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**Archaeological Scoping Report for the Proposed Gunstfontein Renewable Energy  
Project: Wind and Solar Energy Facilities and The Associated Grid Connection  
Infrastructure, Northern Cape**

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**Prepared for**

**Savannah Environmental (Pty) Ltd**

By



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## EXECUTIVE SUMMARY

**Site name and location:** The Gunstfontein Renewable Energy Project is located approximately 14km south of Sutherland in the Northern Cape. The development includes the following farm portions: the farm Gunstfontein 131, the farm Boschmans Hoek 177 and the remainder of the farm Wolven Hoek 182 and exceeds 12000 ha in extent. Based on the extent of the development area both the wind and solar energy facilities can be appropriately placed within the larger site taking environmental and any other identified constraints into consideration (BID 2013).

**1: 50 000 Topographic Map:** 3220 DA

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### Findings of the Assessment:

The scoping report was compiled using information on the study area derived from CRM work in the immediate vicinity of the study area, archaeological databases, archival sources and maps of the area. Through these sources the study area is contextualised. Although very little systematic archaeological research was conducted in the area apart from the rescue excavations of a LSA deposit in Sutherland (Evans et al 1985) several CRM projects in the area ( Rossouw 2007, Halkett & Webley 2011a-b, Booth 2011 & 2012, Orton & Halkett 2011) provide a baseline of the heritage resources expected for the study area.

Based on this information cultural heritage sites relating to Pre-colonial and Colonial Archaeology sites consisting of Middle Stone Age scatters, LSA sites containing ceramics, shelters with rock art, structures older than 60 years with middens, stone built kraals and graves are expected in the study area. Based on the available information no red flags are expected for the location of the proposed renewable energy project, power line alternatives and proposed substation. It is however recommended that an Archaeological Impact Assessment should be conducted for each project component to determine and confirm areas of heritage significance.

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- The results of the project;
- The technology described in any report

Recommendations delivered to the Client.

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## ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

*\*Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

## GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts

## **1. INTRODUCTION**

Heritage Contracts and Archaeological Consulting CC was contracted by Savannah (Pty) Ltd to conduct a Heritage Scoping Report for the proposed Gunstfontein Renewable Energy Project, a development comprising of separate Wind and Solar energy facility components.

The heritage scoping report forms part of the scoping phase of the EIA for the proposed project. The aim of the scoping report is to conduct a desktop study to identify possible heritage resources within the project area and to assess their importance within a Local, Provincial and National context. The study furthermore aims to assess the impact of the proposed project on non - renewable heritage resources and to submit appropriate recommendations with regards to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the Scoping phase of the project. The report includes information collected from various sources. Possible impacts are identified and mitigation measures are proposed in the report. It is important to note that no field work was conducted as part of the scoping phase but will be conducted as part of the Impact Assessment phase of the EIA.

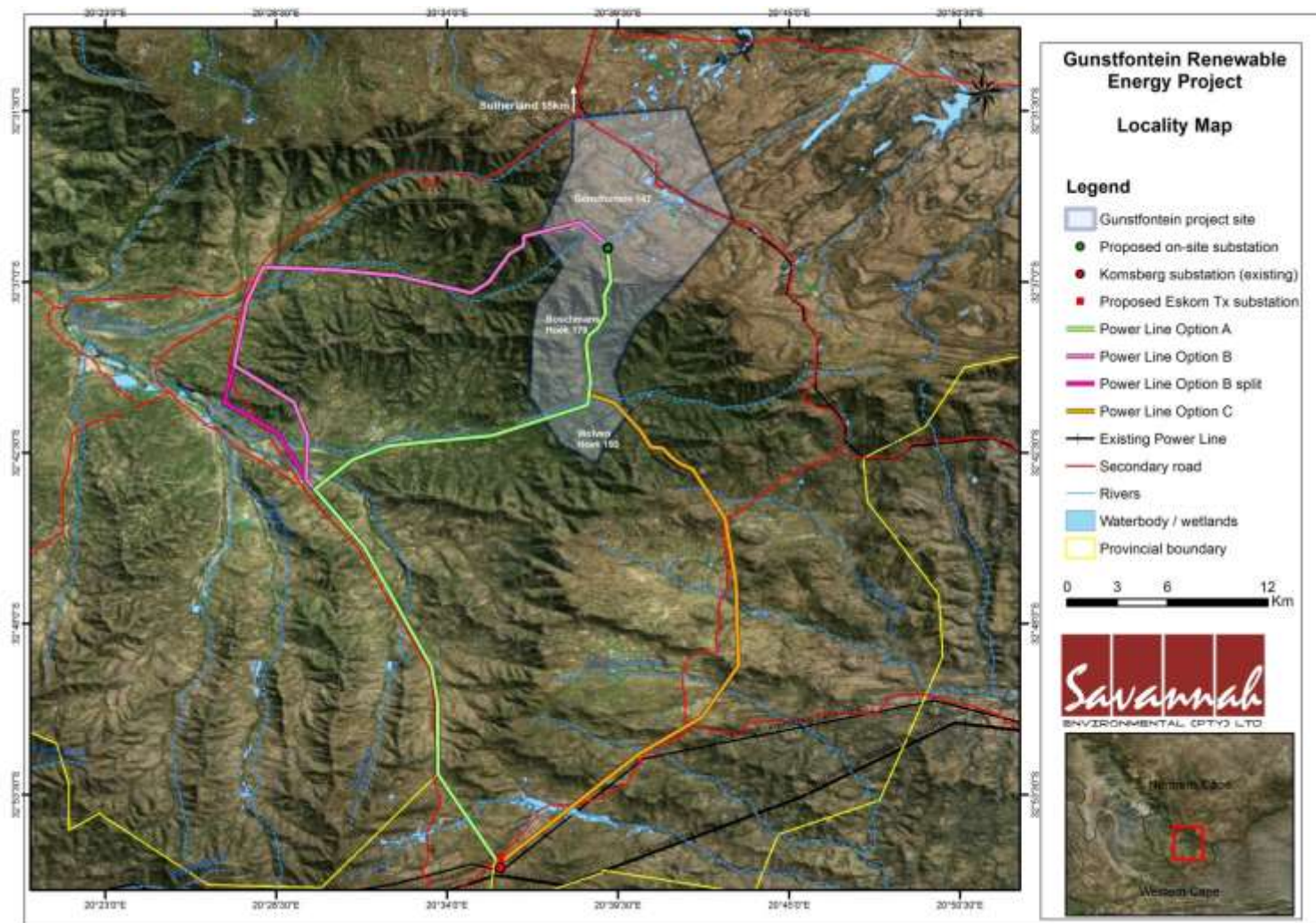


Figure 1: Locality Map provided by Savannah

## **1.2 Terms of Reference**

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present a fatal flaw to the proposed project. The objectives of the scoping report were to:

- » Conduct a desktop study:
  - \* Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
  - \* Gather data and compile a background history of the area;
  - \* Identify known and recorded archaeological and cultural sites;
  - \* Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
- » Report

The reporting of the scoping component is based on the results and findings of the desk-top study, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation through the IA Phase highlighted. Reporting will aim to identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 development stages of the project, i.e. construction, operation and decommissioning. Reporting will also consider alternatives should any significant sites be impacted on by the proposed project. This is done to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

## **1.3 Nature of the development**

### ***1.3.1. The proposed Gunstfontein Wind Energy Facility***

The facility will comprise of up to 100 turbines with a generating capacity of up to 3.5MW each, with a hub height of up to 120m and a rotor diameter of up to 130m. The wind energy facility would have a capacity of up to 280MW and is to be developed in two phases. Infrastructure associated with the wind energy facility is proposed to include:

- » Wind turbines up to 3.5MW in capacity;
- » Concrete foundations to support the turbines;
- » Cabling between the turbines, to be laid underground where practical, will connect to an on-site substation;
- » An on-site substation to facilitate the connection between the wind energy facility and the electricity grid, including a building for control and storage;
- » Internal access roads to each turbine linking the wind turbines and other infrastructure on the site;

### ***1.3.2. The proposed Gunstfontein Solar Facility***

The PV facility is proposed to have a total generating capacity of up to 150MW and is to be developed in two phases. Infrastructure associated with the solar energy facility is proposed to include:

- » Photovoltaic (PV) panels on a mounting structure, with a capacity of up to 150MW and respective inverter stations;
- » A new on-site substation to facilitate the connection between the solar energy facility and the electricity grid, including a building for control and storage;
- » Cabling between the above mentioned infrastructures, to be laid underground where practical;
- » Internal access roads and fencing;

### ***1.3.3. The proposed power line for grid connection***

Three alternative corridors are being investigated for the construction of a 132kV power line to connect to Eskom's national grid:

- » Option A is 49 km in length and runs through from Farm Gunstfontein 131, Boschmans Hoek 177, Zwanepoelshoek 184, Leeuwe Koek 183, Brand Hoek 176, Wagen Drift 175, Lange Huis 174, Roode Wal 187, Karreebosch 200, Appels Fontein 201, and Standvastigheid 210 where it would connect to the proposed substation adjacent to the existing Eskom Komsberg Capacitor Substation.
- » Option B is 60 km in length and runs through Farm Gunstfontein 131, De Kruis 153, Knoofloks Hoek 154, Klip Drift 156, Kraai Rivier 173, Alkant 220, and Lange Huis 174, Roode Wal 187, Karreebosch 200, Appels Fontein 201, and Standvastigheid 210 where it would connect to the proposed substation adjacent to the existing Eskom Komsberg Capacitor Substation.
- » Option C is 45 km in length and runs through Farm Gunstfontein 131, Farm Boschmans Hoek 177, Wolven Hoek 182, Annex Drie Roode Heuvels 181, Drie Roode Heuvels 180, Orange Fontein 203, Kentucky 206, Wolvenkop 207, Rheeboke Fontein 209 and Standvastigheid 210 where it would connect to the proposed substation adjacent to the existing Eskom Komsberg Capacitor Substation.

A corridor of up to 300m in width will be considered for each power line alternative. The most environmentally and technically feasible alternative for connection will be identified through the EIA process (BID 2013).

### ***1.3.4. The proposed new substation yard in the vicinity of the existing Komsberg Capacitor Substation***

The connection point proposed for the Gunstfontein Renewable Energy Project is a new 400/132kV substation adjacent to the Komsberg Capacitor Substation. The 400/132kV substation would be constructed and operated by Eskom Holdings SOC Limited (the applicant for this application) (BID 2013).

#### **1.4 The receiving environment**

The Gunstfontein Renewable Energy Project is located approximately 14km south of Sutherland in the Northern Cape. The project area comprises the following farm portions and exceeds 12000 ha in extent: the farm Gunstfontein 131, the farm Boschmans Hoek 177 and the remainder of the farm Wolven Hoek 182. The study area falls within a semi-arid region with rainfall mainly in the form of summer thunderstorms.

The topography of the area is undulating and includes low lying areas, ridges and mountains as well as koppies where some farms forming part of the study area are located on the plateaux and other on the plains below. The area is sparsely populated being limited to a number of farms with farmsteads in low lying areas close to water sources as indicated on the 1: 50 000 map of the area. The road between Matjiesfontein and Sutherland (R356) is located on the western side of the project area with a gravel road traversing the northern portion of the study area roughly East to West. Several streams and pans are found in the study area with associated farming infrastructure (Figure 9 - 11).

The study area falls mostly within the Karoo Renosterveld Bioregion as described by Mucina *et al* (2006) with the vegetation described as Roggeveld Shale Renosterveld. Land use in the general area is characterized by sheep farming.





Figure 2: Google earth image showing ridges, mountains and low lying areas within the study area.

## **2. APPROACH AND METHODOLOGY**

The assessment is to be undertaken in two phases, a desktop study as part of the Scoping phase and an Archaeological Impact Assessment as part of the Environmental Impact Assessment phase. This report concerns the scoping phase. The aim of the scoping phase is to cover archaeological and cultural heritage data available to compile a background history of the study area. The background study is done in order to identify possible heritage issues or fatal flaws that should be avoided during development.

This was accomplished by means of the following phases (the results are represented in section 4 & 5 of this report):

### **2.1 Literature search**

Utilising data for information gathering stored in the archaeological database at Wits University, National Archives and published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

### **2.2 Information collection**

The SAHRA report mapping project (Version 1.0) was consulted to further collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible. The South African Heritage Information System was also used to collect information.

### **2.3 Public consultation**

As part of the EIA process public participation was conducted and no heritage concerns were submitted.

### **2.4 Google Earth and mapping survey**

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located.

### **2.5 Genealogical Society of South Africa**

The database of the genealogical society was consulted to collect data on any known graves in the area.



### 3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

- a. Archaeological artefacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The national estate that includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 (1) of the act deals with structures which are older than 60 years. Section 35(4) of the act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

### 3.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage 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;
- » Potential to answer present research questions.

The criteria above will be used to place identified sites within SAHRA's (2006) system of grading of places and objects which form part of the national estate. This system is approved by ASAPA for the SADC region.

<b>FIELD RATING</b>	<b>GRADE</b>	<b>SIGNIFICANCE</b>	<b>RECOMMENDED MITIGATION</b>
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

## 4. REGIONAL OVERVIEW

### 4.1 Brief Archaeological Background

Due to time constraints the database at the McGregor Museum could not be accessed however through CRM reports on the area together with secondary source material, primary sources, maps and online sources the study is contextualised. Although very little systematic archaeological research was conducted in the area apart from the rescue excavations of a LSA deposit in Sutherland (Evans et al 1985) several CRM projects in the area ( Rossouw 2007, Halkett & Webley 2011, Booth 2011 & 2012, Orton & Halkett 2011 and Hart & Webley 2011) provide a baseline of the heritage resources expected for the study area. Several other studies are currently conducted as part of mineral right applications and wind farms but these studies are not in the public domain at the time of this report. From these studies it is clear that the study area is characterised by Pre-colonial and Colonial Archaeology sites consisting of Middle Stone Age scatters, LSA sites containing ceramics, shelters with rock art, structures older than 60 years with middens, stone build kraals and graves.

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. The table below was compiled by Lombard (2011) and provides a brief overview of the Stone Age phases and sub-phases/industrial complexes of South Africa, based on our current knowledge. The information is aimed at assisting the identification of Stone Age occurrences in the field by providing the main associated characteristics, and it provides the broadly associated age estimates.

<b>Cultural sequence</b>	<b>~ Associated ages</b>	<b>Associated characteristics</b>
<b>Later Stone Age;</b> associated with Khoi and San societies and their immediate predecessors		
See sub-phases below for more detailed chronology	Recently to ~30 thousand years ago	<p>Include stone tools mostly &lt; 25 mm, bored stones, grinding stones, grooved stones, ostrich eggshell beads, bone tools sometimes with decoration, decorated ostrich eggshell flasks and fishing equipment</p> <p>These are the general characteristics for the Later Stone Age. In the sub-divisions below I highlight differences or characteristics that may be used to refine interpretations depending on context.</p>
<b>Broad overview of Later Stone Age sub-phases/industrial complexes</b>		
Hunters-with-livestock/herders  (e.g. Mitchell 2002; Lombard & Parsons	Mostly less than 2 thousand years ago	Regular occurrence of blades and bladelets, but formal stone tools are rare, backed pieces mostly absent, grindstones are common, stone bowls and boat-shaped grinding grooves may occur

2008; Sadr 2008)		<p>Sheep, goat, cattle and dog bones along with wild species</p> <p>Pottery is mostly well-fired, thin-walled, sometimes with lugs, spouts and coned bases, sometimes with comb-stamping</p>
<p>Post-Wilton</p> <p>(includes some Smithfield phases)</p> <p>(e.g. Deacon &amp; Deacon 1999; Lombard &amp; Parsons 2008)</p>	~1 hundred -3 thousand years ago	<p>Mostly macrolithic ( stone tools &gt; 20 mm) and informal sometimes with blades and bladelets</p> <p>Characterised by large untrimmed flakes</p> <p>At some sites there are also small backed tools, scrapers and adzes</p> <p>Sometimes includes thick-walled, grass-tempered potsherds</p>
<p>Wilton</p> <p>(includes some Smithfield phases)</p> <p>(e.g. Deacon &amp; Deacon 1999; Wadley 2007)</p>	~4-8 thousand years ago	<p>Microlithic (stone tools &lt; 20 mm)</p> <p>High incidence of backed bladelets and geometric shapes such as segments</p> <p>Include borers, small scrapers, double scrapers, polished bone tools</p>
<p>Oakhurst</p> <p>(includes Albany and Lockshoek)</p> <p>(e.g. Deacon &amp; Deacon 1999; Wadley 2007)</p>	~8-12 thousand years ago	<p>Characterised by round, end and D-shaped scrapers, adzes and a wide range of polished bone tools</p> <p>Few or no microliths</p>
<p>Robberg</p> <p>(Deacon &amp; Deacon 1999; Wadley 2007)</p>	~12-22 thousand years ago	<p>Characterised by few backed tools, few scrapers, significant numbers of unretouched bladelets</p>
Early Later Stone Age	~30-40 thousand years ago	<p>Described at some sites, but as yet unclear whether this represents a real archaeological phase or a mixture of LSA/MSA artefacts</p>
<b>Middle Stone Age;</b> associated with <i>Homo sapiens</i> and archaic modern humans		
See sub-phases below for more detailed chronology	~30-300 thousand years ago	<p>Mostly based on prepared core techniques, and the production of triangular flakes with convergent dorsal scars and faceted striking platforms</p> <p>Most pieces are in the region of 40-100 mm</p> <p>Often includes the deliberate manufacture of parallel-sided blades and flake-blades</p>

		<p>Sometimes produced using the Levallois technique</p> <p>Occasionally includes marine shell beads, bone points, engraved ochre nodules and engraved ostrich eggshell fragments</p> <p>These are the general characteristics for the Middle Stone Age. In the sub-divisions below I highlight differences or characteristics that may be used to refine interpretations depending on context</p>
<b>Broad overview of Middle Stone Age sub-phases/industrial complexes</b>		
Final Middle Stone Age (informal designation partly based on the Sibudu sequence) (Jacobs et al. 2008; Wadley, 2005, 2010)	~30-40 thousand years ago	<p>Could include bifacially retouched, hollow-based points</p> <p>Small bifacial and unifacial points</p> <p>Could include backed geometric shapes such as segments, as well as side scrapers</p>
Late Middle Stone Age (informal designation partly based on the Sibudu sequence) (Jacobs et al. 2008; Wadley 2010)	~45-50 thousand years ago	<p>Most formal retouch aimed at producing unifacial points</p> <p>Sometimes includes bifacially retouched points</p>
Post-Howieson's Poort (also referred to as MSA III at Klasies River or MSA 3 generally) (e.g. Soriano et al. 2007; Jacobs et al. 2008:734)	~47-58 thousand years ago	<p>Most points are produced using Levallois technique, and many are unifacially retouched</p> <p>Some side scrapers are present</p> <p>Backed pieces are rare</p>
Howieson's Poort Industry (e.g. Jacobs et al. 2008:734)	~58-66 thousand years ago	<p>Characterized by blade technology and the presence of small (&lt; 4 cm) backed tools (made on blades), including segments, trapezes and backed blades.</p>
Still Bay Industry (e.g. Jacobs et al. 2008; Lombard et al. 2010; Henshilwood & Dubreuil 2011)	~70-77 thousand years ago	<p>Characterised by thin (&lt; 10 mm), bifacially worked foliate or lanceolate points with either a semicircular or wide-angled pointed butt</p> <p>Could include finely serrated points</p>
Mossel Bay Industry (also referred to as MSA II at Klasies River or MSA 2b generally) (e.g. Wurz 2010, in press)	~85-105 thousand years ago	<p>Characterised by a unipolar Levallois-type point reduction</p> <p>Products have straight profiles, percussion bulbs are prominent and often splintered or ring-cracked</p> <p>Formal retouch is infrequent, restricted to sharpening the</p>

		tip or shaping the butt
Klasies River sub-stage (also referred to as MSA I at Klasies river or MSA 2a generally) (e.g. Wurz 2010, in press)	~105-115 thousand years ago	Mostly large blades, pointed flakes are elongated and thin, often with curved profiles  Platforms are often diffuse and lack clear percussion marks  Low frequencies of retouch, few denticulated pieces
MSA 1  (tentative, informal designation) (Volman 1984; Thompson et al. 2010)	Suggested age OIS 6 (~130-195 thousand years ago)	Platforms are mostly plain  Very little formal retouch  Flakes are mostly short and broad, few have denticulate retouch  Rare scraper retouch
Sangoan  Sometimes observed between MSA and ESA deposits, some researcher place this phase under the Middle Stone Age, others under the Earlier Stone Age, the designation is thus not yet clear  (e.g. Kuman et al. 2005)	> 200 thousand years ago, but few sites in southern Africa have been dated	Contains small bifaces (< 100 mm), picks, heavy- and light-duty denticulated and notched scrapers
<b>Earlier Stone Age;</b> associated with early <i>Homo</i> groups such as <i>Homo habilis</i> and <i>Homo erectus</i>		
Fauresmith  (e.g. Porat et al. 2010)	~400-600 thousand years ago	Generally includes small handaxes, long blades and convergent/pointed pieces
Acheulean  (e.g. Kuman 2007; Mitchell 2002)	~300 thousand-1.5 million years ago	Bifacially worked handaxes and cleavers, large flakes > 10 cm  Some flakes with deliberate retouch, sometimes classified as scrapers  Give impression of being deliberately shaped, but could indicate result of knapping strategy  Sometimes shows core preparation  Mostly found in disturbed open-air locations
Oldowan	~1.5 -> 2	Cobble, core or flake tools with little retouch and no

(e.g. Kuman 2007; d'Errico & Backwell 2009; Mitchell 2002)	million years ago	flaking to predetermined patterns  Hammerstones, manuports, cores  Polished bone fragments/tools
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Table 1: Outline of the Stone Age cultural sequence of South Africa. The information presented here provides a basic, simplified interpretation for the Stone Age sequence. Details may vary from region to region and from site to site. Most of the criteria such as dating, transitional phases, technological phenomena and recursions are currently being researched, so that the information cannot be considered static or final (Lombard 2011).

Hart *et al* (2010) and Halkett & Webley (2011) recorded artefact scatters dating to all three main phases in the vicinity of the general study area. They recorded discrete scatters of Middle Stone Age artefacts in a variety of locations but these sites were marginal and lacked stratification or the presence of associated organic material and are not considered to be of high significance by them. A few LSA sites containing ceramics and occasional formal stone microliths were also recorded, occurring in the lee of ridges and near water sources. Some of these have been accorded high significance by them. Hart noted that open sites are extremely sparse on the upper plateau with only one MSA site recorded that is associated with a dry pan.

Furthermore they identified a number of colonial household dumps/refuse heaps that are considered to be of high significance by Hart *et al* 2010 with numerous stone built ruins, kraals and other stone features relating to late 19th and early 20th use of the land. These were ascribed as having medium-high significance.

## 5. HISTORICAL BACKGROUND

The following report will endeavour to give an account of the history of these farms and also a brief overview of the history of the area and district in which the farms are located. The report has been divided into several sections that will focus on the following aspects:

- General history of human settlement in the area
- The history of black and white interaction in the farm area
- The development of the farms under investigation

### 5.1. Historiography And Methodology

It was necessary to use a range of sources in order to give an accurate account of the history of the area in which the farms Gunstfontein 131, Boschmanshoek 177 and Wolvenhoek 182 are located. Sources included secondary source material, maps and archival documents. Unfortunately little information could be found at the National Archives regarding the history of the specific farms, though it was possible to write a more general history of the area. The information that could be found in online and archival sources and maps were however pieced together to write a short history on each of the properties.

Owing to the constraints in time and resources, this study should be viewed as an introduction to the history of the Sutherland area and the specific farms under investigation. Unfortunately, due to the limited time in which the report was written, not all of the sources that were found could be incorporated into the report. The following are relevant sources that can be consulted in the future, if a more thorough investigation is done on the history of the farm area:

- A. Mountain. 2003. *The first people of the Cape*. Claremont: David Philip Publishers.
- E. A. Anderson. 1987. *A history of the Xhosa of the Northern Cape, 1795-1879*. MA Thesis. Cape Town: University of Cape Town.



## 5.2. Maps Of The Area Under Investigation



Figure 3: Google Earth image showing the farm area under investigation (green border) in relation to the town of Sutherland. The closest farm forming part of the study is located some 15 kilometres from Sutherland. (Google Earth 2005)



Figure 4: Map of the Cape Colony by December 1901. This map was compiled from information supplied by the Attorney General's Department at the time. The lighter areas, including the Sutherland district, were occupied at this stage of the Anglo-Boer War. (National Archives of South Africa SAB, Maps: 3/1044)



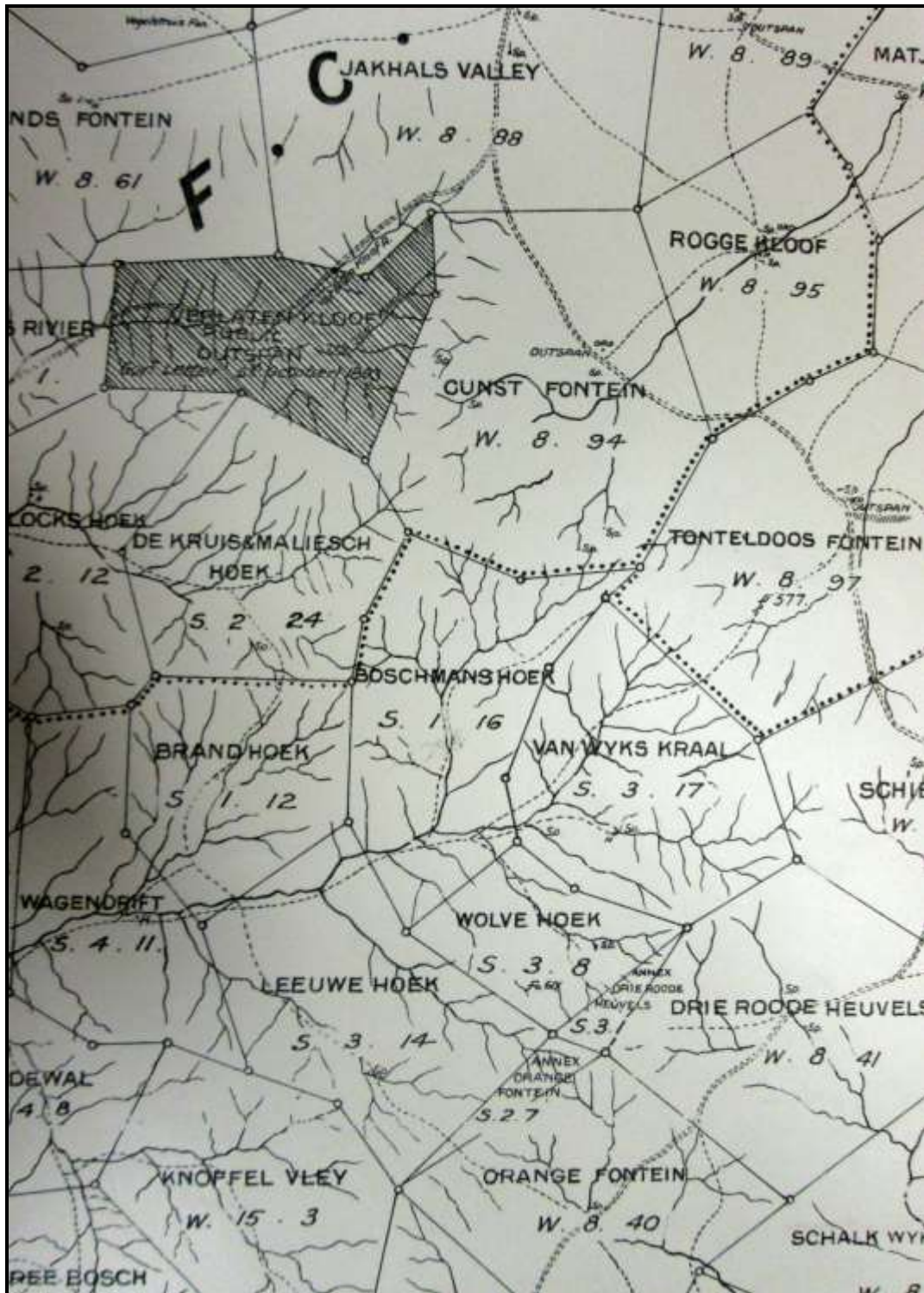


Figure 5: 1900 Map of the Sutherland district, showing the location of Gunstfontein, Boschmanshoek and Wolve Hoek (also known as Wolvenhoek). One can see that there was an outspan next to what seems to be a road on Gunstfontein. Apart from some farm roads, no developments can be seen on the farms Boschmanshoek or Wolve Hoek. (NASA SAB, Maps: 1/218)

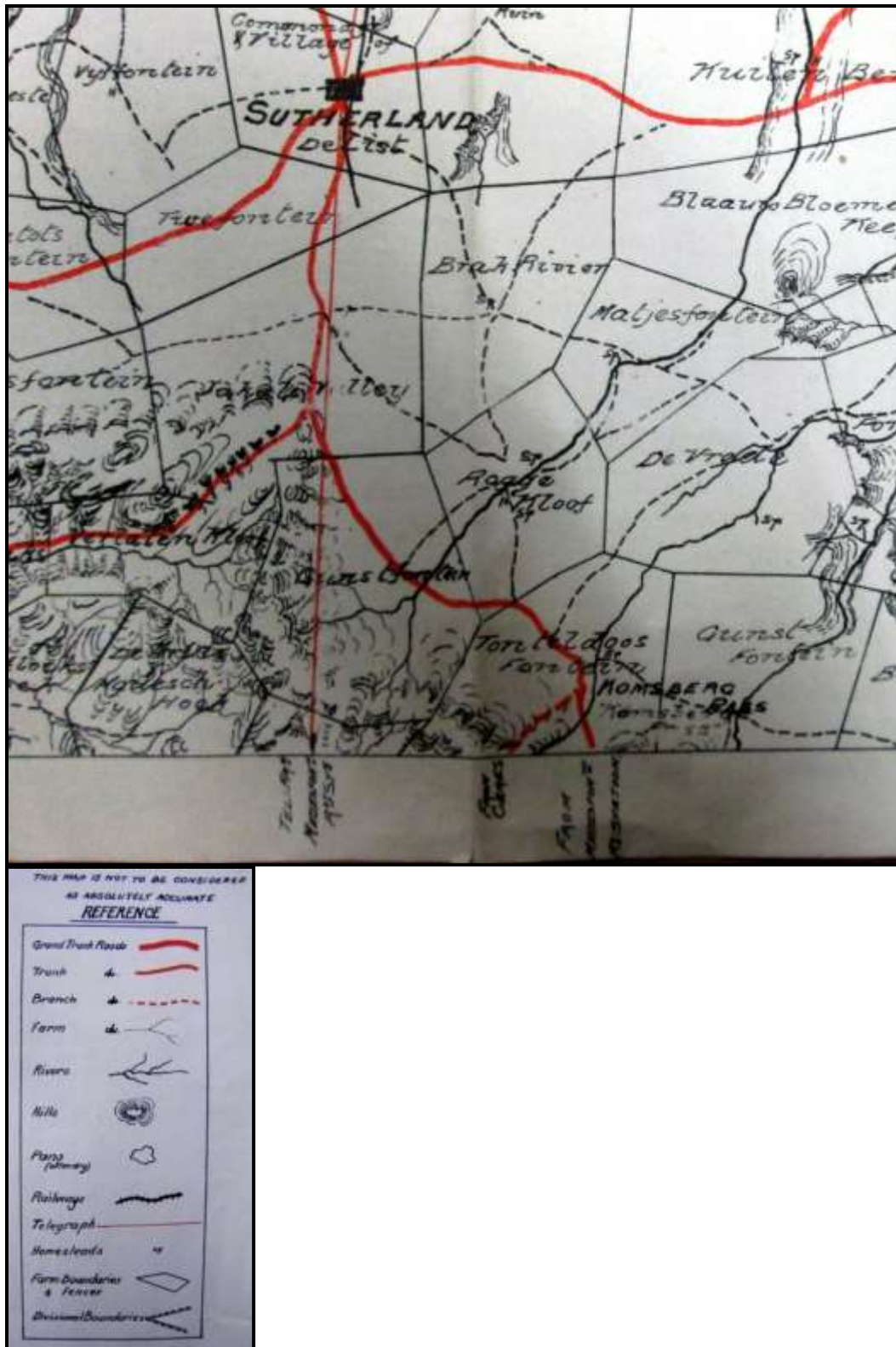


Figure 6: 1900 Map of the Sutherland district. Gunstfontein is located directly to the south of the town of Sutherland. (To the west of the farm Tonteldoos) One can see that a river flows through Gunstfontein. There are several hills in the southern and western parts of the farm. (NASA SAB, Maps: 3/2456)



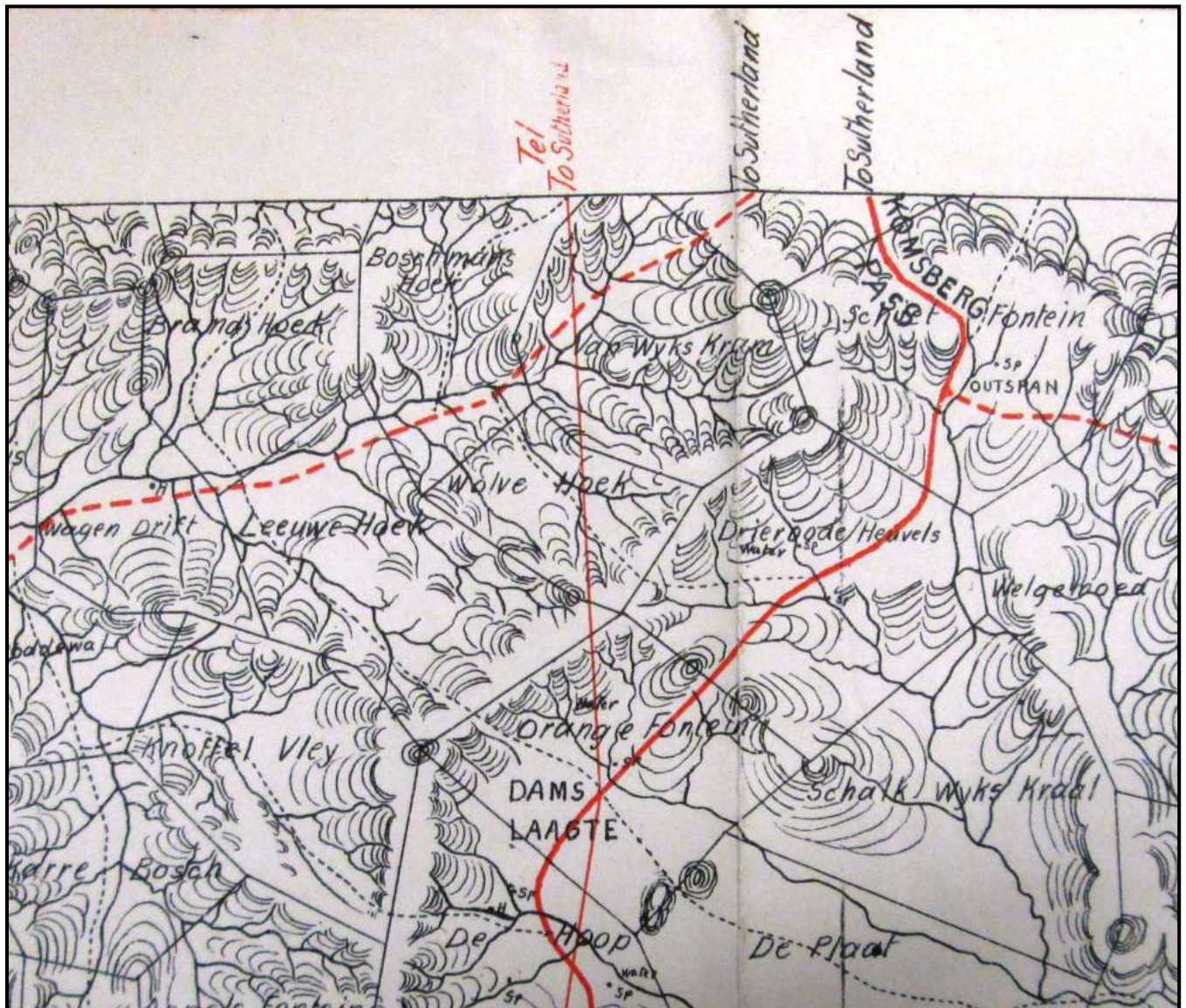


Figure 7: 1901 Map of the Laingsburg district. This is the map located directly below the Sutherland district map. Near the northern border one can see Boschmanshoek, and to the south thereof the farm Wolf Hoek (also known as Wolvenhoek). There are several hills on both farms. A river flows through Boschmanshoek. Two branches of the same river also flow through Wolf Hoek. (NASA SAB, Maps: 3/534)



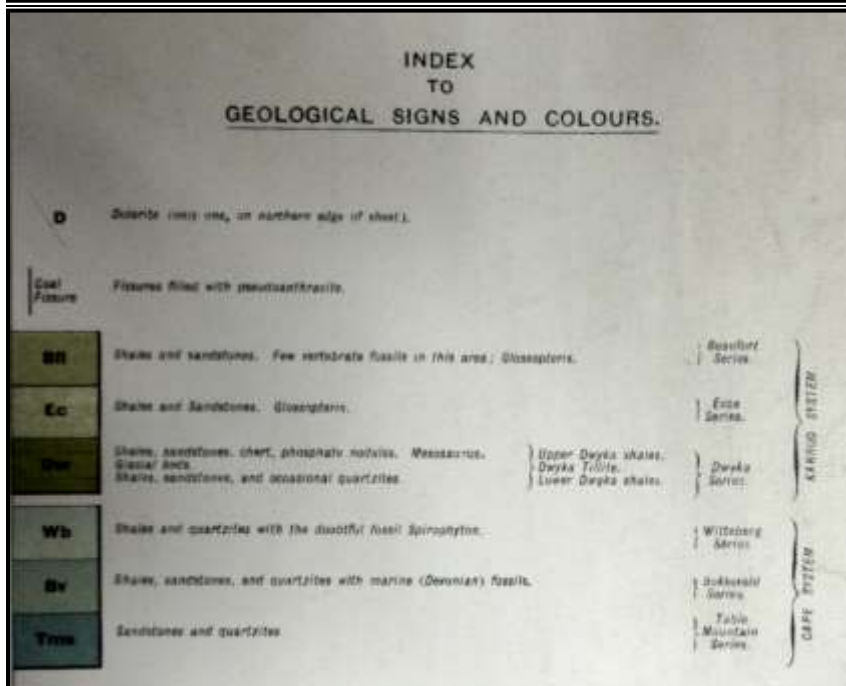
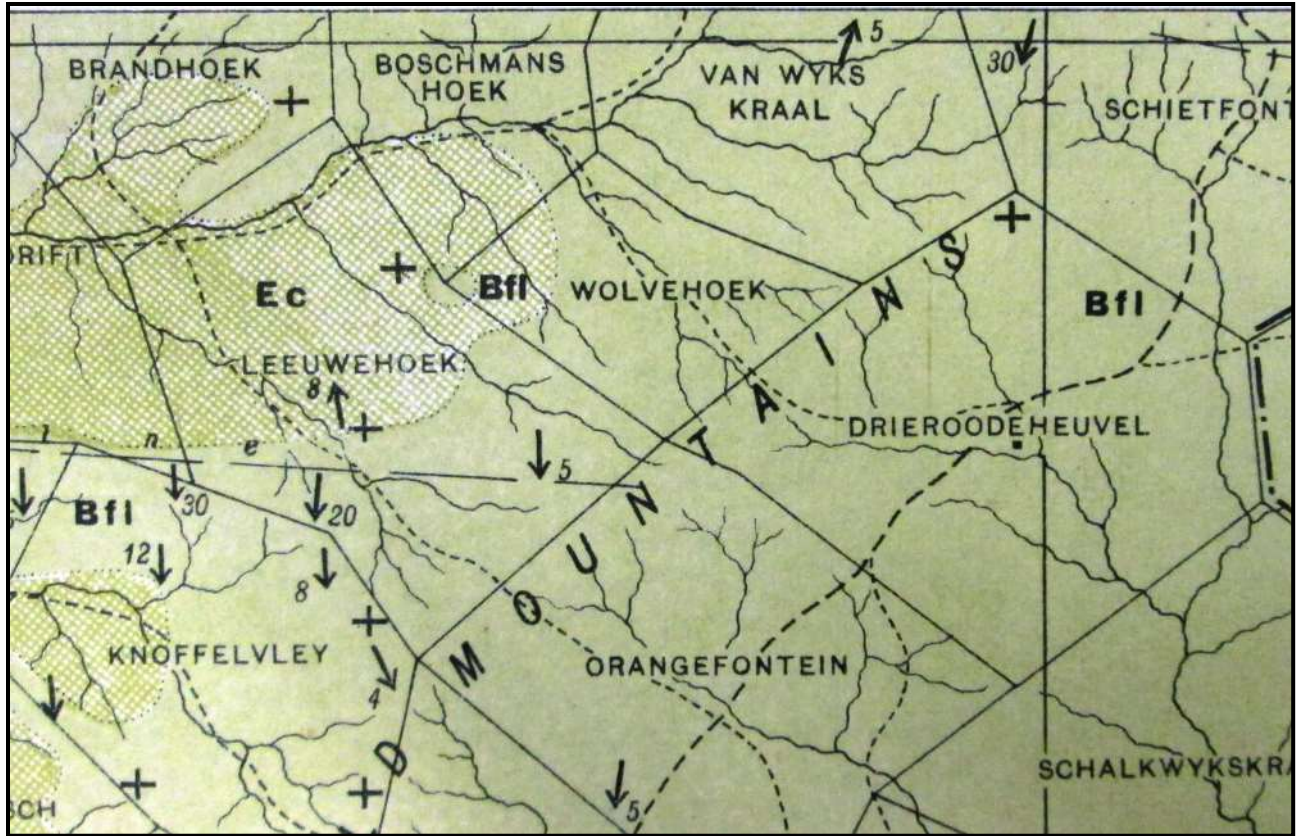


Figure 8: A 1915 geological map of the farms Boschmanshoek and Wolvehoek (today known as Wolvenhoek). One can see that the largest sections of these two properties are underlain by shales and sandstone of the Beaufort Series. It is also noted that few vertebrate fossils had been found in the area at the time. A southern section of Boschmanshoek and a western part of Wolvehoek are also underlain by shales and sandstone, but forms part of the Eccca Series. These series in turn are classified under the Karroo System. (NASA SAB, *Maps*: 3/829)

### 5.3. A Brief History Of Human Settlement And Black And White Interaction In The Sutherland Area

In order to form an understanding of an area, it is helpful to know something about the physical nature of the landscape. The Sutherland area is located in the Southern Karoo, in the low-lying southeastern section with an average height of 700 meters above sea level. This area connects with the Nuweveld and Roggeveld Mountains to the north and west. A high plateau of 1400 meters above sea level is located to the northeast of Sutherland. Some of the mountain peaks of the Nuweveld and Roggeveld Mountain ranges are up to 19 000 meters high. (Theron 1983: 3)

Due to the geological nature of the Sutherland area, some early geologists, like E. J. Dunn and A. H. Green, suspected that coal could be found in the region. Two boreholes were dug in 1886 and 1887 respectively near the Kruidfontein Station at Sutherland, but nothing was found. Prospectors also dug for oil; three boreholes were constructed between 1939 and 1970. These endeavors were however equally unsuccessful.

During the excavation for oil it was however discovered that uranium deposits were present in the area. These deposits were spread over a large area, but rewarding concentrations of uranium were in most cases only found in isolated patches. (Theron 1983: 23-24)

Long before black or white people set foot in the cape, the area was already inhabited. Evidence has been found that the predecessors of today's Khoi-San Bushmen lived in the area thousands of years ago. According to the source of Hocking, the Khoikhoi, nomadic cattle herders, had their forbears in East Africa and lived in the Northern Cape for at least 3000 years and dominated the region until the eighteenth century when the Tswana tribe arrived in the north of the province from the west. (Hocking 1983: 2)

It was in the early nineteenth century that the Griqua frontiersmen of the old Cape Colony crossed the Orange River from the south. The Griquas were half white and half Khoikhoi. These people dressed like Europeans and lived aboard wagons, much like the *Trekboere* who migrated northward from the Cape Colony. (Hocking 1983: 2)

The *Trekboer* movement had already begun by the end of the seventeenth century, as the quest for land, grazing and hunting inspired farmers to move into the central spaces of South Africa. These people were semi-nomadic, moving from fountain to fountain by ox wagon, without any desire to build a house or improve the land in which they were living. For more than a generation before the Great Trek, the first migration led to settlement across the Orange River. Trekboer families were however discouraged by the scarcity of surface water in the Northern Cape, and therefore advancement into the area was slow. The first Europeans to settle in the Northern Cape were missionaries, but there was a larger influx of white men into the province during the 1860s and 1870s when diamonds were discovered in Griqualand. (Wagenaar 1984: 122, 128; Hocking 1983: 2)

When Willem Adriaan van der Stel issued grazing licences to stock farmers and lifted the ban on the bartering of cattle in the early eighteenth century, this opened up a new world of possibilities for white farmers. A new attitude was acquired among the stock farmers; he was able to occupy greater areas of land, and would need more land to obtain farms for his children. (Wagenaar 1984: 122, 125)

By the late 1820's, 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 extent of that proportion of modern South Africa dominated by people of European descent. (Ross 2002: 39) As can be expected, the movement of whites into the northern provinces would have a significant impact on the black people who populated the land. By 1860, the population of whites 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. (Geschiedenisatlas van Suid-Afrika 1999: 170)

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 publicized, 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)

Little evidence could be found on the impact of the Anglo-Boer War in the Sutherland area. One can however visit Anglo-Boer War cemeteries near the town. The graveyards in this area are unique, as the gravestones were etched using handmade sandstone tools. Interestingly, in the English graveyard one soldier is named on two gravestones. This soldier received a communal burial after drowning in a flash flood and a military cross was awarded later by the British government which was placed in the same graveyard. A Jewish graveyard is the resting place of some of Sutherland's business owners. These gravesites are also registered on the database of the eGGSA Library, and information on these graves can be accessed on their site. (SA-Venues N/d; eGGSA Library 2008)

Sutherland originated on the farm De List as a centre for the wool producing district of the Roggeveld and was named after Rev. Henry Sutherland, who came to the Roggeveld annually from Worcester for church services. In 1855 it was decided to establish congregations in Sutherland and in 1858, 30 of the 50 available plots were sold. (Open Africa N/d)

Due to the low moisture levels and thin air at Sutherland, heat radiation at night is high. The heavy cold air flows down to the lower valley where Sutherland is situated. Sutherland is regarded as the coldest place in South Africa with the lowest temperature recorded at -16.4°C on 12 July 2003. (Open Africa N/d)

#### **5.4. Historical Overview Of The Ownership And Development Of The Farms Under Investigation**

A search on the database of the National Archives of South Africa revealed that almost no sources are available on the history of the three farms under investigation, and those that



are available are kept at the Cape Town Archives. It was however possible in some instances to use clues from the references of files to draw conclusions regarding the history of the properties under investigation. A discussion on each of these farms will now be given. Online sources and maps were also used to create a clearer picture of the past. Topographic map images of each of the properties will also be used in order to draw a clearer picture of what the landscapes look like at the present.

#### **5.4.1. Gunstfontein 131**

It seems that, by 1889, a road had been constructed between the farms Jackalsvallei and Gunstfontein. This road would have been a deviation of the Verlaten Kloof Road. (*KAB, PAS: 4/586 A3*)

There are indications that Gunstfontein was already known by this name in 1891. One G. L. Horn applied to purchase Crown Land adjoining Gunstfontein in the division of Sutherland in 1891. (*KAB, LND: 1/627 L6145*)

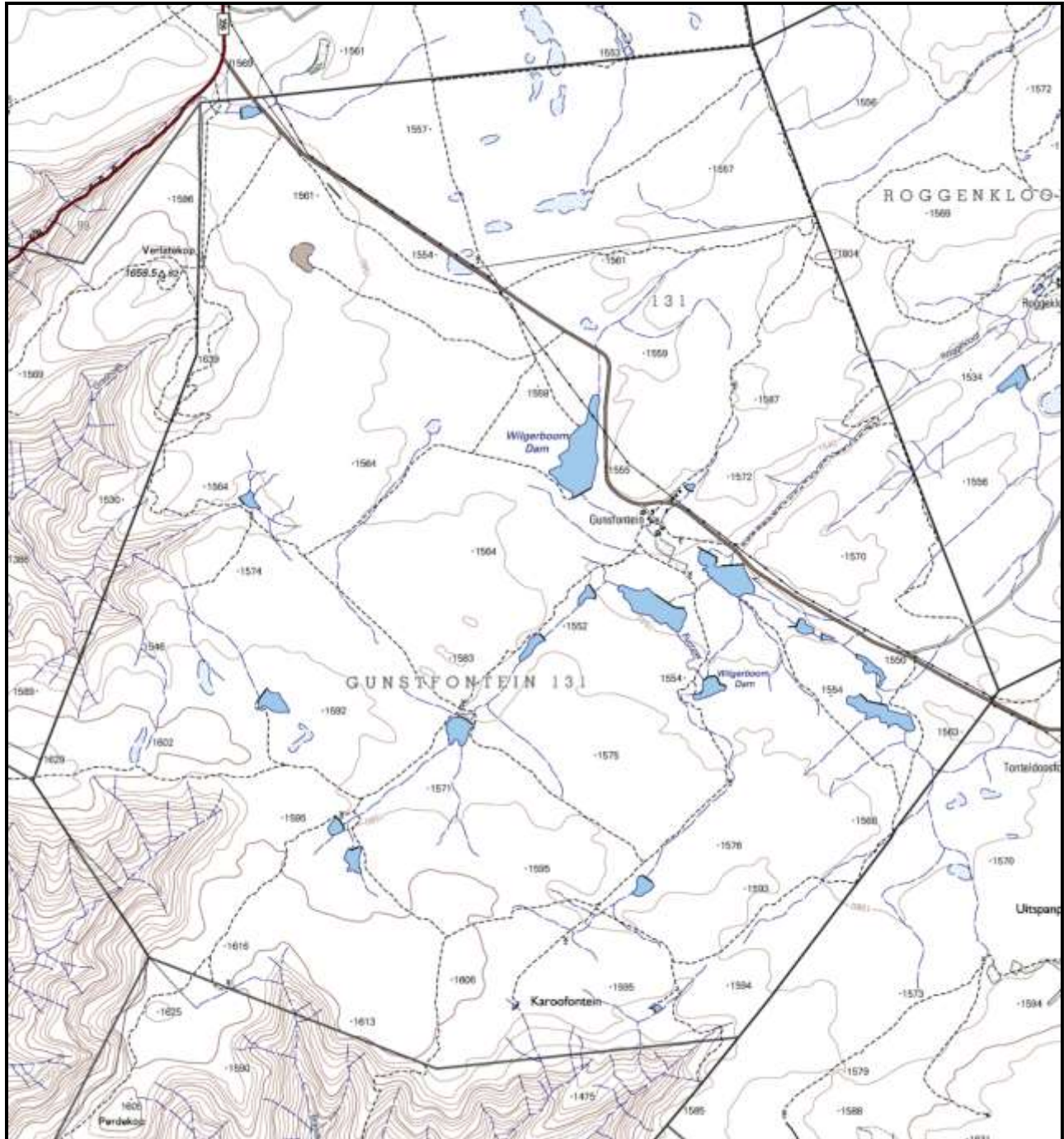


Figure 9: 2005 Topographic map of the farm Gunstfontein 131. Several bodies of perennial water are visible, including the Wilgerboom Dam. A secondary road runs through the property and the site of Gunstfontein is located to the side of the road. A few buildings are visible in this area. The site of Karoofontein can also be seen in the southern part of the property. Several small hiking trails intersect the property. (Topographical Map 2005)

### 5.4.2. Boschmanshoek 177

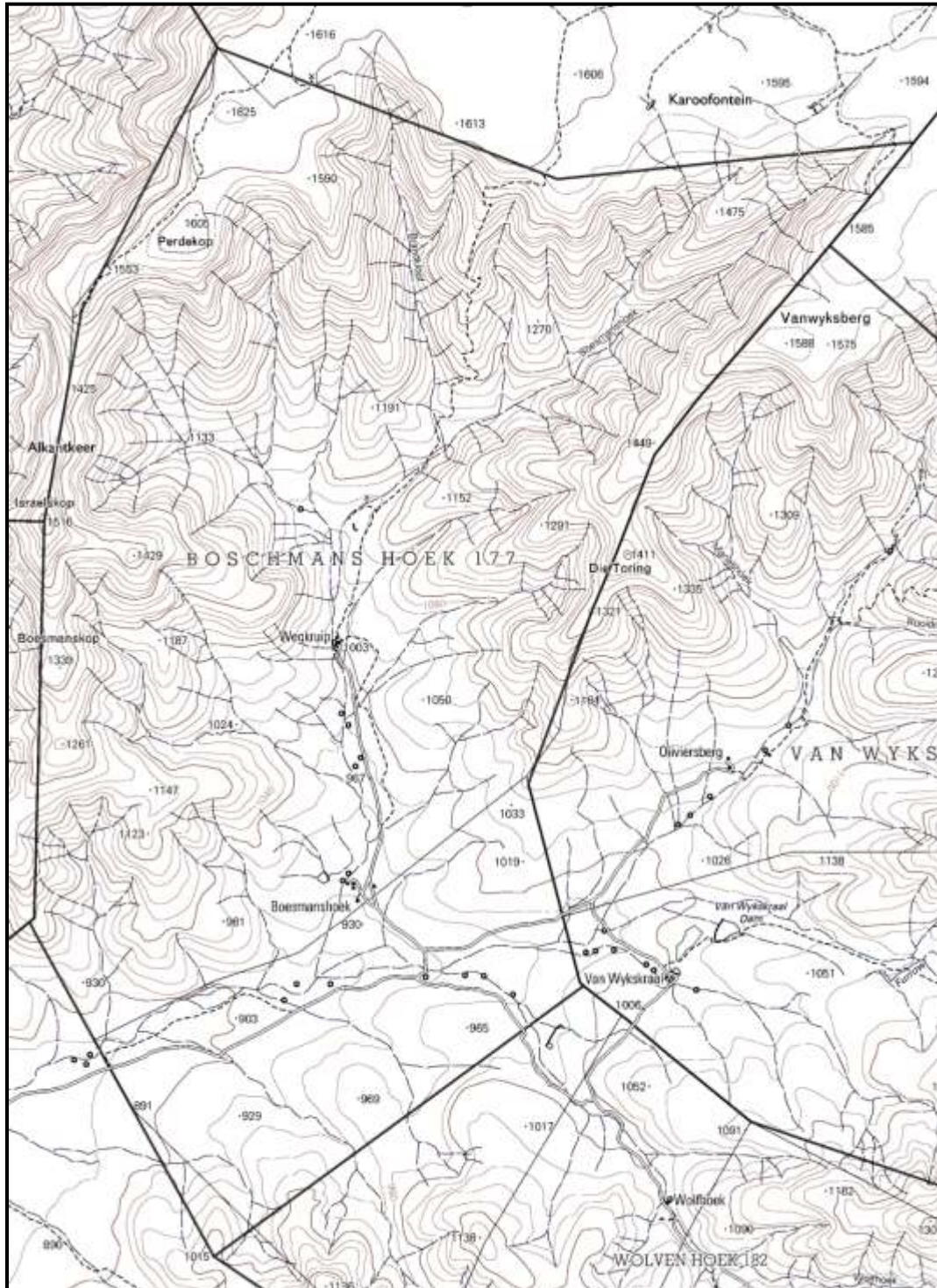


Figure 10: 2005 Topographic map of the farm Boschmanshoek 177. Two secondary roads intersect the property, and a site of interest next to the road is Boesmanshoek, where a few buildings can be seen. Other sites of interest are Perdekop, Alkantkeer, Israelskop and Wegkruip. The farm however seems to be basically undeveloped. (Topographical Map 2005)



Unfortunately no archival or online information could be found on the history of Boschmanshoek 177.

#### 5.4.3. Wolvenhoek 182

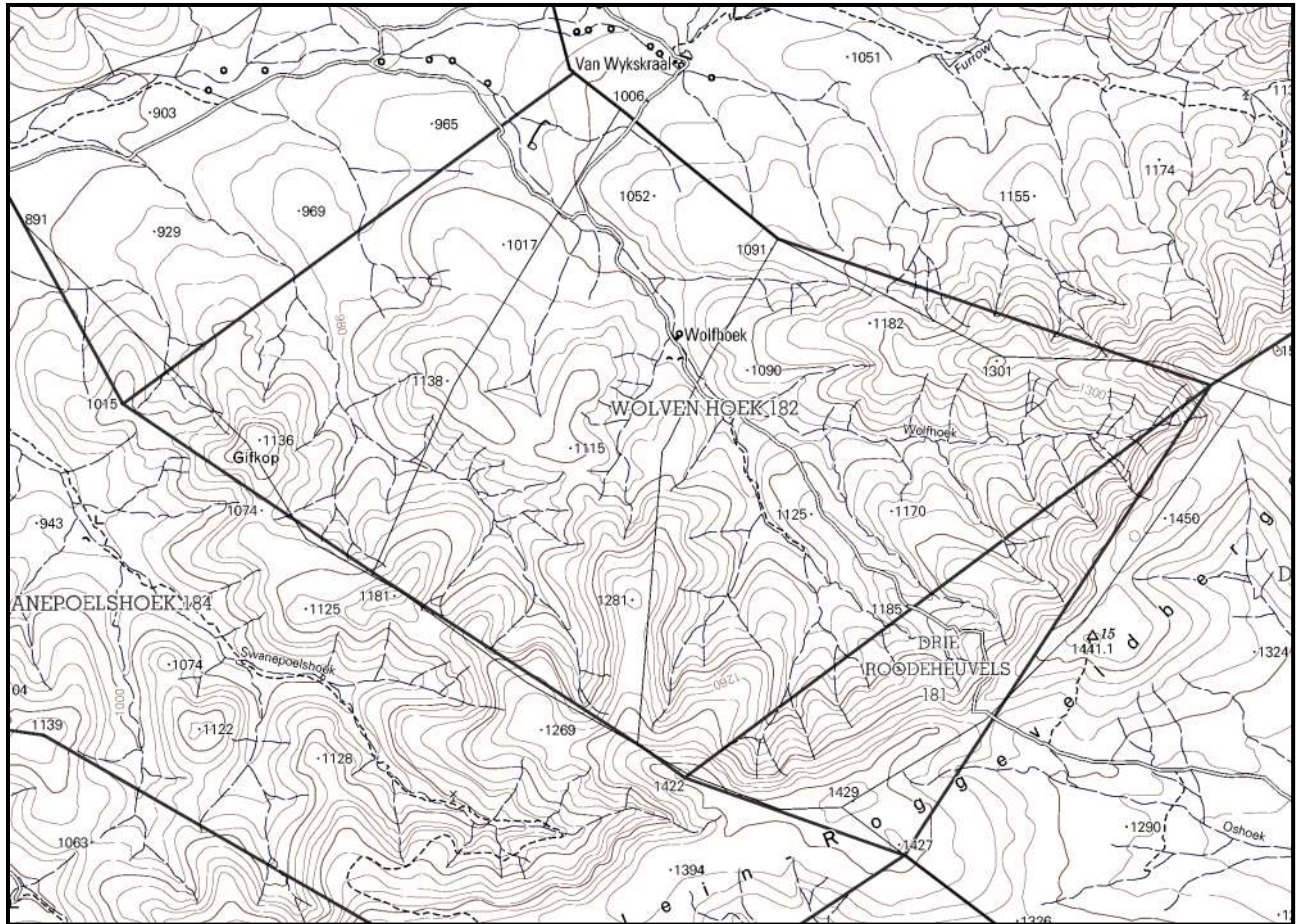


Figure 11: 2005 Topographic map of the farm Wolvenhoek 182. A secondary road intersects the property. This farm is almost completely undeveloped, apart from some points of interest. Some of the sites on this farm are Gifkop and Wolfhoek (next to the road). No buildings can be seen. (Topographical Map 2005)

In 2011 a heritage impact assessment report was written concerning the history of the Sutherland area by Halkett and Webley. According to this report the farm Annex Drie Roode Heuwels 181 was originally part of Wolvenhoek and was granted to Abraham le Roux in 1893. It has since then been incorporated into the farm Drie Roode Heuwels 180. (ERM SA 2011: 17).

It is furthermore noted that the farm Wolvenhoek 182 was originally surveyed in 1893 and granted to Abraham le Roux after which it was later on owned by a number of different families including Theron, Brink and van Wyk. In 1939 the farm was subdivided. No further information is however provided. (ERM SA 2011: 18)

## 6 PROBABILITY OF OCCURRENCE OF SITES

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

### » Archaeological And Cultural Heritage Landscape

NOTE: *Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface.*

*Archaeological remains dating to the following periods can be expected within the study area:*

#### » Stone Age finds

ESA: *Medium-High Probability*  
MSA: *Medium - High Probability*  
LSA: *Medium – High Probability*  
LSA –Herder: *Medium-High Probability*

#### » Historical finds

Historical period: *Medium –High Probability*  
Historical dumps: *Medium –High Probability*  
Structural remains: *High Probability*  
Cultural Landscape: *Medium probability*

#### » Living Heritage

For example rainmaking sites: *Low Probability*

#### » Burial/Cemeteries

Burials over 100 years: *Medium Probability*  
Burials younger than 60 years: *High Probability*

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

## **7. ASSUMPTIONS AND LIMITATIONS**

The study area was not subjected to a field survey as this will be done in the EIA phase. It is assumed that information obtained for the wider area is applicable to the study area.

## **8. FINDINGS**

No red flags were identified for any of the three project components ie wind and solar energy facility, power line alternatives and the proposed substation during this scoping study. Therefore any one of the three power line alternatives will be acceptable from a heritage point of view. These assumptions will have to be verified during the field work and Impact Assessment Phase of the project but the following heritage resources can be expected for the three project components.

### **8.1. Archaeology**

#### ***8.1.1 Archaeological finds***

There is a medium - high likelihood of finding MSA and LSA stone artefacts scattered over the study area and possibly indigenous pottery with some LSA scatters. It is highly likely that shelters/overhangs will contain Stone Age material and possibly rock art and will be of significance. There is a higher possibility of finding Stone Age sites close to water sources like rivers and pans.

#### ***8.1.2 Nature of Impact***

The construction phase of the project could directly impact on surface and subsurface archaeological sites.

#### ***8.1.3 Extent of impact***

The project could have a medium impact on a local scale.

### **8.2. Historical period**

#### ***8.2.1 Historical finds: I***

Historical finds include middens, structural remains (beacons, kraals etc) and cultural landscape. Most of the historical sites are expected close to water sources (pans and rivers). The desktop study highlighted that the area was occupied from the late 1800's and several Anglo Boer war events took place in the vicinity of Sutherland and studies in the area (Orton and Halkett 2011) recorded previously unknown British fortifications. Several farm complexes occur within the study area and although no specific reference to these sites was found during the brief desktop study the age of the structures are unknown but are possibly older than 60 years and protected by legislation.

#### ***8.2.2 Nature of Impact***

The construction of the project can directly impact on both the visual context and sense of place of historical sites. There are several structures in the study area but it is unknown if these structures are older than 60 years and protected by legislation. As per the archival study the area was inhabited by settlers and farmers from the late 1800's and it is assumed that some of the historical structures will date back more than 60 years and will therefore be protected by legislation.

#### ***8.2.3 Extent of impact***

The project could have a low – medium impact on a local scale.

### **8.3. Burials and Cemeteries**

#### **8.3.1 Burials and Cemeteries**

Graves and informal cemeteries can be expected anywhere on the landscape.

#### **8.3.2 Nature of Impact**

The construction and operation of the proposed project could directly impact on marked and unmarked graves. The known grave site should be avoided.

#### **8.3.3 Extent of impact**

The project could have a low to medium impact on a local scale.

## **9. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES**

Based on the current information obtained for the area at a desktop level it is anticipated that open-air archaeological sites that occur within the proposed development area will be of low heritage significance and have a Generally Protected B (GP.B) field rating and it should be possible to mitigate these sites. However pans and shelters could be archaeologically sensitive (due to archaeological deposit and rock art) and should rather be avoided. These sites are provisionally given a field rating of Local Significance (LS) or Generally Protected A (GP.A). Elements relating to the build environment are expected at every farm it is anticipated that these will be of local significance only. These assumptions will have to be tested by a field visit. Grave sites are of high social significance and should be avoided.

## **10. CONCLUSIONS AND RECOMMENDATIONS**

This report endeavoured to give a brief account of the history of the study area and the range of heritage resources that could be expected. Some particulars could be traced regarding landscape use and the general history of human settlement in the study area.

Furthermore the study revealed that a range of heritage sites occur in the region and similar sites can be expected for the study area. Pans and shelters could be archaeologically sensitive and best avoided. Based on maps of the area structures older than 60 years are expected as well as associated infrastructure. Although no known grave sites are on record for the study area some are expected for the study area. Every site is relevant to the Heritage Landscape, but it is anticipated that few (shelters with rock art and archaeological deposit and graves) could have conservation value. The following conclusions are applicable to the following sites:

#### » Archaeological sites

Open air sites could be mitigated either in the form of conservation of the sites with in the development or by a Phase 2 study where the sites will be recorded and sampled before the client can apply for a destruction permit for these sites prior to development.

Shelters with rock art and archaeological deposit should be avoided.

#### » Burial Sites

All grave sites should be identified prior to the development and avoided.

» Historical finds and Cultural landscape

It is not envisaged that the buildings will be directly impacted on by the Gunstfontein development. This can only be confirmed during the impact assessment stage however should the developer plan to demolish any building older than 60 years the site should be assessed by a conservation architect.

» Burials and cemeteries

Formal and informal cemeteries as well as pre-colonial graves occur widely across Southern Africa. It is generally recommended that these sites are preserved with in a development. These sites can however be relocated if conservation is not possible, but this option must be seen as a last resort and is not advisable.

General

It is recommended that as part of the public consultation process the presence of graves, archaeological and historical sites should be determined.

## **11. PLAN OF STUDY**

In order to comply with the National Heritage Resources Act (Act 25 of 1999) a Phase 1 Archaeological Impact Assessment must be undertaken. The AIA must include the new Komsberg substation as well as a high level screening of the preferred power line corridor. During this study sites of archaeological, historical or places of cultural interest must be located, identified, recorded, photographed and described. During this study the levels of significance of recorded heritage resources must be determined and mitigation proposed should any significant sites be impacted upon, ensuring that all the requirements of SAHRA are met.

When the final power line route is determined, this alignment must be subjected to a heritage walk down where each proposed pylon will be assessed. If any sites are identified during this walk down micro adjustments to the pylon position should suffice to ensure heritage compliance.

## **12. LIST OF PREPARERS**

Jaco van der Walt – Archaeologist and Project Manager

Liesl Bester – Archival Study

## **13. STATEMENT OF COMPETENCY**

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section, member number 159: Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation.



Jaco serves as a council member for the CRM Section of the Association of Southern African Association Professional Archaeologists and is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Botswana, Mozambique, Zimbabwe, Tanzania as well as the Democratic Republic of the Congo and conducted well over 300 AIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects and infrastructure developments. The results of several of these projects were presented at international and local conferences.

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