Early Iron Age (AD 200-1500 approx.) started when presumably Karanga (north-east African) herder groups moved into the north eastern parts of South Africa. It is believed that these people may have been responsible for making of the famous Lydenburg Heads, ceramic masks dating to approximately 600AD.

Ludwig von Bezing was a boy of more or less 10 years of age when he first saw pieces of the now famous Lydenburg heads in 1957 while playing in the veld on his father's farm near Lydenburg. Five years later von Bezing developed an interest in archaeology and went back to where he first saw the shards. Between 1962 and 1966 he frequently visited the Sterkspruit valley to collect pieces of the seven clay heads. Von Bezing joined the archaeological club of the University of Cape Town when he studied medicine at this institution.

He took his finds to the university at the insistence of the club. He had not only found the heads, but potsherds, iron beads, copper beads, ostrich eggshell beads, pieces of bones and millstones. Archaeologists of the University of Cape Town and WITS Prof. Ray Innskeep and Dr Mike Evers excavated the site where von Bezing found the remains. This site and in particular its unique finds (heads, clay masks) instantly became internationally famous and was henceforth known as the Lydenburg Heads site.

Two of the clay masks are large enough to probably fit over the head of a child, the other five are approximately half that size. The masks have both human and animal features, a characteristic that may explain that they had symbolic use during initiation- and other religious ceremonies. Carbon dating proved that the heads date to approximately 600 AD and was made by Early Iron Age people. These people were Bantu herders and agriculturists and probably populated Southern Africa from areas north-east of the Limpopo river. Similar ceramics were later found in the Gustav Klingbiel Nature Reserve and researchers believe that they are related to the ceramic wares (pottery) of the Lydenburg Heads site in form, function and decorative motive. This sequence of pottery is formally known as the Klingbiel type pottery. No clay masks were found in a context similar to this pottery sequence.

Two larger heads and five smaller ones make up the Lydenburg find. The Lydenburg heads are made of the same clay used in making household pottery. It is also made with the same technique used in the manufacture of household pottery. The smaller heads display the modelling of a curved forehead and the back neck as it curves into the skull. Around the neck of each of the heads, two or three rings are engraved horizontally and are filled in with hatching marks to form a pattern. A ridge

of clay over the forehead and above the ears indicates the hairline. On the two larger heads a few rows of small clay balls indicate hair decorations. The mouth consists of lips – the smaller heads also have teeth. The seventh head has the snout of an animal and is the only head that represents an animal.

Some archaeological research was done during the 1970's at sites belonging to the Early Iron Age (EIA), location Plaston, a settlement close to White River (Evers, 1977). This site is located on a spur between the White River and a small tributary. It is situated on holding 119 at Plaston.

The site was discovered during house building operations when a collection of pottery sherds was excavated. The finds consisted of pottery shards both on the surface and excavated.

Some of the pottery vessels were decorated with a red ochre wash. Two major decoration motifs occurred on the pots:

- Punctuation, using a single stylus; and
- Broad line incision, the more common motif.

A number of EIA pottery collections from Mpumalanga and Limpopo may be compared to the Plaston sample. They include Silver Leaves, Eiland, Matola, Klingbiel and the Lydenburg Heads site. The Plaston sample is distinguished from samples of these sites in terms of rim morphology, the majority of rims from Plaston are rounded and very few bevelled. Rims from the other sites show more bevelled rims (Evers, 1977:176).

Early Iron Age pottery was also excavated by archaeologist, Prof. Tom Huffman during 1997 on location where the Riverside Government complex is currently situated (Huffman, 1998). This site is situated a few km north of Nelspruit next to the confluence of the Nelspruit and Crocodile River. It was discovered during the course of an environmental impact assessment for the new Mpumalanga Government complex offices. A bulldozer cutting exposed storage pits, cattle byres, a burial and midden on the crest of a gentle slope. Salvage excavations conducted during December 1997 and March 1998 recovered the burial and contents of several pits.

One of the pits contained, among other items, pottery dating to the eleventh century (AD 1070 ± 40 BP). This relates the pottery to the Mzonjani and Broederstroom phases. The early assemblage belongs to the Kwale branch of the Urewe tradition.

During the early 1970s Dr Mike Evers of the University of the Witwatersrand conducted fieldwork and excavations in the Eastern Transvaal. Two areas were studied: the first area was the Letaba area south of the Groot Letaba River, west of the Lebombo Mountains, east of the great escarpment and north of the Olifants River. The second area was the Eastern Transvaal escarpment area between Lydenburg and Machadodorp.

These two areas are referred to as the Lowveld and escarpment respectively. The earliest work on Iron Age archaeology was conducted by Trevor and Hall in 1912. This revealed prehistoric copper-, gold- and iron mines. Schwelinus (1937) reported smelting furnaces, a salt factory and terraces near Phalaborwa. In the same year D.S. van der Merwe located ruins, graves, furnaces, terraces and soapstone objects in the Letaba area.

Mason (1964, 1965, 1967, 1968) started the first scientific excavation in the Lowveld, followed by N.J. van der Merwe and Scully. M. Klapwijk (1973, 1974) also excavated an EIA site at Silverleaves and Evers and van den Berg (1974) excavated at Harmony and Eiland, both EIA sites.

Research by the National Cultural History Museum resulted in the excavation of an EIA site in Sekhukuneland, known as Mototolong (Van Schalkwyk, 2007). The site is characterized by four large cattle kraals containing ceramics, which may be attributed to the Mzonjani and Doornkop occupational phases.

4.2.3. Late Iron Age

The later phases of the Iron Age (AD 1600-1800's) are represented by various tribes including Ndebele, Swazi, BaKoni, and Pedi, marked by extensive stonewalled settlements found throughout the escarpment and particularly around Machadodorp, Lydenburg, Badfontein, Sekhukuneland, Roossenekal and Steelpoort. The BaKoni were the architects of a unique archaeological stone building complex who by the 19th century spoke seKoni which was similar to Sepedi. The core elements of this tradition are stone-walled enclosures, roads and terraces. These settlement complexes may be divided into three basic features: homesteads, terraces and cattle tracks. Researchers such as Mike Evers (1975) and David Collett (1982) identified three basic settlement layouts in this area. Basically these sites can be divided into simple and complex ruins. Simple ruins are normally small in relation to more complex sites and have smaller central cattle byres and fewer huts. Complex ruins consist of a central cattle byre, which has two opposing entrances and a number of semi-circular enclosures surrounding it. The perimeter wall of these sites is sometimes poorly visible. Huts are built between the central enclosure and the perimeter wall. These are all connected by track-ways referred to as cattle tracks. These tracks are made by building stone walls, which forms a walkway for cattle to the centrally located cattle byres.

5. Site descriptions, locations and impact significance assessment

No sites of archaeological or heritage significance were documented.

A total of fourteen (14) survey orientation locations were documented (SO 1-14) which includes a GPS location and photographs of the landscape at that particular location. The survey orientation sites are tabled in Appendix B and their photos in Appendix D. A map of their location is also provided in Appendix C.

Tables indicate the **site significance rating scales and status** in terms of possible impacts of the proposed actions on any located or identified heritage sites (**Table 5.5 & 5.6**).

Table 5.1. Summary of located sites and their heritage significance

Type of site	Identified sites	Significance
Graves and graveyards	None	N/A
Late Iron Age	None	N/A
Early Iron Age	None	N/A
Historical buildings or structures	None	N/A
Historical features and ruins	None	N/A
Stone Age sites	None	N/A

Table 5.2. Significance rating guidelines for sites

Field Rating	Grade	Significance	Recommended Mitigation
National Significance (NS)	Grade 1	High Significance	Conservation, nomination as national site
Provincial Significance (PS)	Grade 2	High Significance	Conservation; Provincial site nomination
Local significance (LS 3A)	Grade 3A	High Significance	Conservation, No mitigation advised
Local Significance (LS 3B)	Grade 3B	High Significance	Mitigation but at least part of site should be retained
Generally Protected A (GPA)	GPA	High/ Medium Significance	Mitigation before destruction
Generally Protected B (GPB)	GPB	Medium Significance	Recording before destruction
Generally Protected C (GPC)	GPC	Low Significance	Destruction

5.1. Description of located sites

Survey orientations:

5.1.1. Site SO 1.

Location: See Appendix B and D (fig. 1, 2).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.2. Site SO 2.

Location: See Appendix B and D (fig. 3, 4).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.3. Site SO 3.

Location: See Appendix B and D (fig. 5, 6).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.4. Site SO 4.

Location: See Appendix B and D (fig. 7-9).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.5. Site SO 5.

Location: See Appendix B and D (fig. 10-12).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.6. Site SO 6.

Location: See Appendix B and D (fig. 13, 14).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.7. Site SO 7.

Location: See Appendix B and D (fig. 15-18).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.8. Site SO 8.

Location: See Appendix B and D (fig. 19, 20).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.9. Site SO 9.

Location: See Appendix B and D (fig. 21, 22).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.10. Site SO 10.

Location: See Appendix B and D (fig. 23, 24).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.11. Site SO 11.

Location: See Appendix B and D (fig. 25, 26).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.12. Site SO 12.

Location: See Appendix B and D (fig. 27-29).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.13. Site SO 13.

Location: See Appendix B and D (fig. 30-32).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

5.1.14. Site SO 14.

Location: See Appendix B and D (fig. 33, 34).

Description: Survey orientation location.

Impact of the proposed development/ activity: N/A

Recommendation: N/A

TABLE 5.3. General description of located sites and field rating.

Site No.	Description	Type of significance	Degree of significance	NHRA heritage resource & rating
SO1	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO2	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO3	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO4	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO5	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO6	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO7	Survey orientation location	N/A	Archaeological: N/A Historic: N/A	None
SO8	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO9	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO10	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO11	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO12	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO13	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None
SO14	Survey orientation location	N/A	Archaeological: N/K Historic: N/A	None

TABLE 5.4. Site condition assessment and management recommendations.

Site no.	Type of Heritage resource	Integrity of cultural material	Preservation condition of site	Relative location	Quality of archaeological/historic material	Quantity of site features	Recommended conservation management
SO 1	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 2	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 3	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 4	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 5	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 6	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 7	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 8	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 9	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 10	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 11	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A

SO 12	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 13	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A
SO 14	N/A	N/A	N/A	The Boblands 247 JU	Archaeology: N/A Historically: N/A	-	N/A

TABLE 5.5. Significance Rating Scales of Impact

***Notes:** Short term ≥ 5 years, Medium term 5-15 years, Long term 15-30 years, Permanent 30+ years. Intensity: Very High (4), High (3), Moderate (2), Low (1)
Probability: Improbable (1), Possible (2), Highly probable (3), Definite (4)

Site No.	Nature of impact	Type of site	Extent	Duration	Intensity	Probability	Score total
SO 1	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 2	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 3	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 4	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 5	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 6	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 7	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 8	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 9	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 10	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 11	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 12	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 13	Dam construction	N/A	N/A	Short term	Low	Improbable	2
SO 14	Dam construction	N/A	N/A	Short term	Low	Improbable	2

TABLE 5.6. Site current status and future impact scores

Site No.	Current Status	Low impact (4-6 points)	Medium impact (7-9 points)	High impact (10-12 points)	Very high impact (13-16 points)	Score Total
SO 1	Neutral	-	-	-	-	-
SO 2	Neutral	-	-	-	-	-
SO 3	Neutral	-	-	-	-	-
SO 4	Neutral	-	-	-	-	-
SO 5	Neutral	-	-	-	-	-
SO 6	Neutral	-	-	-	-	-
SO 7	Neutral	-	-	-	-	-
SO 8	Neutral	-	-	-	-	-
SO 9	Neutral	-	-	-	-	-
SO 10	Neutral	-	-	-	-	-
SO 11	Neutral	-	-	-	-	-
SO 12	Neutral	-	-	-	-	-
SO 13	Neutral	-	-	-	-	-
SO 14	Neutral	-	-	-	-	-

5.2. Cumulative impacts on the heritage landscape

Cumulative impacts can occur when a range of impacts which result from several concurrent processes have impact on heritage resources. The importance of addressing cumulative impacts is that the total impact of several factors together is often greater than one single process or activity that may impact on heritage resources. No heritage resources were identified and therefore no cumulative impacts are expected. Also see section 6.1. Recommended management measures.

6. Summary of findings and recommendations

No sites of heritage or archaeological significance were identified in the proposed project area.

A total of eleven (11) survey orientation locations were documented (SO 1-11) which includes a GPS location and photographs of the landscape at that particular location.

In terms of the archaeological component of the Act (25 of 1999, section 35) no sites were located or recorded.

In terms of the built environment in the project area (section 34 of the Act) no significant buildings were identified. In terms of burial grounds and graves (section 36 of the Act) no graves or gravesites were identified.

It is not within the expertise of this report or the surveyor to comment on possible palaeontological remains which may be located in the study area.

The bulk of archaeological remains are normally located beneath the soil surface. It is therefore possible that some significant cultural material or remains were not located during this survey and will only be revealed when the soil is disturbed. Should excavation or large scale earth moving activities reveal any human skeletal remains, broken pieces of ceramic pottery, large quantities of sub-surface charcoal or any material that can be associated with previous occupation, a qualified archaeologist should be notified immediately. This will also temporarily halt such activities until an archaeologist has assessed the situation. It should be noted that if such a situation occurs it may have further financial implications.

6.1. Recommended management measures

Management objectives include not to impact on sites of heritage significance. Monitoring programmes which should be followed when a “chance find” of a heritage object or human remains occur, include the following:

- The contractors and workers should be notified that archaeological sites might be exposed during the construction work.
- 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 museum, preferably one at which an archaeologist is available, 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).

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Appendix A

Terminology

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

“Archaeological” means –

- Material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artifacts, human and hominid remains and artificial features or structures;
- Rock Art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- Wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artifacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; and
- Features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;

“Conservation”, in relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance;

“Cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance;

“Development” means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of a heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including –

- construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- carrying out any works on or over or under a place;

- subdivision or consolidation of land comprising, a place, including the structures or airspace of a place;
- constructing or putting up for display signs or hoardings;
- any change to the natural or existing condition or topography of land; and
- any removal or destruction of trees, or removal of vegetation or topsoil;

“Expropriate” means the process as determined by the terms of and according to procedures described in the Expropriation Act, 1975 (Act No. 63 of 1975);

“Foreign cultural property”, in relation to a reciprocating state, means any object that is specifically designated by that state as being of importance for archaeology, history, literature, art or science;

“Grave” means a place of internment and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place;

“Heritage resource” means any place or object of cultural significance;

“Heritage register” means a list of heritage resources in a province;

“Heritage resources authority” means the South African Heritage Resources Agency, established in terms of section 11, or, insofar as this Act (25 of 1999) is applicable in or in respect of a province, a provincial heritage resources authority (PHRA);

“Heritage site” means a place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority;

“Improvement” in relation to heritage resources, includes the repair, restoration and rehabilitation of a place protected in terms of this Act (25 of 1999);

“Land” includes land covered by water and the air space above the land;

“Living heritage” means the intangible aspects of inherited culture, and may include –

- cultural tradition;
- oral history;
- performance;
- ritual;
- popular memory;
- skills and techniques;
- indigenous knowledge systems; and
- the holistic approach to nature, society and social relationships;

“Management” in relation to heritage resources, includes the conservation, presentation and improvement of a place protected in terms of the Act;

“Object” means any moveable property of cultural significance which may be protected in terms of any provisions of the Act, including –

- any archaeological artifact;
- palaeontological and rare geological specimens;
- meteorites;
- other objects referred to in section 3 of the Act;

“Owner” includes the owner’s authorized agent and any person with a real interest in the property and –

- in the case of a place owned by the State or State-aided institutions, the Minister or any other person or body of persons responsible for the care, management or control of that place;
- in the case of tribal trust land, the recognized traditional authority;

“Place” includes –

- a site, area or region;
- a building or other structure which may include equipment, furniture, fittings and articles associated with or connected with such building or other structure;
- a group of buildings or other structures which may include equipment, furniture, fittings and articles associated with or connected with such group of buildings or other structures;
- an open space, including a public square, street or park; and
- in relation to the management of a place, includes the immediate surroundings of a place;

“Site” means any area of land, including land covered by water, and including any structures or objects thereon;

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

Appendix B

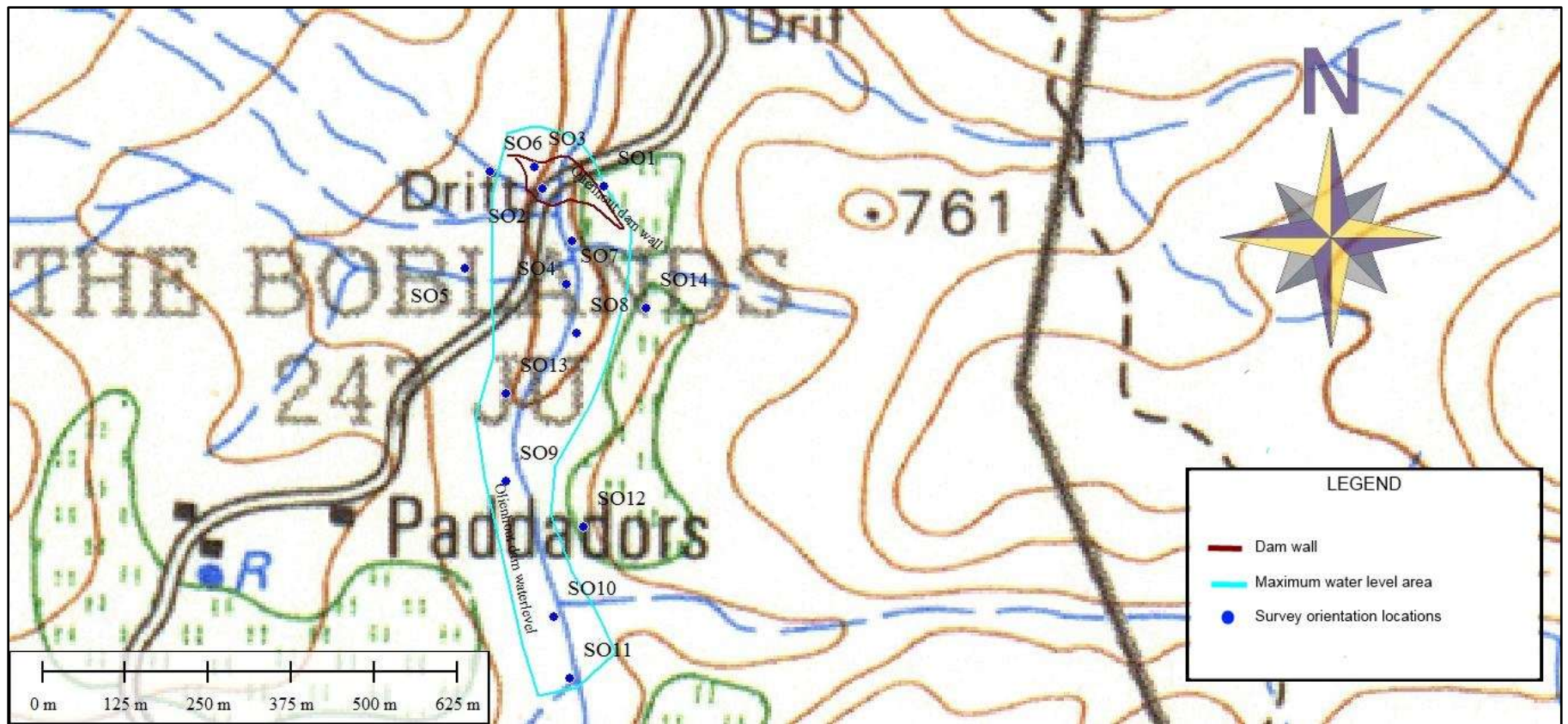
List of sites

No sites of heritage or archaeological significance were recorded. A total of fourteen survey orientation sites were recorded. The sites were named SO 1-14.

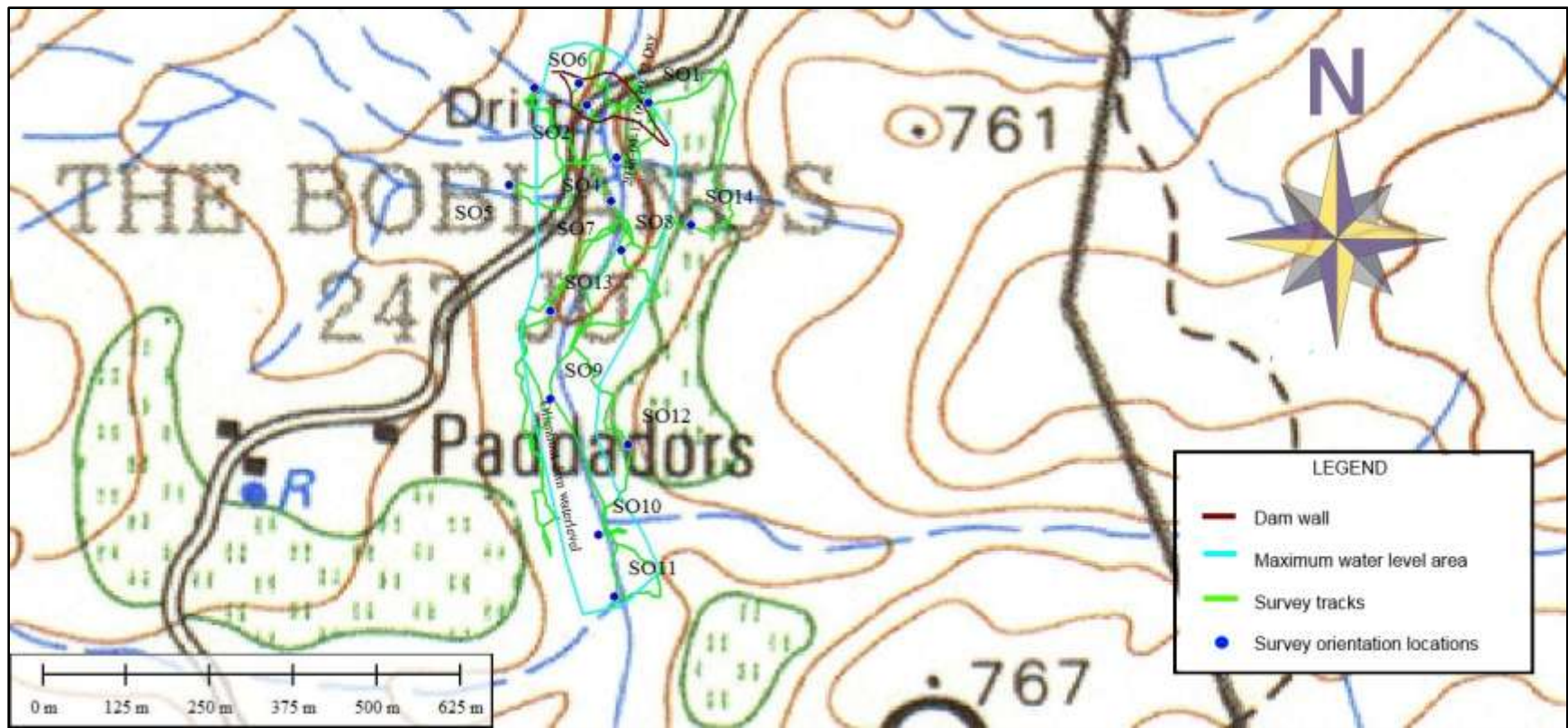
Table A. Survey Orientation Locations.

Site Name	Date of compilation	GPS Coordinates		Photo figure No.
SO 1	16/04/2018	S25°36'26.10"	E031°08'10.40"	1, 2
SO 2	16/04/2018	S25°36'26.21"	E031°08'07.43"	3, 4
SO 3	16/04/2018	S25°36'25.17"	E031°08'07.02"	5, 6
SO 4	16/04/2018	S25°36'28.76"	E031°08'08.85"	7-9
SO 5	16/04/2018	S25°36'30.10"	E031°08'03.63"	10-12
SO 6	16/04/2018	S25°36'25.38"	E031°08'04.86"	13, 14
SO 7	16/04/2018	S25°36'30.88"	E031°08'08.59"	15-18
SO 8	16/04/2018	S25°36'33.24"	E031°08'09.09"	19, 20
SO 9	16/04/2018	S25°36'40.48"	E031°08'05.64"	21, 22
SO 10	16/04/2018	S25°36'47.08"	E031°08'07.95"	23, 24
SO 11	16/04/2018	S25°36'50.11"	E031°08'08.76"	25, 26
SO 12	16/04/2018	S25°36'42.69"	E031°08'09.41"	27-29
SO 13	16/04/2018	S25°36'36.23"	E031°08'05.62"	30-32
SO 14	16/04/2018	S25°36'32.04"	E031°08'12.48"	33, 34

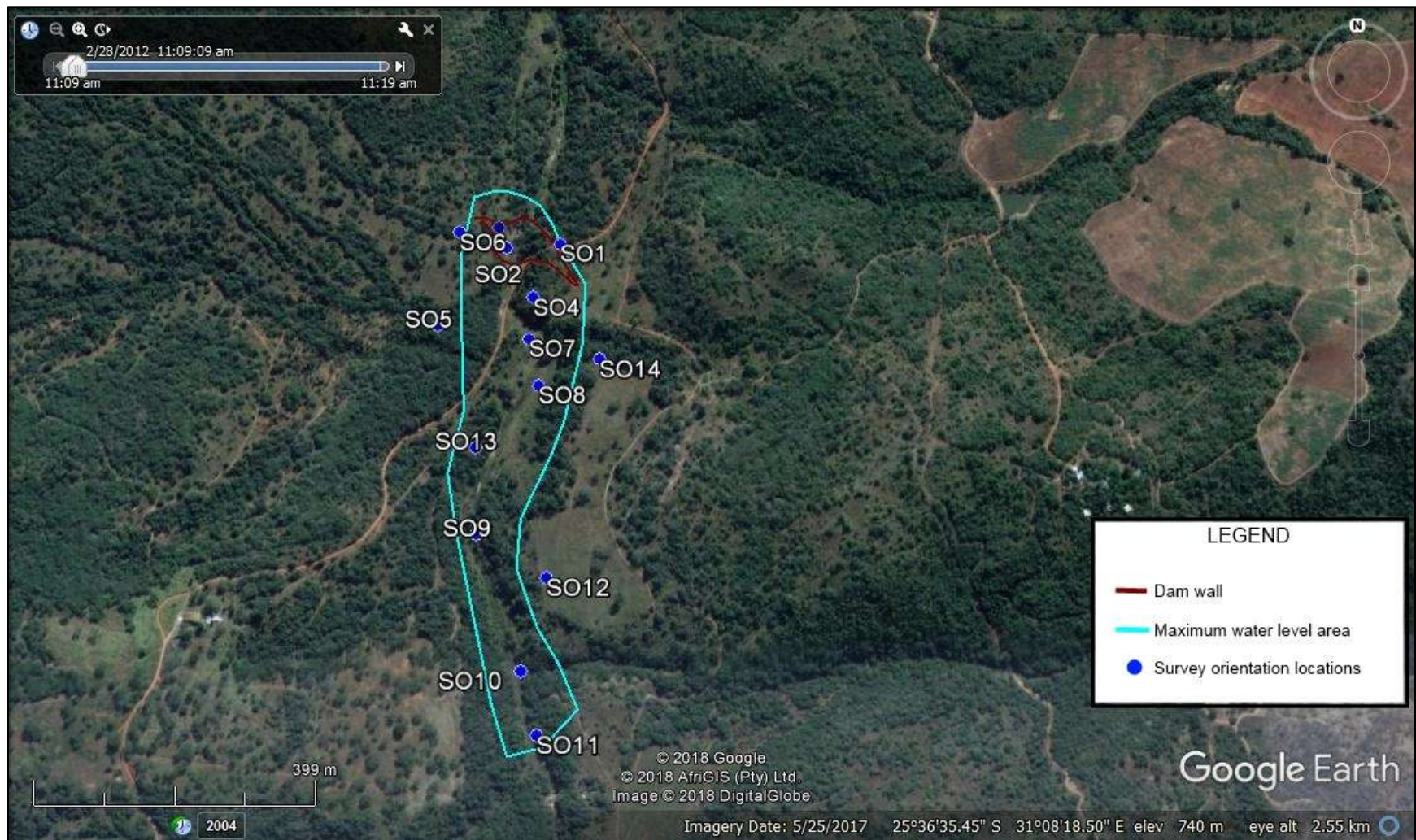
Appendix C



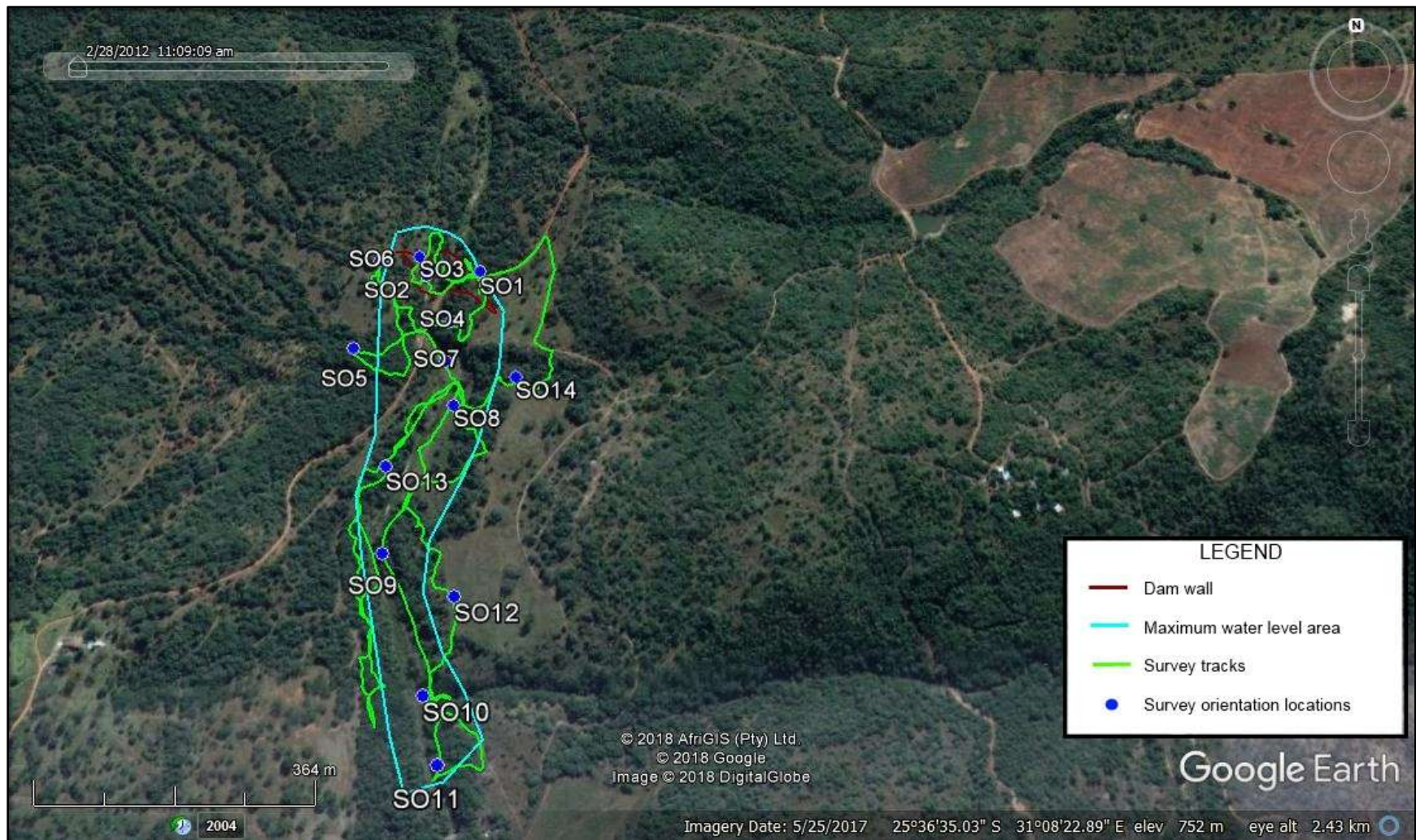
1:50 000 Topographical Map 2531 CA (1988).



1:50 000 Topographical Map 2531 CA (1988).



Aerial view: Google Earth 2018.



Aerial view: Google Earth 2018.

Appendix D

Survey Orientation Photos



Fig. 1. Site SO 1. Photo taken in a north western direction. This is the approximate location of the proposed dam wall.



Fig. 2. Site SO1. Photo taken in a western direction.



Fig. 3. Site SO 2. Photo taken in a northern direction. This is in the Blinkwater Spruit.



Fig. 4. Site SO 2. Photo taken in a southern direction.



Fig. 5. Site SO 3. Photo taken in an eastern direction. The proposed dam wall will be here.



Fig. 6. Site SO 3. Photo taken in a south eastern direction. The proposed dam will be located here.



Fig. 7. Site SO 4. Photo taken in an eastern direction.



Fig. 8. Site SO 4. Photo taken in a southern direction.



Fig. 9. Site SO 4. Photo taken in a western direction.



Fig. 10. Site SO 5. Photo taken in an eastern direction.



Fig. 11. Site SO 5. Photo taken in a southern direction.



Fig. 12. Site SO 5. Photo taken in a western direction.



Fig. 13. Site SO 6. Photo taken in an eastern direction.



Fig. 14. Site SO 6. Photo taken in a western direction.



Fig. 15. Site SO 7. Photo taken in a northern direction.



Fig.16. Site SO 7. Photo taken in a western direction.



Fig. 17. Site SO 7. Photo taken in a southern direction.



Fig. 18. Site SO 7. Photo taken in an south western direction.



Fig. 19. Site SO 8. Photo taken in a northern direction.



Fig. 20. Site SO 8. Photo taken in a south western direction. The proposed dam will lay in this area and further south.



Fig. 21. Site SO 9. Photo taken in a southern direction. This is in the Blinkwater Spruit.



Fig. 22. Site SO 9. Photo taken in a western direction.



Fig. 23. Site SO 10. Photo taken in a northern direction. This is in the Blinkwater Spruit.



Fig. 24. Site SO 10. Photo taken in a southern direction. This is inside the Blinkwater Spruit.



Fig. 25. Site SO 11. Photo taken in a south western direction. In the Blinkwater Spruit.



Fig. 26. Site SO 11. Photo taken in an eastern direction.



Fig. 27. Site SO 12. Photo taken in an eastern direction.



Fig. 28. Site SO 12. Photo taken in a north western direction.



Fig. 29. Site SO 12. Photo taken in a south eastern direction.



Fig. 30. Site SO 13. Photo taken in an eastern direction.



Fig. 31. Site SO 13. Photo taken in a northern direction.



Fig. 32. Site SO 13. Photo taken in a southern direction.



Fig. 33. Site SO 14. Photo taken in an eastern direction.



Fig. 34. Site SO 14. Photo taken in a south eastern direction.