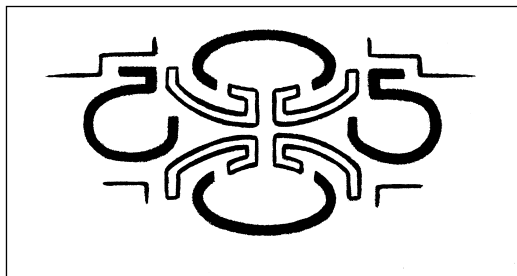


**Cultural Heritage Impact Assessment:
Phase 1 Investigation for a Prospecting Right Application of Diamonds Alluvial & Diamonds General, near Barkly West on the Remaining Extent and Portion 6 of the Farm Nooitgedacht 66, Sol Plaatjie Local Municipality, Frances Baard District Municipality, Northern Cape Province**



For

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Executive Summary

This report contains a comprehensive heritage impact assessment investigation in accordance with the provisions of Sections 38(1) and 38(3) of the *National Heritage Resources Act* (Act No. 25 of 1999) (NHRA) and focuses on the survey results from a cultural heritage survey as requested by Milnex 189 CC. The Scoping and EIA process for a prospecting right for the prospecting of diamonds alluvial & diamonds general on the Remaining Extent and Portion 6 of the farm Nooitgedacht 66, situated within the Sol Plaatjie Local Municipality, Frances Baard District Municipality, Northern Cape Province. The property is located approximately 15.9km south east of Barkly West. The Scoping and EIA process for Environmental Authorisation for the proposed diamond prospecting is conducted in terms of the National Environmental Management Act (Act 107 of 1998)(NEMA).

Site No	Site Type	Field Rating of Significance	Direct Impacts	Significance of Impact before Mitigation	Significance of Impact after Mitigation	Proposed Mitigation
1	Glacial pavements with rock art engravings	Declared Provincial Monument (Grade 2): High	None			<ul style="list-style-type: none"> Maintain a buffer zone of 500 metres during prospecting phase
2	Historical house and buildings (diary) with kraals	Generally protected B: Medium significance	None			<ul style="list-style-type: none"> None
3 (N1)	Early Middle Stone Age	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
4	Graveyard	Generally protected A: High significance	High	64 (High)	20 (Low)	<ul style="list-style-type: none"> Fenced off and gate installed Maintain a buffer zone of 50 metres during construction and prospecting phase
N2	Fauresmith assemblage	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
N3	Middel Stone Age	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
N4	Later Middel Stone Age	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
N5	Late Holocene assemblage	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
N6	Middel Stone Age	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
N7	Mossel Bay Middel Stone Age	Generally protected A: High significance	None			<ul style="list-style-type: none"> None
H1	Stone Age assemblage	Generally protected B: Medium significance	High	64 (High)	20 (Low)	<ul style="list-style-type: none"> Maintain a buffer zone of 50 metres during prospecting phase
R1	Historical railway line	Generally protected B: Medium significance	High	64 (High)	20 (Low)	<ul style="list-style-type: none"> Maintain a buffer zone of 50 metres during prospecting phase

As indicated a total of four sites were recorded during the survey and consist of one graveyard (Site 4) one historical complex with structures (Site 2), one Early Middle Stone Age site (Site 3 also Nooitgedacht 1) and the glacial pavements with rock art engravings (Site 1 also SAHRA No. 9/2/049/0105) (a declared Provincial Monument). In addition, several other heritage sites were recorded by previous survey and research endeavours in the region which include sites on the farm Nooitgedacht, sites N1 – 7 and Hotazel 09 (SAHRIS Site ID: 36951) (H9) as well as the railway line between Kimberley and Barkly West (R1).

No Iron Age settlements, structures, features, assemblages or artefacts were recorded during the survey.

Final recommendations:

- Site 1 (SAHRA No. 9/2/049/0105) is a declared Provincial Monument and a buffer zone of 500 metres should be adhered to;
- Site 4 is a graveyard with over 300 graves and should be fenced off and a 50 metres buffer zone should be adhered to;
- Hotazel 09 (H9) is a Stone Age assemblage and a buffer zone 50 metres should be adhered to;
- Site R1 is the historical railway line between Kimberley and Barkley West and was completed in 1890. A 50 metres buffer zone along the total length of the line (as bordered on the north eastern boundary of the farm Nooitgedacht 66) should be adhered to.

Also, please note:

If the exhumation and reburial of the graveyards are envisaged it will entail social consultation and permit application. Other legislative measures which may be pertinent include the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003, Ordinance on Exhumations (Ordinance No. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place. Note that unmarked graves are by default regarded as older than 60 years and therefore falls under the NHRA (Act No. 25 of 1999, Section 36).

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

Definitions and abbreviations

Midden:	Refuse that accumulates in a concentrated heap.
Stone Age:	An archaeological term used to define a period of stone tool use and manufacture
Iron Age:	An archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture
LIA:	Late Iron Age sites are usually demarcated by stone-walled enclosures
NHRA:	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA:	South African Heritage Resources Agency
SAHRIS:	South African Heritage Resources Information System
PHRA-G:	Provincial Heritage Resources Authority - Gauteng
GDARD:	Gauteng Department of Agriculture and Rural Development
HIA:	Heritage Impact Assessment
DMR:	Department of Mineral Resources
I&APs:	Interested and Affected Parties

I, Francois Coetzee, hereby confirm my independence as a cultural heritage specialist and declare that I do not have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of the listed environmental processes, other than fair remuneration for work performed on this project.



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1. Introduction and Terms of Reference

Milnex 189 CC an independent environmental consultant was contracted by Morgenson Mining CC to undertake the Scoping and EIA process for a prospecting right for the prospecting of diamonds alluvial & diamonds general on the Remaining Extent and Portion 6 of the farm Nooitgedacht 66, situated within the Sol Plaatjie Local Municipality, Frances Baard District Municipality, Northern Cape Province. The property is located approximately 15.9km south east of Barkly West. The Scoping and EIA process for Environmental Authorisation for the proposed diamond prospecting is conducted in terms of the National Environmental Management Act (Act 107 of 1998)(NEMA). A Cultural Heritage Impact Assessment (HIA) was requested by Milnex 189 CC on behalf of the client to evaluate the potential impact of the proposed diamond prospecting activities. File reference number SAMRAD: NC30/5/1/1/2/11894PR.

2. Objectives

The general objective of the cultural heritage survey is to record and document cultural heritage remains consisting of both tangible and intangible archaeological and historical artefacts, structures (including graves), settlements and oral traditions of cultural significance.

As such the terms of reference of this survey are as follows:

- Identify and provide a detailed description of all artefacts, assemblages, settlements and structures of an archaeological or historical nature (cultural heritage sites) located on the study area,
- Estimate the level of significance/importance of these remains in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value,
- Assess any impact on the archaeological and historical remains within the area emanating from the development activities, and
- Propose recommendations to mitigate heritage resources where complete or partial conservation may not be possible and thereby limit or prevent any further impact.

3. Description of Physical Environment of Study Area

The heritage survey focussed on an area situated 15.9 km south east of Barkley West and approximately 21 km north west of Kimberley, Northern Cape Province.

Farm Name(s) and Portions	The following portions and farms: Nooitgedacht 66: Remaining Extent and Portion 6
Size of Survey Area	4620.6068 hectares
Magisterial District	Sol Plaatjie Local Municipality Frances Baard District Municipality
1:50 000 Map Sheet	2824DA
1:250 000 Map Sheet	2824
Central Coordinates of the Development	24.63290°E 28.56760°S

Table 1: Physical Environment

The survey area falls within the Savanna Biome, particularly the Eastern Kalahari Bushveld Grassland Bioregion and more specifically the Kimberley Thornveld (SVk 4) (Mucina & Rutherford 2006). The survey area is located approximately 15.9 km south east of Barkley West and 21 km north west of Kimberley. The region is characterised by undulating hills,

supporting a thornveld with intermittent grassland. The survey footprint is flanked by the Vaal River on the western border. The low-lying region along the river quickly climbs to a higher plateau towards the east. Infrastructure consists of the R31 on the southern border and the N14 located further to the east. In addition, several dirt roads provide access to the survey area as well as power lines, fences, and agricultural fields (both used and fallow).

It should be noted that the farm Nooitgedacht 66 is subdivided into the western part with a younger and lower level terraces near the Vaal River and the eastern-central and high level part where extensive diamond digging occurred. The latter area is characterised by near surface and surface outcrop of late Archaean Ventersdorp lava with typical corestone development. Between the corestones and the overlying Quaternary Hutton sands there is a thin diamondiferous gravel, composed mainly of resistant material derived from the Ventersdorp volcanics, and isolated well-rounded and extrabasinal clasts from remnants of Dwyka Group sedimentary rocks. This diamondiferous deposit on Nooitgedacht was part of a tributary that occupied a wide and shallow valley draining the Kimberley area into the palaeo-Vaal River. This tributary flowed over Ecca Group shales which underlie the area between Nooitgedacht and Kimberley, and which offer poor trap site potential. In contrast, the exhumed pre-Karoo high of Ventersdorp on Nooitgedacht promoted the high concentration of (big) diamonds on the farm as a result of an increase in bed-roughness associated with corestone development of these lavas forming preferred trap sites. Most diamonds are unabraded and are sourced from the Kimberley cluster of kimberlites along with kimberlitic ilmenites that can also be matched to that population (De Wit 2004:477).

As such diamonds were extensively mined between 1948 and 1981 as part of the post-Second World War effort to create work, however, mining already started in the high level part of the farm between 1908 and 1930s and also restarted from 1996 onwards. Dry Harts Diamonds (1998 – 2000), C. Potgieter (1998) and Dwyka Diamonds Ltd (since 2001) have been active in the area recently. As such the eastern part of the farm is extensively disturbed by these manual digging (wheelbarrows, spades, sorting pan and hand sorting only, no mechanised mining was undertaken). These diggings were known as ‘dry diggings’ and although some alluvial mining was attempted along the Vaal River very few diamonds were found there (De Wit 2004; Beaumont & Morris 1990).

Barkly West normally receives about 274 mm of rain per year, with most rainfall occurring mainly during summer. It receives the lowest rainfall (0 mm) in July and the highest (60 mm) in February. The average midday temperatures for Barkly West range from 18°C in June to 32°C in January. The region is the coldest during July when the mercury drops to 1°C on average during the night.

Current Zoning	Agricultural land use (low density cattle grazing)
Economic activities	Farming and mining
Soil and basic geology	Most of the farm is underlain by rocks of the late Archaean Ventersdorp Supergroup. However remnants of Permo-Carboniferous Dwyka Group rocks are preserved in the dissected part of the farm. The diamondiferous sediments are concentrated on the upper elevated or plateau part of the farm away from the river and although no geological age has been assigned to these it has been argued to be Tertiary in age. Most of the upper part of the farm, including part of the diamondiferous sediments, is covered by Red Hutton sands, also referred to as reddened Kalahari sand that is of Quaternary age.

	<p>Several fluvial platforms were recognised at different elevations along the Vaal River between Windsorton and Barkly West. The highest of which, the Nooitgedacht platform, cuts across the Ventersdorp andesites at an average elevation of 1160. Although the origin of this +85 m platform was not fully resolved, these may represent remnants of a river-cut platform since there are appreciable gravel deposits on top of this feature near Nooitgedacht. Some of these surfaces frequently preserve glacial-age erosional markers and local fills of Dwyka sediments hence it was concluded that the ultimate origin of these surfaces such as the Nooitgedacht platform must be sought during or before the Dwyka glaciation (de Wit 2004).</p> <p>The largest part of the study area is underlain by Aeolian sand and sometimes alluvial gravels of tertiary to recent age covering Dwyka tillite. Surface limestones occur sporadically in the area.</p>
Prior activities	<p>Livestock farming and agriculture Mining</p>
Socio Economic Environment	<p>Sol Plaatje Municipality (SPM) has a total population of 248 042 people living in its jurisdiction according to the 2011 Census, growing at an average rate of 2,04% per annum since 2001 (growth rate in 2001 was -0,65%). More than 61% (54% in 2001) of the population belongs to the African population group, 27% (32% in 2001) to the Coloured population group, 1% (1% in 2001) to the Indian population group, 8% (13% in 2001) to the White population group and 3% (0% in 2001) to other population groups. In 2011 there were approximately 60 299 households (50 529 in 2001) in Sol Plaatje Municipality, with an average household size of 3.9 (3.98 in 2001) people. According to census 2011 the official unemployment rate is 31.9% and the official youth (15-34 years) unemployment rate is 41.7%. The number of people living in poverty is 31.2%, which is well below the national average of 39,9% as well as the provincial and district averages of 43,4% and 39,1% respectively. Sol Plaatje Municipality is a 'small player' in the national economy but a 'big player' in the provincial and regional economy. SPM contributed almost 30% to the total GDP of the province. However, in terms of the national economy, SPM contributed only 0.7% and the NC Province 2.4%. This municipality has a very narrow economic base as the tertiary sector is the largest economic sector, it contributing more than 80% towards the GVA while the primary sector only contributes 9.7% and the secondary sector 7.9%. Thus SPM relies heavily on the tertiary sector which is consumptive and not productive and job creative. Should one then relate this to the education level of persons in the area where only 10% have post-matric and 90% matric or less with an unemployment rate of 33% which is mainly in the category of persons with matric or less. A need exists for innovative ways to diversify the economy. The main job creating sectors are the primary and secondary sectors which employ the most unskilled workers.</p>
Evaluation of Impact	<p>An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits NHRA (Act No. 25 of 1999, Section 38(3d)): Positive</p>

Table 2: Socio-economic environment

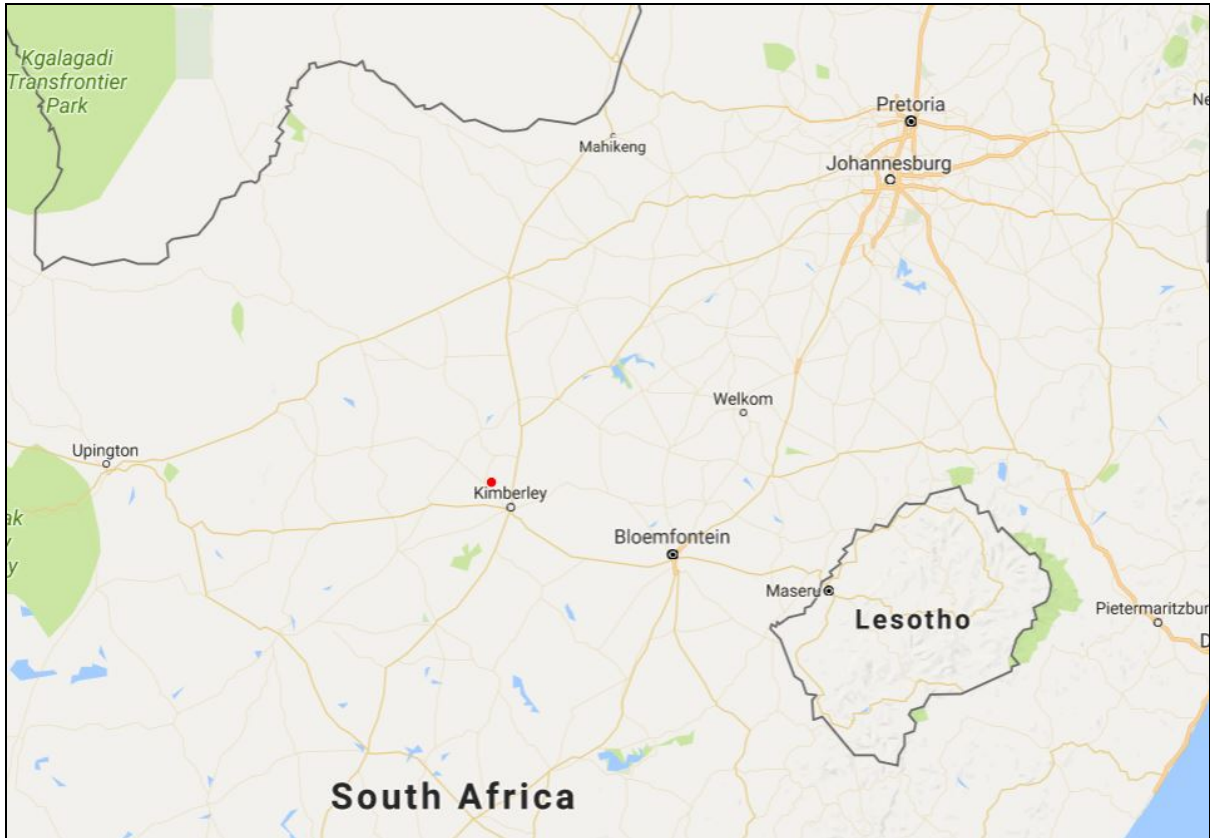


Figure 1: Regional context of the survey area located northwest of Kimberley (indicated by the red area)

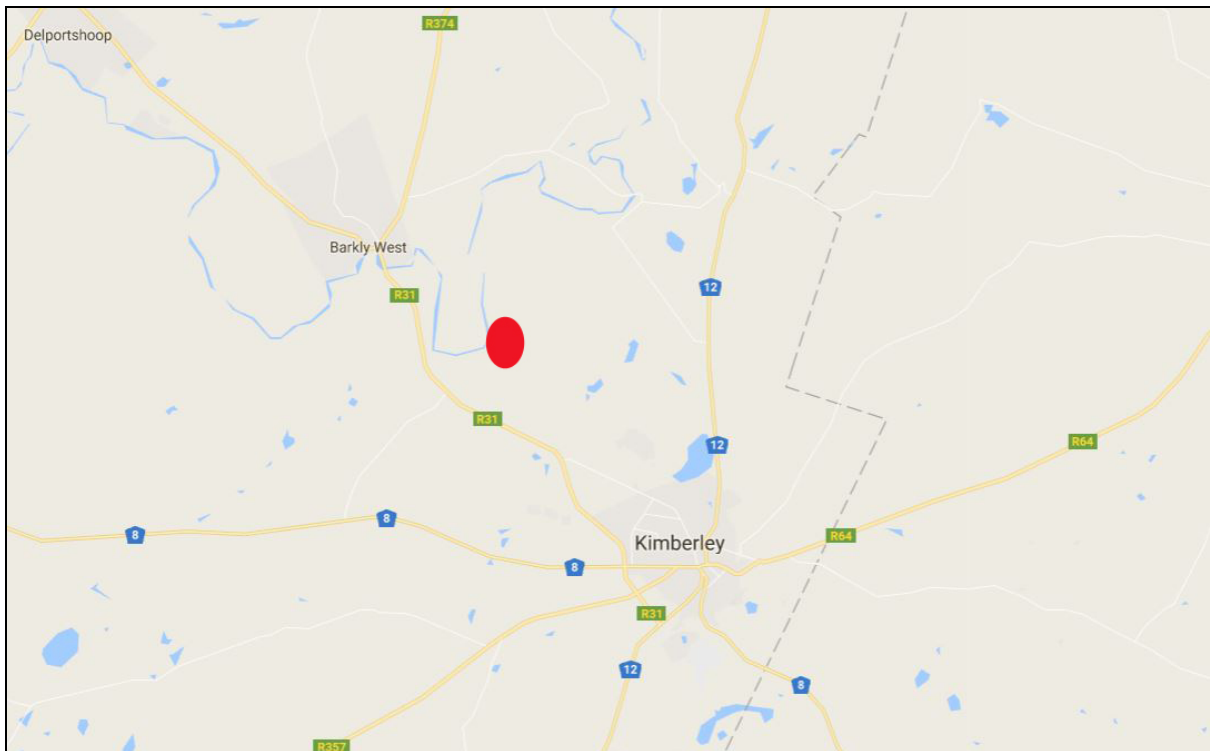


Figure 2: Local context of the survey area located south east of Barkly West (indicated by the red area)

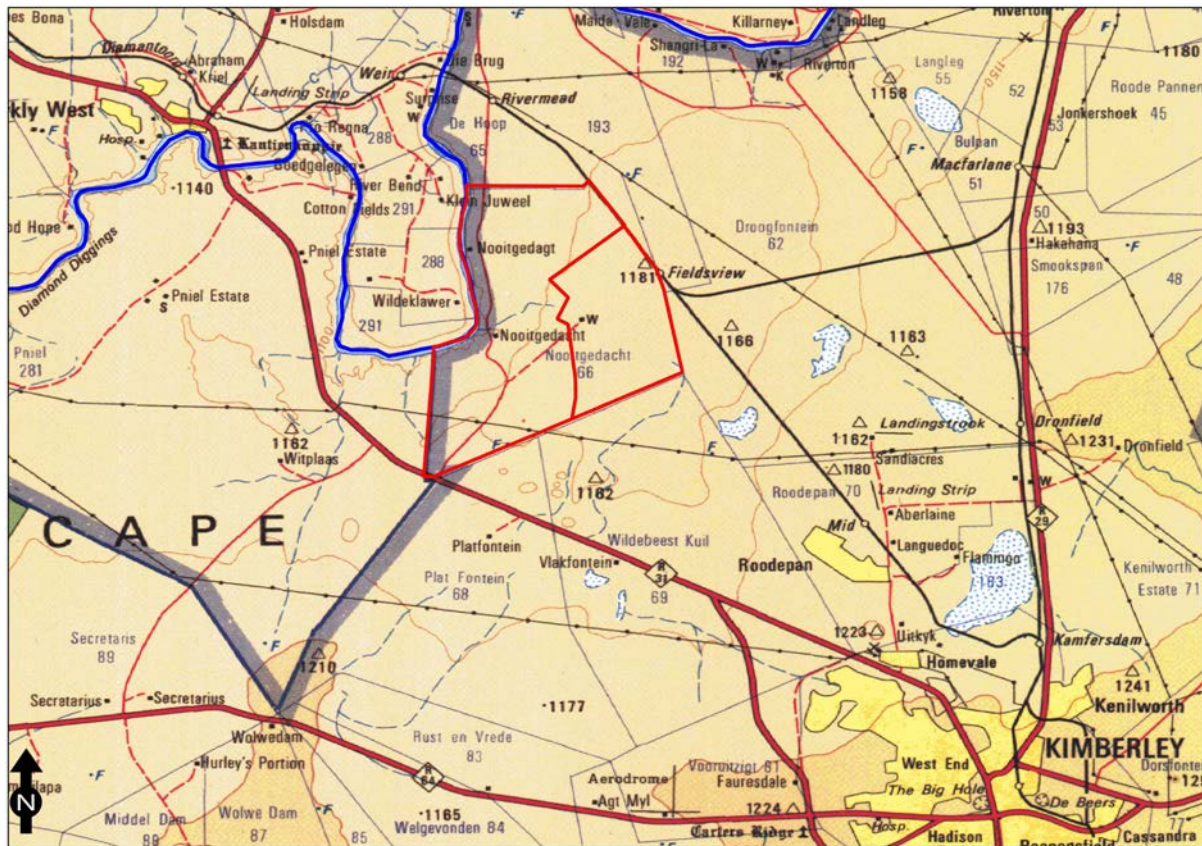


Figure 3: Local context of the survey footprint (1:250 000 Map 2824)

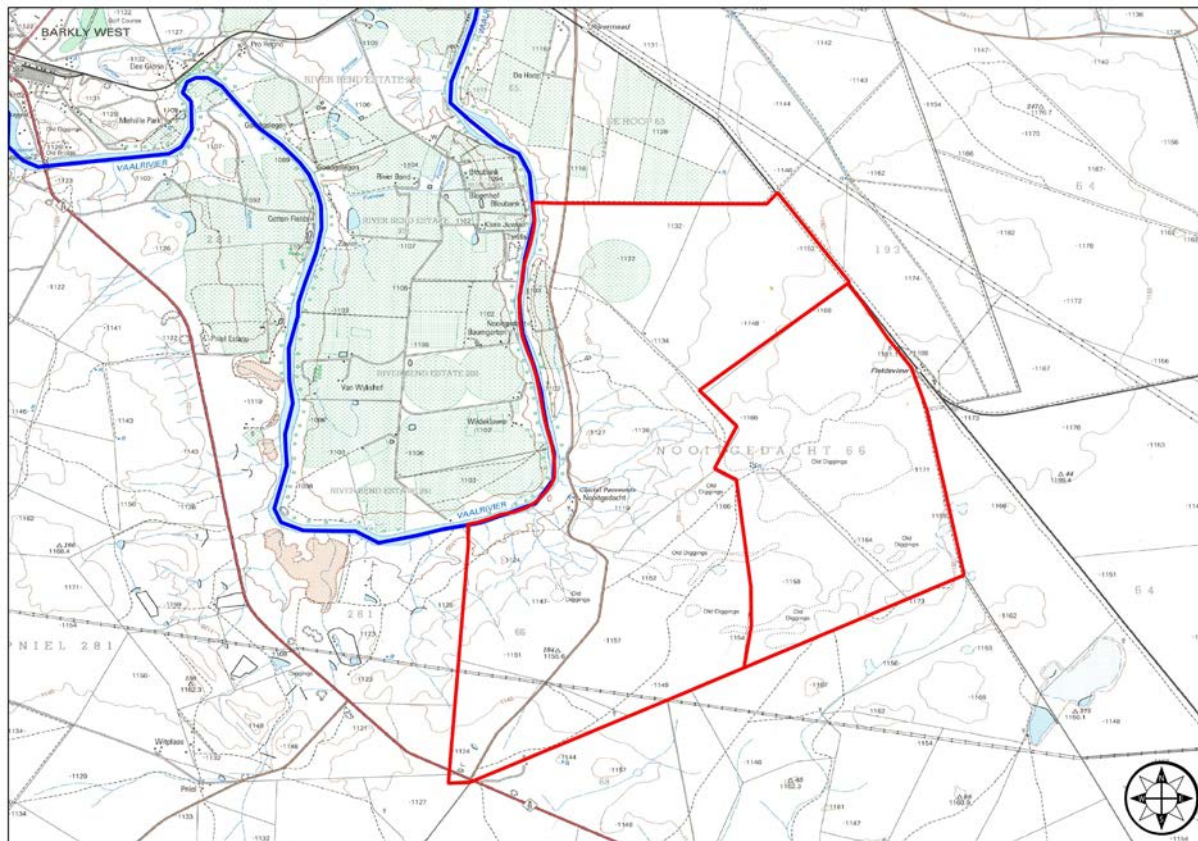


Figure 4: The survey area as indicated on the 1:50 000 topographic map 2824DA



Figure 5: Detail of survey area as indicated on Google Earth Pro (2017)

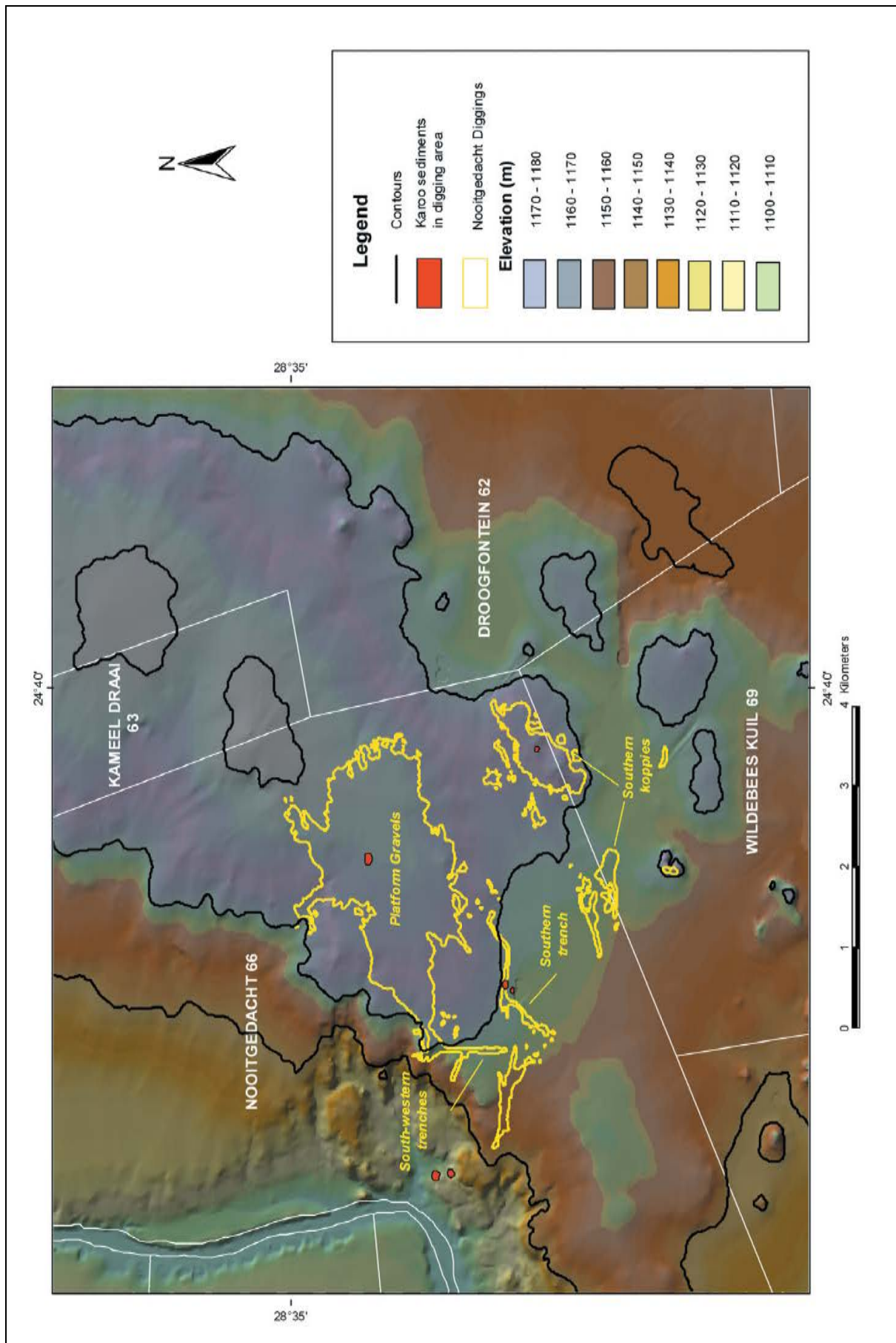


Figure 7: Location of diamond diggings on the farm Nootgedacht 66 (after De Wit 2004)



Figure 8: General view eastward from the glacial outcrops (looking towards the high levels)



Figure 9: General view lower level with the glacial outcrops (declared heritage site)



Figure 10: General view of the floodplains near the Vaal River (western section of the survey area)



Figure 11: General view of the eastern section of the survey area (fallow agricultural fields)



Figure 12: General view of the eastern section of the survey area (old diggings)



Figure 13: General view of the eastern section of the survey area (old diggings)

4. Proposed Project Description

The proposed development consists of diamond prospecting in the eastern high level section of the survey footprint (previous and historical diamond diggings). The prospecting activities will include the following:

- **Pitting:** Pits will be excavated by an excavator to locate gravel deposits. If gravel is found, the applicant will determine the composition and quality of the gravel. It is envisaged that 200 pits will be dug. It may be less depending on results. 4620.6068 ha: 5 m x 3 m x 5 m (200 pits). It is planned that only 50 pits will be excavated in the first year, but it may be more if the process is quicker than planned for. It should be kept in mind that no more than 200 pits will be excavated. The total area to be disturbed a year will be: 50 pits (5 m x 3 m) = 0.075 ha per year.
- **Trenching:** The applicant will proceed with this way of prospecting by means of the open cast/trenching method, simultaneously or after pitting depending on the information obtained from the earlier work done. The trenches will be dug to remove and to wash the gravel. It will be washed by 1 x 16 feet washing pan to determine diamond proceeds per 100 ton of gravel. 4620.6068 ha: 50 m x 30 m x 5 m trench (50 trenches). It is planned that only 10 trenches will be excavated in the first year, but it may be more if the process is quicker than planned for. It should be kept in mind that no more than 50 trenches will be excavated. The total area to be disturbed a year will be: 10 trenches (50 m x 30 m) = 1.5 ha per year. No more than 1.575 ha will be left as unrehabilitated in two years. Rehabilitation will be done concurrently.
- **Rehabilitation:**
 - Remove all prospecting related infrastructure;
 - Return tailings and overburden to the excavation in order to fill up the excavation;
 - Place topsoil on top of the backfilled excavation; and
 - Rehabilitate disturbed areas appropriately.

The preferred technology for the proposed prospecting activities will be to remove the diamond bearing gravel with an excavator, depositing it in the 10 – 18 feet rotary pan(s) to be washed and sorted. In a Dense Media Separation (DMS) plant, powdered ferrosilicon (an alloy of iron and silicone) is suspended in water to form a fluid near the density of diamond (3.52 g/cm³), to which the diamond bearing material is added to begin the separation process of the heavier minerals from the lighter material. Additional separation of the denser material occurs by centrifuge in “cyclones” that swirl the mixture at low and high speeds, forcing the diamonds and other dense minerals to the walls and then out the bottom of the cyclone. Waste water rises at the centre of the cyclones and is sucked out and screened to remove waste particles. The DMS process results in a concentrate that generally weighs less than one percent of the original material fed into the plant at the beginning of the process. In a Rotary Pan plant, crushed ore, when mining kimberlite, or alluvial gravel and soil is mixed with water to create a liquid slurry called “puddle” which has a density in the 1.3 to 1.5 g/cm³ range. The mix is stirred in the pan by angled rotating “teeth”. The heavier minerals, or ‘concentrate’, settle to the bottom and are pushed toward an extraction point, while lighter waste remains suspended and overflows out of the centre of the pan as a separate stream of material. The concentrate, representing just a small percentage of the original kimberlite ore or alluvial gravels, is drawn off for final recovery of the diamonds.

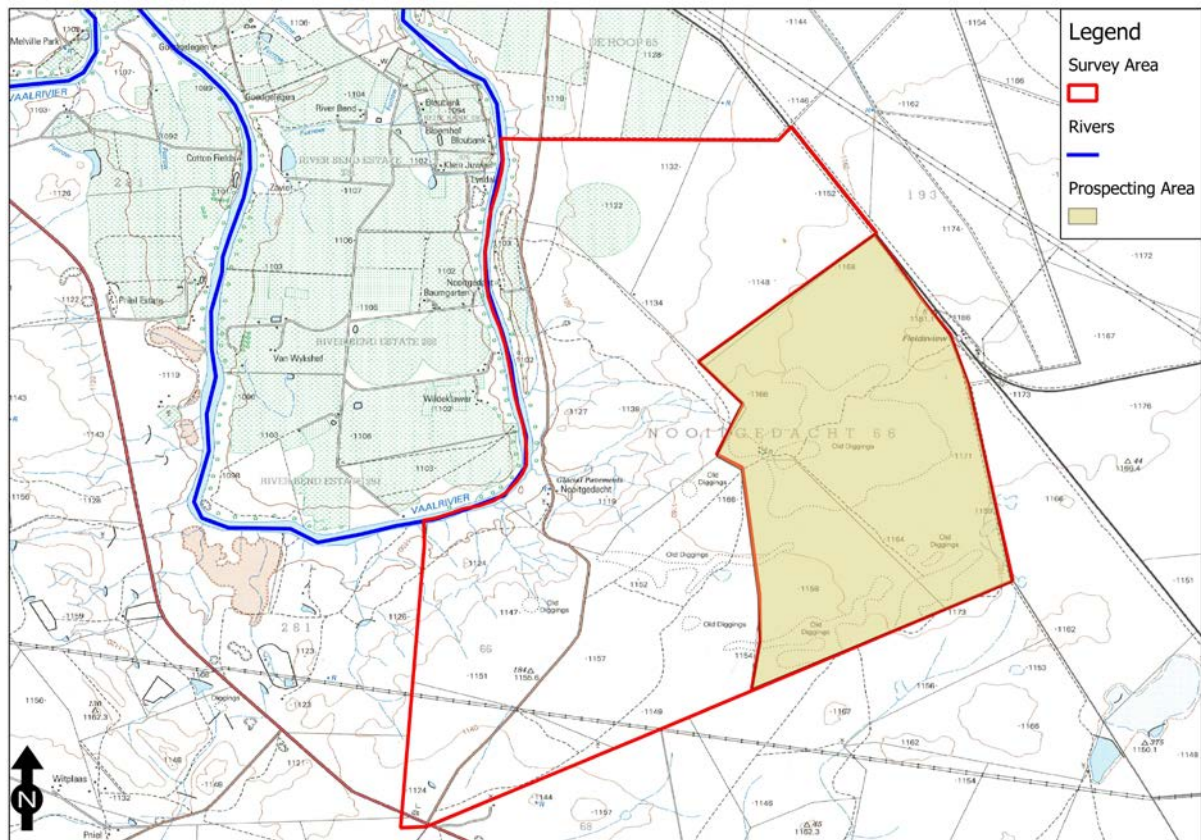


Figure 14: Location of the proposed prospecting area

5. Legal Framework

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE APPLIED
The Constitution of the Republic of South Africa (Act No. 108 of 1996)	
The National Environmental Management Act (Act No. 107 of 1998)	Section 24 Section 28
The National Water Act (Act No. 36 of 1998)	Section 21 (a)(b)
Regulation 2, Appendix 2 of Governmental Notice Regulation (GNR) 982	Appendix 2 (a-1)
Air Quality Act (Act No. 39 of 2004)	Section 21
National Forests Act, Act of 84 of 1998	Chap 3 (Part 1), Section 12(1), Section 15(1)
The National Heritage Resources Act (Act No. 25 of 1999)	Section 38, 34, 35, 36
Conservation of Agricultural Resources Act (Act No. 85 of 1983)	
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	
The National Water Act (Act No. 36 of 1998);	Section 2
Mine Health and Safety Act (Act No. 29 of 1996) (MHSA)	
Biodiversity Act (Act 10 of 2004)	
National Infrastructure Plan	
Sol Plaatjie Local Municipality Integrated Development Plan (IDP) Review	-

Table 3: Legal framework

NAME OF ACTIVITY (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)/NOT LISTED
Clearance of indigenous vegetation	4620.6068 ha - Only the areas where prospecting takes place, will be cleared. Concurrent backfilling will take place in order to rehabilitate.	X	GNR. 984
Office and Workshop	50m ²	-	-
Roads	+/- 10Km	-	GNR. 983
Storage of diesel in bunded tanks	More than 80 000 litres	X	GNR. 983
Stockpiling op topsoil	3742.3596 ha 50m x 30m x 5m x 50 = 375 000m ³	-	-
Prospecting of Diamond Alluvial - Excavations	4620.6068 ha – 5m x 3m x 5m pit (200 pits), 50m x 30m x 5m trench (50 trenches)	X	GNR. 984
Processing Plant	1 x 16 Ft Pan with Conveyor – 330 000 tons to be washed	X	-

Table 4: Listing notices

- Section 38 of the NHRA (Act No. 25 of 1999) stipulates that the following activities trigger a heritage survey:

Development criteria in terms of Section 38(1a-e) of the NHRA (Act No. 25 of 1999)	Yes/No
Construction of road, wall, powerline, pipeline, canal or other linear form of development or barrier exceeding 300m in length	Yes
Construction of bridge or similar structure exceeding 50m in length	No
Development exceeding 5000 m ² in extent	Yes
Development involving three or more existing erven or subdivisions	No
Development involving three or more erven or divisions that have been consolidated within past five years	No
Rezoning of site exceeding 10 000 m ²	Yes
Any other development category, public open space, squares, parks, recreation grounds	No

Table 5: Activities that trigger Section 38 of the NHRA

- Field rating system as recommended by SAHRA:

Field Rating	Grade	Significance	Recommended Mitigation
National Significance	Grade I	High significance	Conservation by SAHRA, national site nomination, mention any relevant international ranking. No alteration
Provincial Significance	Grade II	High significance	Conservation by provincial heritage authority, provincial site nomination. No alteration whatsoever without permit
Local Significance	Grade III-A	High significance	Conservation by local authority, no alteration whatsoever without permit from provincial heritage authority. Mitigation as part of development process not
Local Significance	Grade III-B	High significance	Conservation by local authority, no external alteration without permit from provincial heritage authority. Could
Generally Protected A	Grade IV-A	High/medium significance	Conservation by local authority. Site should be mitigated before destruction. Destruction permit required from
Generally Protected B	Grade IV-B	Medium significance	Conservation by local authority. Site should be recorded before destruction. Destruction permit required from provincial heritage authority.
Generally Protected C	Grade IV-C	Low significance	Conservation by local authority. Site has been sufficiently recorded in the Phase 1 HIA. It requires no further recording before destruction. Destruction permit

Table 6: Field rating system to determine site significance

- Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and they are valuable, finite, non-renewable and irreplaceable.
- All archaeological remains, features, structures and artefacts older than 100 years and historic structures older than 60 years are protected by the relevant legislation, in this case the **National Heritage Resources Act (NHRA) (Act No. 25 of 1999, Section 34 & 35)**. The Act makes an archaeological impact assessment as part of an EIA and EMPR mandatory (see **Section 38**). No archaeological artefact, assemblage or settlement (site) may be moved or destroyed without the necessary approval from the **South African Heritage Resources Agency (SAHRA)**. Full cognisance is taken of this Act in making recommendations in this report.
- Cognisance will also be taken of the Mineral and Petroleum Resources Development Act (Act No 28 of 2002) and the National Environmental Management Act (Act No 107 of 1998) when making any recommendations.
- Human remains older than 60 years are protected by the NHRA, with reference to Section 36. Human remains that are less than 60 years old are protected by the Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003 as well as local Ordinances and regulations.
- With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise.
- The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3, and the Australian ICOMOS (International Council on Monuments and Sites) Charter (also known as the Burra Charter) are used when

determining the cultural significance or other special value of archaeological or historical sites.

- A copy of this report will be submitted on SAHRIS as stipulated by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), Section 38 (especially subsection 4) and the relevant Provincial Heritage Resources Authority (PHRA).
- Note that the final decision for the approval of permits, or the removal or destruction of sites, structures and artefacts identified in this report, rests with the SAHRA (or relevant PHRA).

6. Study Approach/Methodology

Geospatial information (ESRI shapefiles) on the proposed prospecting areas was supplied by Milnex 189 CC. The most up-to-date Google Earth images and topographic maps were used to indicate the survey area. Topographic maps were sources from the Surveyor General. Please note that all maps are orientated with north facing upwards (unless stated otherwise).

The basic strategy during this survey was to survey the main transect of the survey footprint to get a cross-section of the area. Emphasis was placed on the glacial markings sites and other structures along the Vaal River. Also the proposed main mining activities will be focussed within the eastern high levels of the farm. The area was surveyed by conducting a pedestrian (foot) survey at selected areas and intuitive survey techniques. However the area is characterised by undulating hills between the river floodplains (west) and high-lying plato (east). Note that all known heritage sites and graves were indicated by the landowner Mr Mike Hall. Additional regional information was provided by McGregor Museum (Head of Archaeology Department: Dr David Morris).

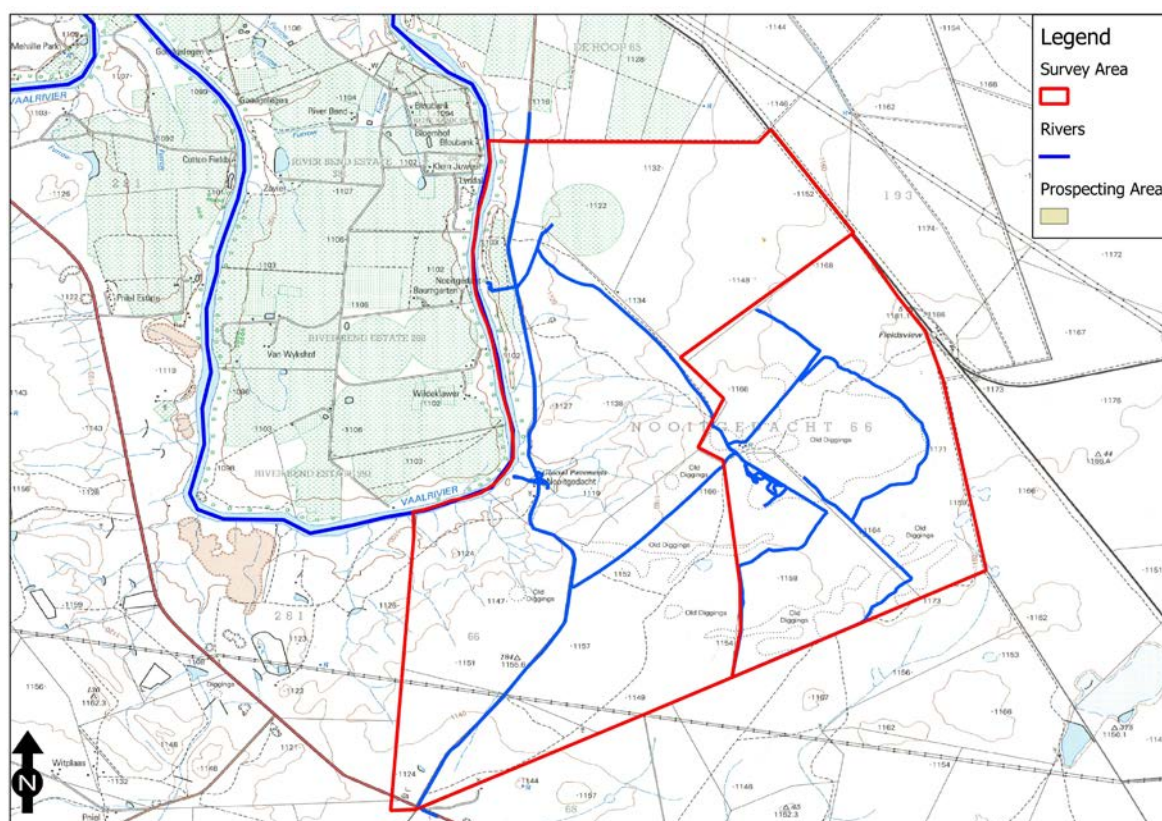


Figure 15: Recorded survey tracks for the project

6.1 Review of existing information/data

Additional information on the cultural heritage of the area was sourced from the following records:

- National Mapping Project by SAHRA (which lists heritage impact assessment reports submitted for South Africa);
- Environmental Potential Atlas (ENPAT);
- Online SAHRIS database;
- McGregor Museum, Kimberley: Archaeology Department (Beaumont & Morris 1990, 2004);
- National Automated Archival Information retrieval System (NAAIRS);
- Maps and information documents supplied by the client; and
- Surveys conducted in the vicinity of the survey area (Fourie 2012, Nel 2008).

Several heritage surveys and research projects have been completed outside the project footprint during the last few decades (Breuil 1948; Goodwin 1928 & Söhnge et al 1937; Van Hoepen 1927). Several archaeological excavations were conducted by Peter Beaumont of the McGregor Museum in Kimberley and Louis Albert Peringuey of the then South African Museum (1911). A total of seven Stone Age sites were recorded by Peter Beaumont on the farm Nooitgedacht 66 and six sites on Pniel (McGregor Museum; Beaumont & Morris 1990). Excavations at some of these sites yielded Acheulean, Fauresmith and Early MSA artefacts and well-preserved fauna. The glacial pavements with rock art (engravings) were also recorded early on and were declared a National Monument under the old Natural and Historical Monuments and Relics and Antiques Act (Act No. 4 of 1934) on 18 January 1956 (Government Notice No. 185 (No. 5622), 3 February 1956). The glacial pavements (Site No. 9/2/049/0105 (SAHRIS)) are currently protected under the NHRA (Act No. 25 of 1999) as a Declared Provincial Monument (Grade 2).

Other rock art engravings in the region have also been recorded at Driekopseiland (some 60 km to the south) and Wildebeeskuil (10 km to the south east on the road to Kimberley) (Morris 2002)

Also note the railway line between Kimberley and Vryburg was surveyed between 1886 to 1891 by Sir Thomas Metcalfe and completed in the early 1890s to transport cattle from the Vryburg region. The line between Kimberley and Barkley West was already completed in 1890. The Pniel Berlin mission station dating to the mid to late 19th century is also located on the adjacent farm Pniel. In 1904, the Tiger Kloof Native Institute was set up south of Vryburg by the London Missionary Society (adjacent to the Vryburg-Kimberley) railway line. A cornerstone for the building of the institute was laid in 1905 by the Earl of Selborne. The stone church on the premises is a national monument.

Besides its significant stone tool technology, the lower Vaal river is one of the few areas in the interior of southern Africa where fossils are preserved (Cooke & Wells 1946; Wells 1964).



Figure 16: Site field records of Peter Beaumont (kindly provided by McGregor Museum: D Morris)

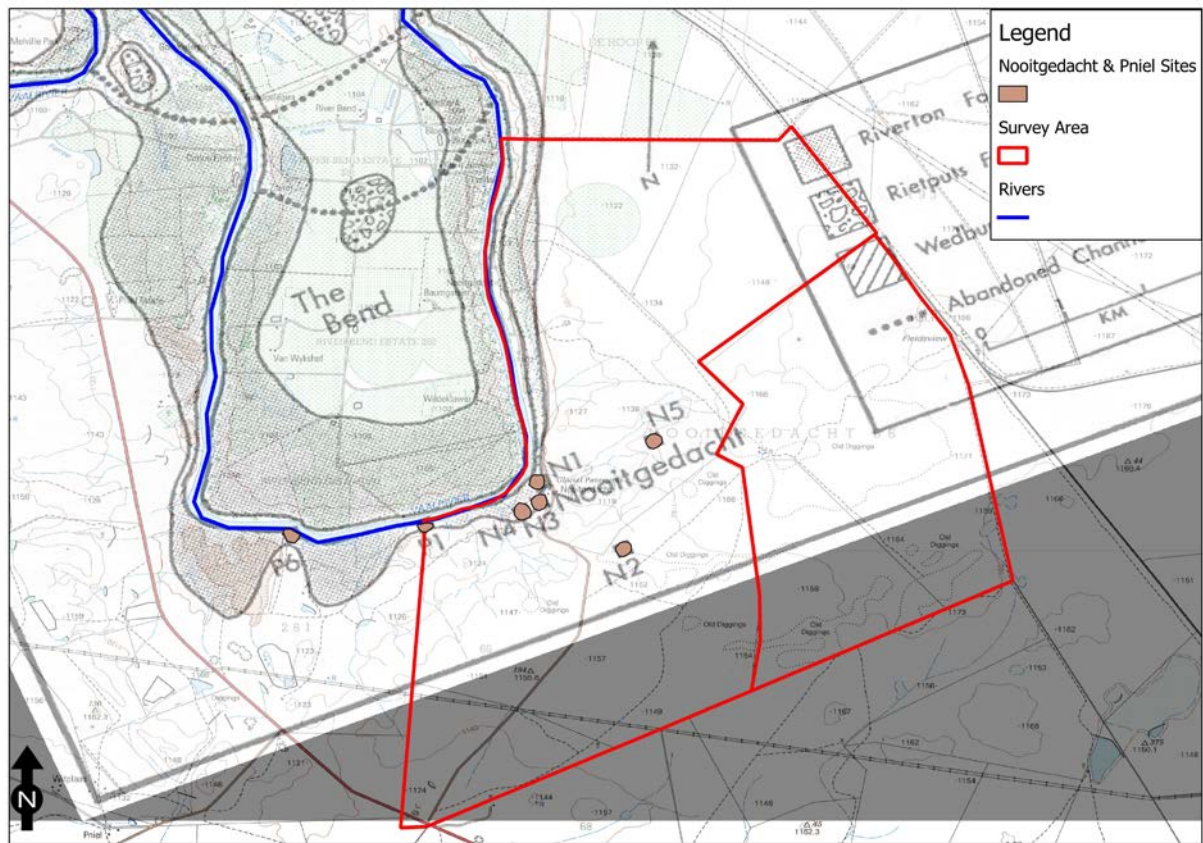


Figure 17: Stone Age sites for the farms Nootgedacht and Pniel published from field notes (Beaumont & Morris 1990)

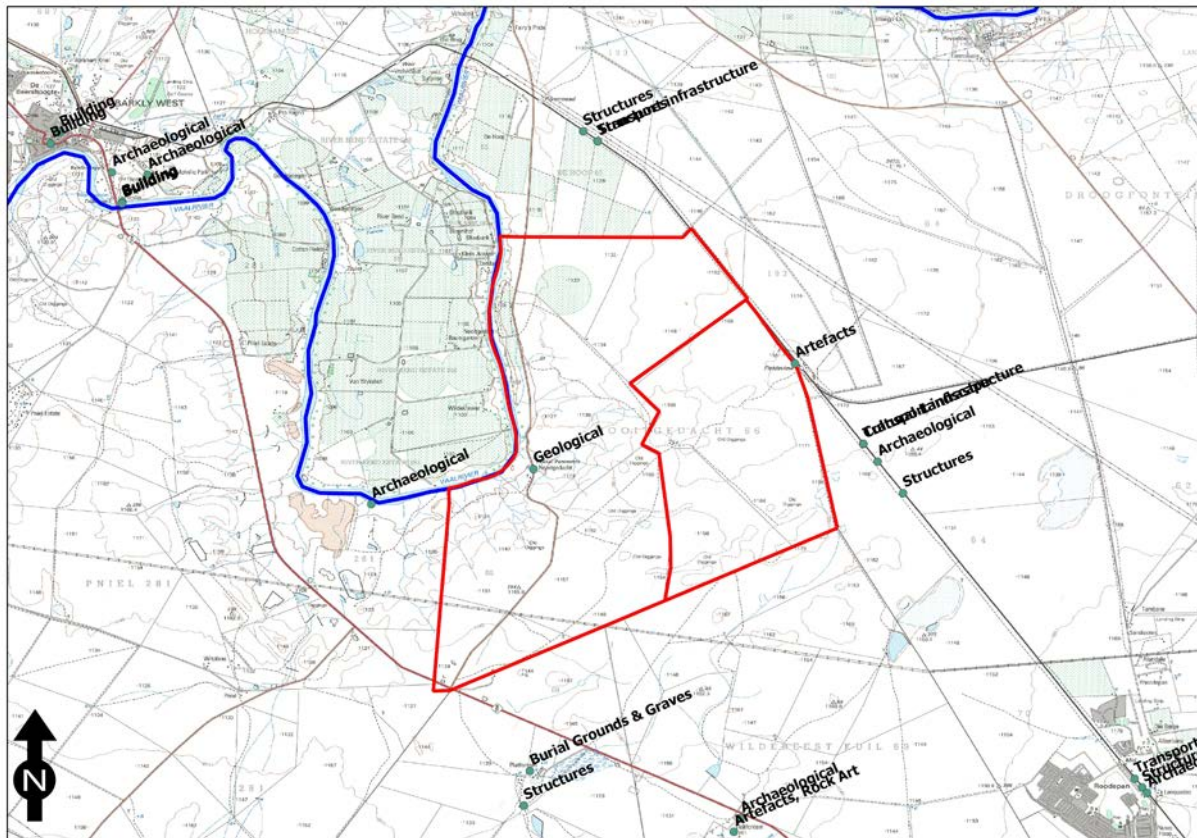


Figure 18: General location of heritage sites in the region as recorded on SAHRIS (July 2017)

According to the Surveyor General's database the farm Nooitgedacht 66 was originally surveyed in 1878 (although the title deed dates to 07/10/1870 (granted to Mr J. Hayward) (TAB SS Vol 127 Ref R1172/70 & KAB LND Vol 1/303 Ref L2151) (also see Addendum 3).

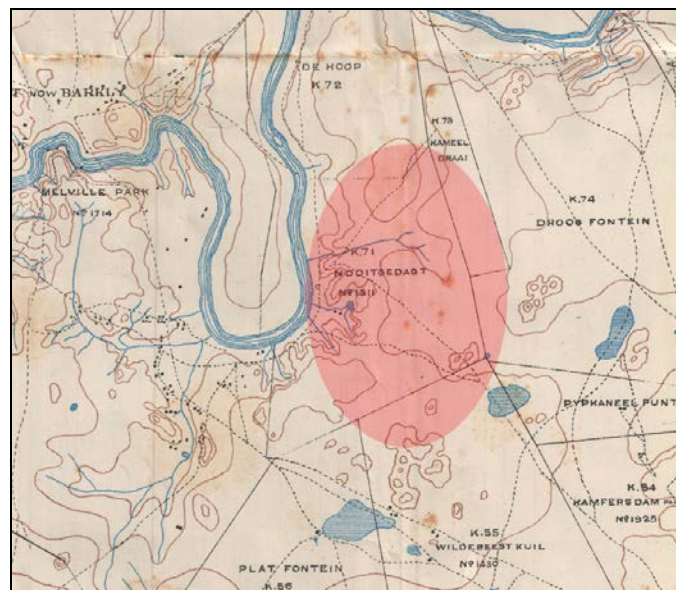


Figure 19: Survey General's Office Bloemfontein: Field Intelligence Department Map of Kimberley area (1900s)

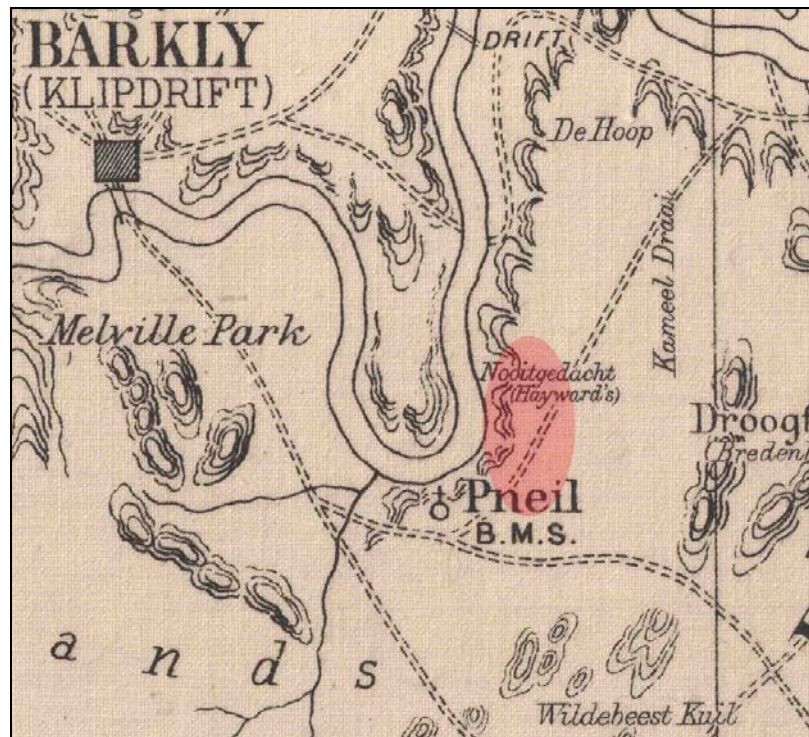


Figure 20: War Office Map indicating the location of the survey area as it was in 1899 (Mr. Hayward was already listed as owner)

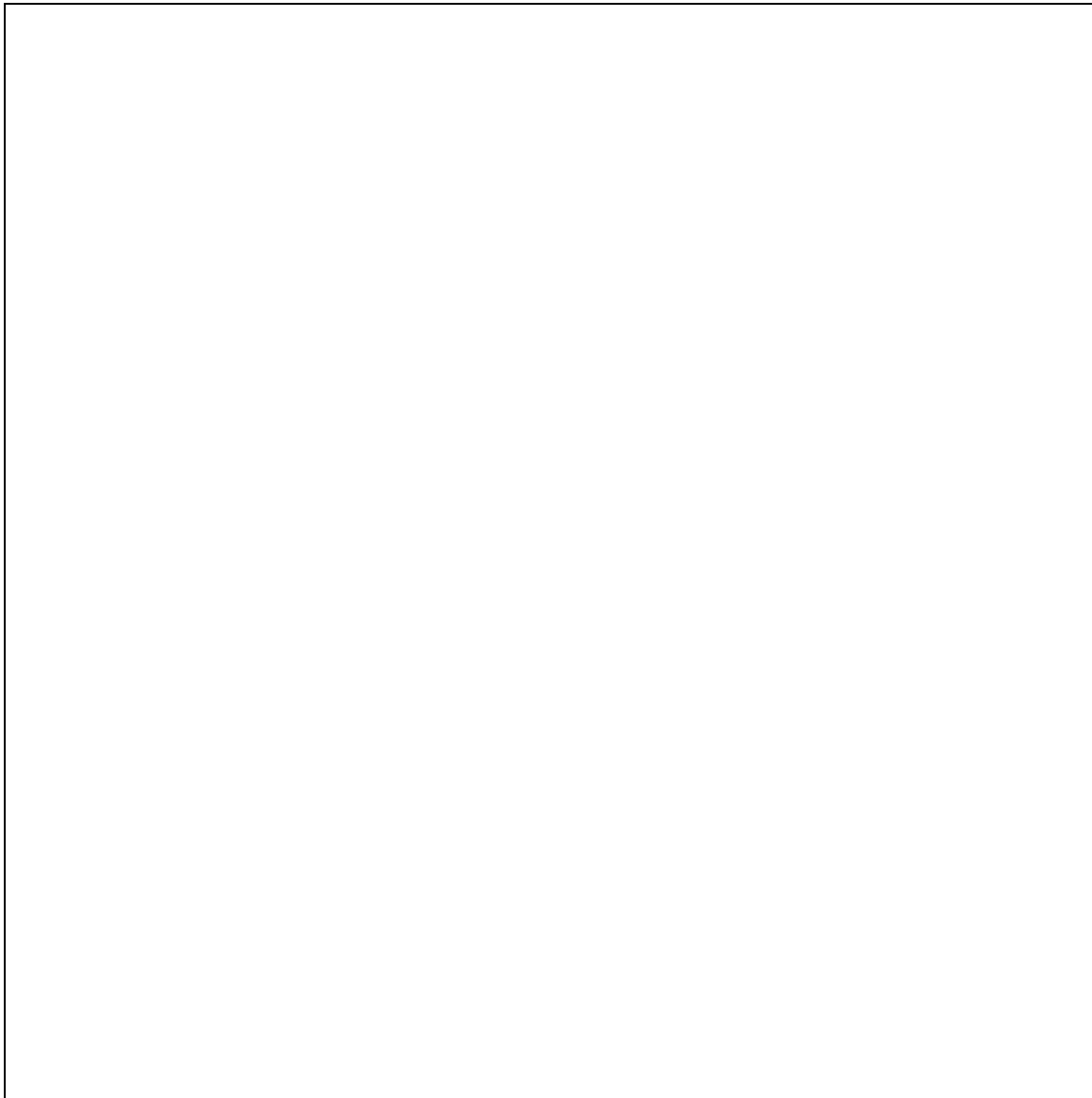


Figure 21: The official declared area for the glacial pavements (National Monument) at Nooitgedacht (kindly provided by McGregor Museum: D Morris)

Also of relevance is that a long-term research project has been started in 2017 (Permit Holders: Dr. Michaela Ecker and Dr. David Morris), with funding from the Rust Family Foundation and the Quaternary Research Association, to excavate the fossil bearing part of the lower Vaal with modern research methods. The 2017 season is focusing on locations on the Farm Pniel 281. In the future, it is planned to expand this research project to a landscape-wide analysis, including the Pleistocene archaeological sites on the farm Nooitgedacht 66.

6.2 Palaeontological sensitivity

The area is underlain by the following geological types. Outcrops of the andesitic lavas of the Ventersdorp Supergroup, which is mostly overlain by calcrete, occur in isolated patches as rocky hills. Outcrops of tillite of the Dwyka Formation and shale of the Prince Albert Formation (Karoo Sequence) occur in the north-north-western part of the study area. As a result the following palaeontological sensitivity map was extracted from the SAHRIS database and clearly shows a medium to high sensitivity areas.

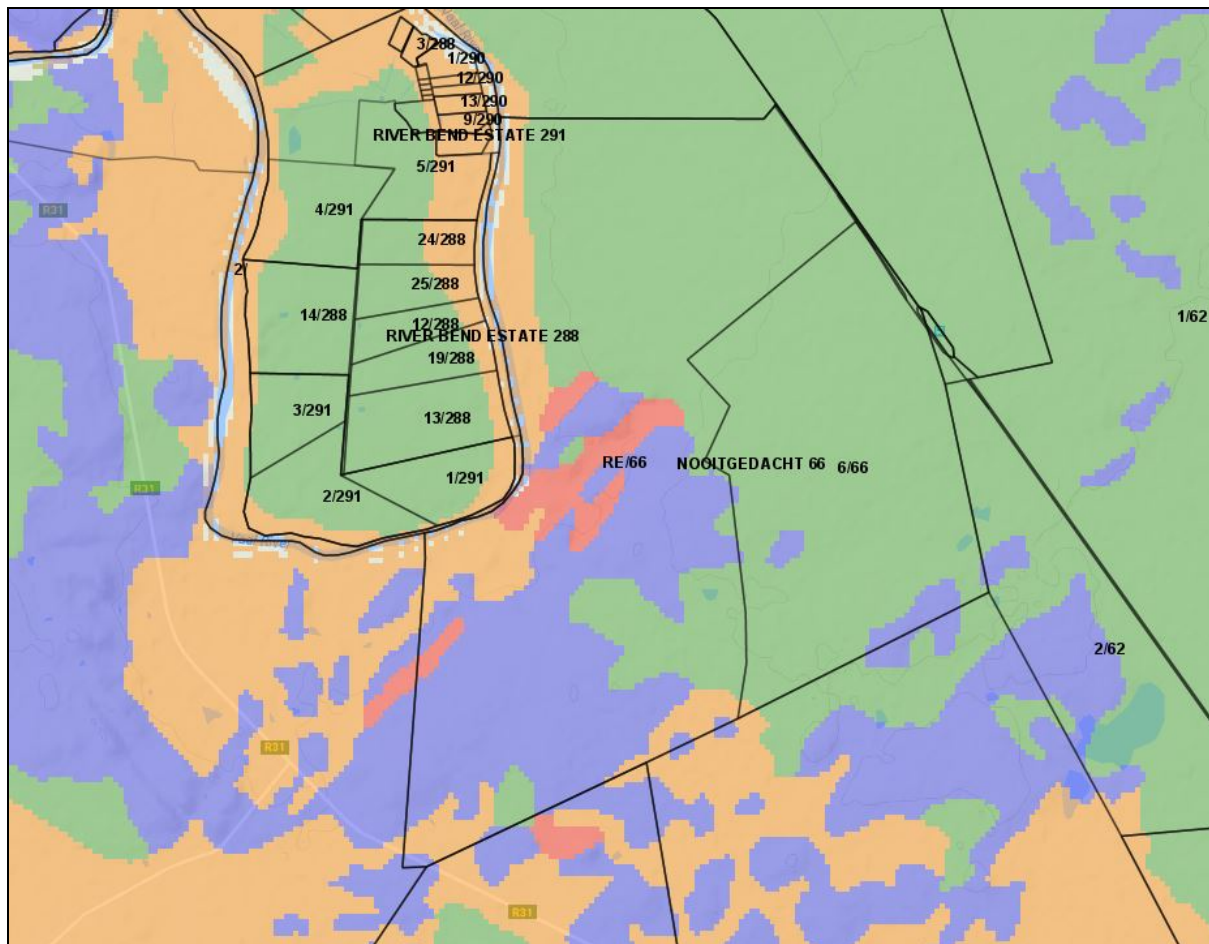


Figure 22: Palaeontological high sensitivity zones (red areas) as located in the survey footprint

6.3 Site visits

The field survey was conducted on 27 April 2017.

6.4 Social interaction and current inhabitants

The currently landowner is Mike Hall and he currently resides at his farm house complex situated near the banks of the Vaal River.

6.5 Public Consultation and Stakeholder Engagement

All registered I&APs and relevant State Departments will be given the opportunity to review the Scoping, EIR and EMP in accordance with Regulation R982. A minimum of 30 days commenting period will be allowed and all stakeholders and I&APs will be given an opportunity to forward their written comments within that period. All issues identified during this public review period will be documented and compiled into a Comments and Response Report to be included as part of the Final EIR to be submitted to the Northern Cape Department of Mineral Resources.

6.6 Assumptions, restrictions, gaps and limitations

No severe physical restrictions were encountered as the survey area was fairly accessible. The survey area is however severely disturbed due to farming and mining activities. As a result

not all areas were investigated in detail, as it was relatively easy to determine which areas will probably not yield archaeological and historical remains.

6.7 Methodology for assessment of potential impacts

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

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The **physical extent**, wherein it is indicated whether:
 - 1 - the impact will be limited to the site;
 - 2 - the impact will be limited to the local area;
 - 3 - the impact will be limited to the region;
 - 4 - the impact will be national; or
 - 5 - the impact will be international.
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
 - 1 - of a very short duration (0–1 years);
 - 2 - of a short duration (2-5 years);
 - 3 - of a medium-term (5–15 years);
 - 4 - of a long term (> 15 years); or
 - 5 - permanent.
- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
 - 0 - small and will have no effect;
 - 2 - minor and will not result in an impact;
 - 4 - low and will cause a slight impact;
 - 6 - moderate and will result in processes continuing but in a modified way;
 - 8 - high, (processes are altered to the extent that they temporarily cease); or
 - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
 - 1 - very improbable (probably will not happen);
 - 2 - improbable (some possibility, but low likelihood);
 - 3 - probable (distinct possibility);
 - 4 - highly probable (most likely); or
 - 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
 - The degree to which the impact can be reversed;
 - The degree to which the impact may cause irreplaceable loss of resources; and
 - The degree to which the impact can be mitigated.

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

$S = (E+D+M) \times P$; where:

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

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

7. The Cultural Heritage Sites

7.1. Isolated occurrences

Isolated occurrences are artefacts or small features recorded on the surface with no contextual information. No other associated material culture (in the form of structures or deposits) was noted that might provide any further context. This can be the result of various impacts and environmental factors such as erosion and modern developments. By contrast archaeological sites are often complex sites with evidence of archaeological deposit and various interrelated features such as complex deposits, stone walls and middens. However, these isolated occurrences are seen as remains of erstwhile complex or larger sites and they therefore provide a broad indication of possible types of sites or structures that might be expected to occur or have occurred in the survey footprint.

Throughout the survey area several isolated occurrences were recorded usually associated with the Early Middle Stone Age. These surface finds were recorded near open areas in the western section (near Nooitgedacht 1 (Site 3)) of the survey area. As such a general A°/m² index for the survey footprint is 0 – 5 artefacts per m² which is low.



Figure 23: Middle Stone Age (MSA) scraper flake tools found near Nooitgedacht 1 (Site 3)



Figure 24: Middle Stone Age (MSA) scraper, awl and blade tools (surface finds) found near Nootgedacht 1 (Site 3)

7.2 Heritage sites

A total of four sites were recorded during the survey and consist of one graveyard (Site 4) one historical complex with structures (Site 2), one Early Middle Stone Age site (Site 3 also Nootgedacht 1) and the glacial pavements with rock art engravings (Site 1 also SAHRA No. 9/2/049/0105) (a declared Provincial Monument (Grade 2)). No Iron Age settlements were recorded.

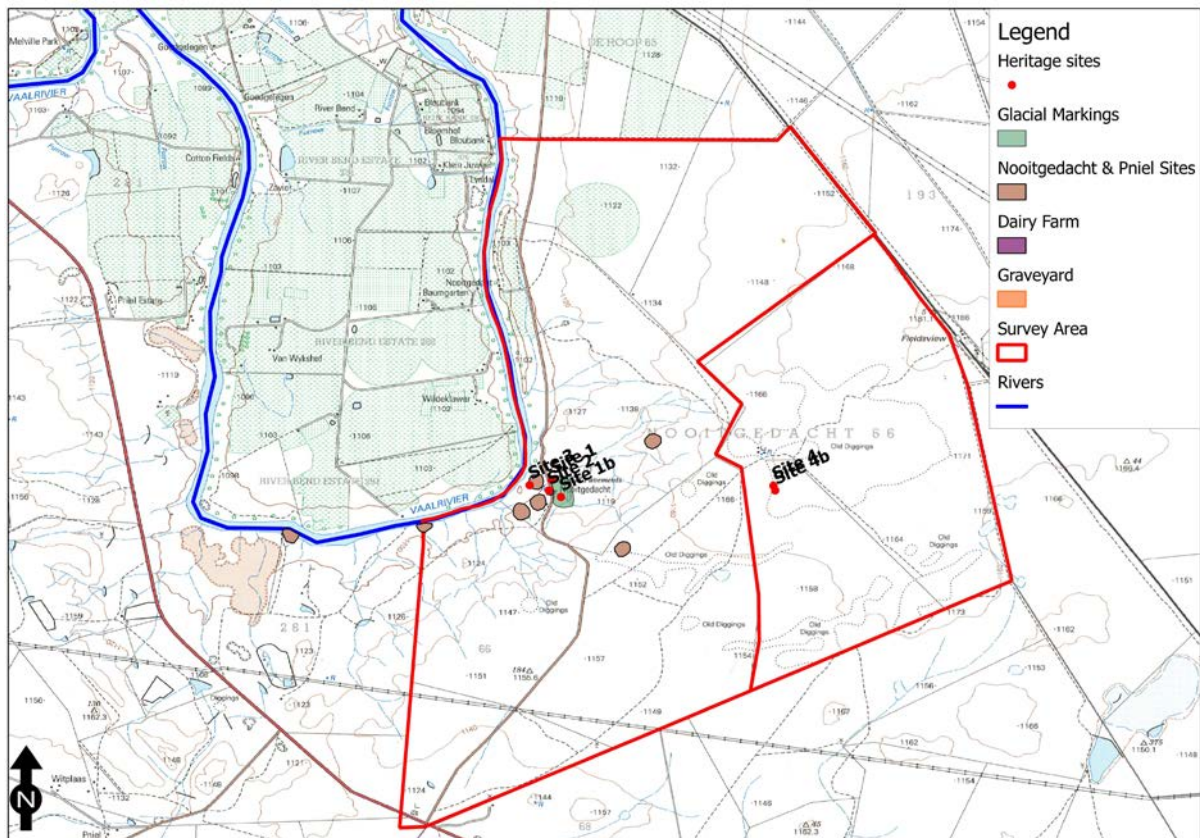


Figure 25: Location of the various recorded heritage sites

In addition several other heritage sites were recorded by the McGregor Museum and other surveys as discussed under 6.1 the following sites are relevant:

- Nooitgedacht 1 (N1)
- Nooitgedacht 2 (N2)
- Nooitgedacht 3 (N3)
- Nooitgedacht 4 (N4)
- Nooitgedacht 5 (N5)
- Nooitgedacht 6 (N6)
- Nooitgedacht 7 (N7)
- Hotazel 09 (SAHRIS Site ID: 36951) (H9)
- Railway line between Kimberley and Barkley West (R1)

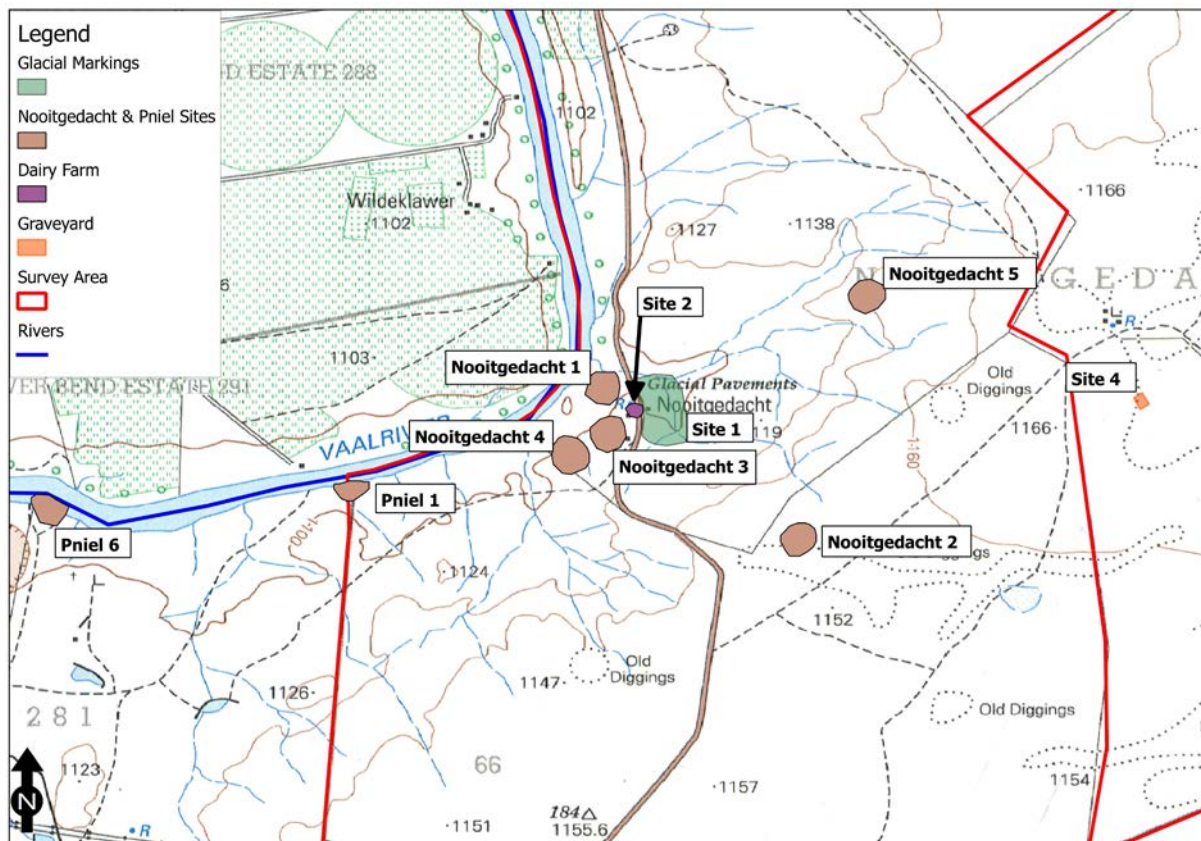


Figure 26: All the relevant heritage sites in the survey area

Figure 27: Additional heritage sites recorded in the area (SAHRIS July 2017)

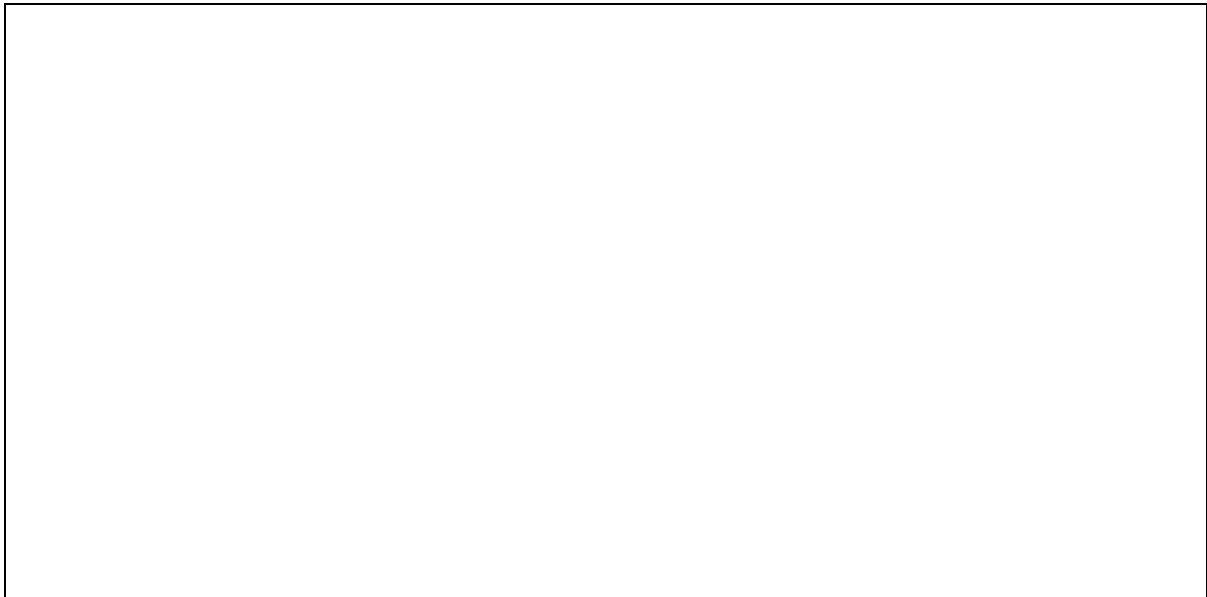


Figure 28: Detail of size and position of heritage sites in the western area of the survey footprint

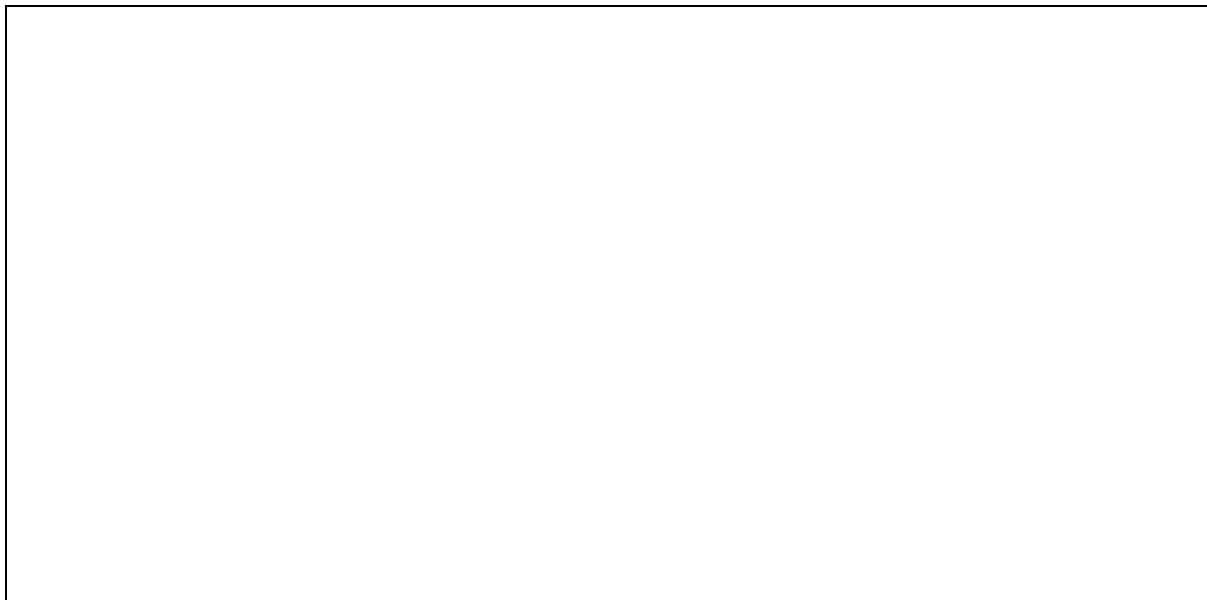


Figure 29: Location of heritage sites on Google Earth 2017

8. Locations and Evaluation of Sites

Site No	Coordinates	Site Type	Field Rating of Significance	Impact	Proposed Mitigation
1	28.598899°S 24.611526°E 28.601062°S 24.612692°E	Glacial pavements with rock art engravings	Declared Provincial Monument (Grade 2): High	None	<ul style="list-style-type: none"> Maintain a buffer zone of 500 metres during prospecting phase
2	28.600240°S 24.611179°E	Historical house and buildings (diary) with kraals	Generally protected B: Medium significance	None	<ul style="list-style-type: none"> None
3 (N1)	28.599580°S 24.608753°E	Early Middle Stone Age	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
4	28.599645°S 24.639453°E	Graveyard	Generally protected A: High significance	High	<ul style="list-style-type: none"> Fenced off and gate installed Maintain a buffer zone of 50 metres during construction and prospecting phase
N2	28.608470°S 24.619580°E	Fauresmith assemblage	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
N3	28.602690°S 24.610280°E	Middel Stone Age	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
N4	28.605820°S 24.604610°E	Later Middel Stone Age	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
N5	28.591930°S 24.622420°E	Late Holocene assemblage	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
N6	28.602400°S 24.604800°E	Middel Stone Age	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
N7	28.604260°S 24.607940°E	Mossel Bay Middel Stone Age	Generally protected A: High significance	None	<ul style="list-style-type: none"> None
H1	28.580211°S 24.661383°E	Stone Age assemblage	Generally protected B: Medium significance	High	<ul style="list-style-type: none"> Maintain a buffer zone of 50 metres during prospecting phase
R1	See map	Historical railway line	Generally protected B: Medium significance	High	<ul style="list-style-type: none"> Maintain a buffer zone of 50 metres during prospecting phase

Table 7: Location and evaluation of sites

9. Management Measures

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

9.1 Objectives

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

The following shall apply:

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

9.2 Control

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

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

10. Recommendations and Conclusions

As indicated a total of four sites were recorded during the survey and consist of one graveyard (Site 4) one historical complex with structures (Site 2), one Early Middle Stone

Age site (Site 3 also Nooitgedacht 1) and the glacial pavements with rock art engravings (Site 1 also SAHRA No. 9/2/049/0105) (a declared Provincial Monument). In addition, several other heritage sites were recorded by previous survey and research endeavours in the region which include sites on the farm Nooitgedacht, sites N1 – 7 and Hotazel 09 (SAHRIS Site ID: 36951) (H9) as well as the railway line between Kimberley and Barley West (R1).

No Iron Age settlements, structures, features, assemblages or artefacts were recorded during the survey.

Final recommendations:

- Site 1 (SAHRA No. 9/2/049/0105) is a declared Provincial Monument and a buffer zone of 500 metres should be adhered to;
- Site 4 is a graveyard with over 300 graves and should be fenced off and a 50 metres buffer zone should be adhered to;
- Hotazel 09 (H9) is a Stone Age assemblage and a buffer zone 50 metres should be adhered to;
- Site R1 is the historical railway line between Kimberley and Barkley West and was completed in 1890. A 50 metres buffer zone along the total length of the line (as bordered on the north eastern boundary of the farm Nooitgedacht 66) should be adhered to.

Nature: Only Site 4 (Graveyard) is located within the area of the proposed prospecting of alluvial diamonds. No impact is envisaged on the other heritage sites.		
	Without mitigation	With mitigation
Pre-construction & Construction Phase		
<i>Probability</i>	Highly probable (4)	Improbable (2)
<i>Duration</i>	Very short term (1)	Very short term (1)
<i>Extent</i>	Limited to the site (1)	Limited to the site (1)
<i>Magnitude</i>	High (8)	Minor (2)
Significance of Impact	40 (Medium)	8 (Low)
<i>Status (positive or negative)</i>	Negative	Neutral
Operational (Mining) Phase		
<i>Probability</i>	Highly probable (4)	Improbable (2)
<i>Duration</i>	Long term (4)	Long term (4)
<i>Extent</i>	Limited to the local area (2)	Limited to the local area (2)
<i>Magnitude</i>	Very high (10)	Low (4)
Significance of Impact	64 (High)	20 (Low)
<i>Status (positive or negative)</i>	Negative	Neutral
Decommissioning/Rehabilitation Phase		
<i>Probability</i>	Highly probable (4)	Improbable (2)
<i>Duration</i>	Very short term (1)	Very short term (1)
<i>Extent</i>	Limited to the site (1)	Limited to the site (1)
<i>Magnitude</i>	High (8)	Minor (2)
Significance of Impact	40 (Medium)	8 (Low)
<i>Status (positive or negative)</i>	Negative	Neutral
Reversibility	Low	Low
<i>Irreplaceable loss of resources?</i>	High	Low
<i>Cumulative impacts and indirect impacts</i>	Prospecting activities result in extensive heavy vehicle traffic, extraction of deposits, movements of heavy machinery which culminate in vibrations and dust which will also indirectly affect the heritage remains.	
<i>Can impacts be mitigated?</i>	Yes, buffer zones are recommended (50 metres)	

Table 8: Significance of the impact

Also, please note:

If the exhumation and reburial of the graveyards are envisaged it will entail social consultation and permit application. Other legislative measures which may be pertinent include the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003, Ordinance on Exhumations (Ordinance No. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place. Note that unmarked graves are by default regarded as older than 60 years and therefore falls under the NHRA (Act No. 25 of 1999, Section 36).

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* **NHRA (Act No. 25 of 1999)**, Section 36 (6)).

11. References

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Addendum 1: Archaeological and Historical Sequence

The table provides a general overview of the chronological sequence of the archaeological periods in South Africa.

PERIOD	APPROXIMATE DATES
Earlier Stone Age	more than 2 million years ago to >200 000 years ago
Middle Stone Age	<300 000 years ago to >20 000 years ago
Later Stone Age (Includes hunter-gatherer rock art)	<40 000 years ago up to historical times in certain areas
Early Iron Age	c. AD 200 - c. AD 900
Middle Iron Age	c. AD 900 – c. AD 1300
Late Iron Age (Stonewalled sites)	c. AD 1300 - c. AD 1840 (c. AD 1640 - c. AD 1840)

< = less than; > = greater than

Archaeological Context

Stone Age Sequence

Concentrations of Early Stone Age (ESA) sites are usually present on the flood-plains of perennial rivers and may date to over 2 million years ago. These ESA open sites may contain scatters of stone tools and manufacturing debris and secondly, large concentrated deposits ranging from pebble tool choppers to core tools such as handaxes and cleavers. The earliest hominins who made these stone tools, probably not always actively hunted, instead relying on the opportunistic scavenging of meat from carnivore kill sites.

Middle Stone Age (MSA) sites also occur on flood plains, but are also associated with caves and rock shelters (overhangs). Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom preserve. Limited drive-hunting activities are also associated with this period.

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

The following chronological sequence was recently established by prominent Stone Age archaeologists (Lombard et al 2012):

Later Stone Age

- Age Range: recent to 20-40 thousand years ago

- General characteristics: expect variability between assemblages, a wide range of formal tools, particularly scrapers (microlithic and macrolithic), backed artefacts, evidence of hafted stone and bone tools, borers, bored stones, upper and lower grindstones, grooved stones, ostrich eggshell (OES) beads and other ornaments, undecorated/decorated OES fragments, flasks/flask fragments, bone tools (sometimes with decoration), fishing equipment, rock art, and ceramics in the final phase.
 - **Ceramic or Final Later Stone Age**
 - Generally < 2 thousand years ago
 - MIS 1
 - Contemporaneous with, and broadly similar to, final Later Stone Age, but includes ceramics
 - Economy may be associated with hunter-gatherers or herders

Technological characteristics

- Stone tool assemblages are often microlithic
 - In some areas they are dominated by long end scrapers and few backed microliths; in others formal tools are absent or rare
 - Grindstones are common, ground stone artefacts, stone bowls and boat-shaped grinding grooves may occur
 - Includes grit- or grass-tempered pottery
 - Ceramics can be coarse, or well-fired and thin-walled; some times with lugs, spouts and conical bases; sometimes with decoration; sometimes shaped as bowls
 - Ochre is common
 - Ostrich eggshell (OES) is common
 - Metal objects, glass beads and glass artefacts also occur
- **Final Later Stone Age**
 - 100 – 4000 years ago
 - MIS 1
 - Hunter-gatherer economy

Technological characteristics

- Much variability can be expected
 - Variants include macrolithic (similar to Smithfield [Sampson 1974]) and/or microlithic (similar to Wilton) assemblages
 - Assemblages are mostly informal (Smithfield)
 - Often characterised by large untrimmed flakes (Smithfield)
 - Sometimes microlithic with scrapers, blades and bladelets, backed tools and adzes (Wilton-like)
 - Worked bone is common
 - OES is common
 - Ochre is common
 - Iron objects are rare
 - Ceramics are absent
- **Wilton**
 - 4000 – 8000 years ago
 - MIS 1

- At some sites continues into the final Later Stone Age as regional variants (e.g. Wilton Large Rock Shelter and Cave James)

Technological characteristics

- Fully developed microlithic tradition with numerous formal tools
 - Highly standardised backed microliths and small convex scrapers (for definition of standardisation see Eerkens & Bettinger 2001)
 - OES is common
 - Ochre is common
 - Bone, shell and wooden artefacts occur
- **Oakhurst**
 - 7000 – 12 000 years ago
 - MIS 1
 - Includes Albany, Lockshoek and Kuruman as regional variants

Technological characteristics

- Flake based industry
 - Characterised by round, end, and D-shaped scrapers and adzes
 - Wide range of polished bone tools
 - Few or no microliths
- **Robberg**
 - 12 000 to 18 000 years ago
 - MIS 2

Technological characteristics

- Characterised by systematic bladelet (<26mm) production and the occurrence of outils ecailles or scaled pieces
 - Significant numbers of unretouched bladelets and bladelet cores
 - Few formal tools
 - Some sites have significant macrolithic elements
- **Early Late Stone Age**
 - 18 000 – 40 000 years ago
 - MIS 2-3
 - Informal designation
 - Also known as transitional MSA-LSA
 - Overlapping in time with final Middle Stone Age

Technological Characteristics

- Characterised by unstandardised, often microlithic, pieces and includes the bipolar technique
- Described at some sites, but not always clear whether assemblages represent a real archaeological phase or a mixture of LSA/MSA artefacts

Middle Stone Age

- Age Range: 20 000 – 30 000 years ago

- General characteristics: Levallois or prepared core techniques (for definitions see Van Peer 1992; Boeda 1995; Pleurdeau 2005) occur in which triangular flakes with convergent dorsal scars, often with faceted striking platforms, are produced. Discoidal systems (for definition see Inizan et al. 1999) and intentional blade production from volumetric cores (for definition see Pleurdeau 2005) also occur; formal tools may include unifacially and bifacially retouched points, backed artefacts, scrapers, and denticulates (for definition see Bisson 2000); evidence of hafted tools; occasionally includes marine shell beads, bone points, engraved ochre nodules, engraved OES fragments, engraved bone fragments, and grindstones.
- In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **Final Middle Stone Age**
 - 20 000 – 40 000 years ago
 - MIS 3
 - Informal designation partly based on the Sibudu sequence

Technological characteristics

- Characterised by high regional variability that may include, e.g. bifacial tools, bifacially retouched points, hollow-based points
- Triangular flake and blade industries (similar to Strathalan and Melikane)
- Small bifacial and unifacial points (similar to Sibudu and Rose Cottage Cave)
- Sibudu point characteristics: short, stout, lighter in mass compared to points from the Sibudu technocomplex, but heavier than those from the Still Bay
- Can be microlithic
- Can include bipolar technology
- Could include backed geometric shapes such as segments, as well as side scrapers

Sibudu

- 45 000 – 58 000 years ago
- MIS 3
- Previously published as informal late Middle Stone Age and post-Howieson's Poort at Sibudu
- Formerly known post-Howieson's Poort, MSA 3 generally, and MSA III at Klasies River

Technological characteristics

- Most points are produced using Levallois technique
- Most formal retouch aimed at producing unifacial points
- Sibudu unifacial point (type fossil) characteristics: faceted platform; shape is somewhat elongated with a mean length of 43.9 mm), a mean breadth of 26.8 mm and mean thickness of 8.8 mm (L/B ratio 1.7); their mean mass is 11.8 g (Mohapi, 2012)
- Some plain butts
- Rare bifacially retouched points
- Some side scrapers are present
- Backed pieces are rare
- **Howieson's Poort**
 - 58 000 – 66 000 years ago
 - MIS 3-4

Technological characteristics

- Characterised by blade technology
- Includes small (<4 cm) backed tools, e.g. segments, scrapers, trapezes and backed blades
- Some denticulate blades
- Pointed forms are rare or absent
- **Still Bay**
 - 70 000 – 77 000 years ago
 - MIS 4-5a

Technological characteristics

- Characterised by thin (<10 mm), bifacially worked foliate or lanceolate points
- Semi-circular or wide-angled pointed butts
- Could include blades and finely serrated points (Lombard et al. 2010)
- **Pre-Still Bay**
 - 72 000 – 96 000 years ago
 - MIS 4-5

Technological characteristics

- Characteristics currently being determined / studied
- **Mossel Bay**
 - 77 000 to —105 000 years ago
 - MIS 5a-4
 - Also known as MSA II at Klasies River or MSA 2b generally

Technological characteristics

- Characterised by recurrent unipolar Levallois point and blade reduction
- Products have straight profiles; percussion bulbs are prominent and often splintered or ring-cracked
- Formal retouch is infrequent and restricted to sharpening the tip or shaping the butt
- **Klasies River**
 - 105 000 to —130 000 years ago
 - MIS 5d-5e
 - Also referred to as MSA I at Klasies River or MSA 2a generally

Technological characteristics

- Recurrent blade and convergent flake production
- End products are elongated and relatively thin, often with curved profiles
- Platforms are often small with diffused bulbs
- Low frequencies of retouch
- Denticulate pieces
- **Early Middle Stone Age**
 - Suggested age MIS 6 to MIS 8 (130 000 to —300 000 years ago)
 - Informal designation

Technological characteristics

- This phase needs future clarification regarding the designation of cultural material and sequencing
- Includes discoidal and Levallois flake technologies, blades from volumetric cores and a generalised toolkit
- **Earlier Stone Age**
 - Age range: >200 000 to 2 000 000 years ago
 - General characteristics: early stages include simple flakes struck from cobbles, core and pebble tools; later stages include intentionally shaped handaxes, cleavers and picks; final or transitional stages have tools that are smaller than the preceding stages and include large blades.
 - In the sequence below we highlight differences or characteristics that may be used to refine interpretations depending on context.
- **ESA-MSA transition**
- 200 to —600 thousand years ago
- MIS 7-15

Technological characteristics

- Described at some sites as Fauresmith or Sangoan
- Relationships, descriptions, issues of mixing and ages yet to be clarified
- Fauresmith assemblages have large blades, points, Levallois technology, and the remaining ESA components have small bifaces
- The Sangoan contains small bifaces (<100 mm), picks, heavy and light-duty denticulated and notched scrapers
- The Sangoan is less well described than the Fauresmith
- **Acheulean**
 - 300 thousand to —1.5 million years ago
 - MIS 8-50

Technological characteristics

- Bifacially worked handaxes and cleavers, large flakes > 10 cm
- Some flakes with deliberate retouch, sometimes classified as scrapers
- Gives impression of being deliberately shaped, but could indicate result of knapping strategy
- Sometimes shows core preparation
- Generally found in disturbed open-air locations
- **Oldowan**
 - 1.5 to >2 million years ago
 - MIS 50-75

Technological characteristics

- Cobble, core or flake tools with little retouch and no flaking to predetermined patterns
- Hammerstones, manuports, cores
- Polished bone fragments/tools

Iron Age Sequence

In the northern regions of South Africa at least three settlement phases have been distinguished for early prehistoric agropastoralist settlements during the **Early Iron Age** (EIA). Diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. The first phase of the Early Iron Age, known as **Happy Rest** (named after the site where the ceramics were first identified), is representative of the Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of **Diamant** is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the **Eiland** tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. These sites are usually located on low-lying spurs close to water.

The Late Iron Age (LIA) settlements are characterised by stone-walled enclosures situated on defensive hilltops c. AD 1640 - AD 1830). This occupation phase has been linked to the arrival of ancestral Northern Sotho, Tswana and Ndebele (Nguni-speakers) in the northern regions of South Africa with associated sites dating between the sixteenth and seventeenth centuries AD. The terminal LIA is represented by late 18th/early 19th century settlements with multichrome Moloko pottery commonly attributed to the Sotho-Tswana. These settlements can in many instances be correlated with oral traditions on population movements during which African farming communities sought refuge in mountainous regions during the processes of disruption in the northern interior of South Africa, resulting from the so-called difaqane (or mfecane).

Ethno-historical Context

Various alluvial diamond digging was going on in the region, but it seems Canteen Kopje (north west of the survey footprint) was one of the first and started in 1869 and continued until 1927. It was declared a National Monument in 1948. The site also yielded extensive Stone Age deposits that were excavated by Peter Beaumont of the McGregor Museum. The site is famous for containing Later Stone Age, Middle Stone Age and Earlier Stone Age (Acheulian) stone tools (Beaumont & Morris 1990).



Figure 30: Canteen kopje in the 1870s (Sketch by A. A. Anderson)

Historical Framework

A study of archival information however indicates the presence of the redoubts and encampments of the Boer forces during the South African war of 1899-1902 present just outside the study area. During the South African War, also referred to as the Anglo Boer war, Kimberley was besieged by Boer forces from 14 October 1899 to 15 February 1900. For four months the Boer forces placed a total lock down on the town of Kimberley and besieged it until the town was relief by General French on 15 February 1900. For the Siege to be of any success the Boer forces needed to construct numerous redoubts and encampments around the town to control access in and out of town.



Figure 31: The siege of Kimberley (R.H. Wishart)

The extension of the line to Kimberley was as a direct result of the discovery of diamonds in that area in 1869. The line from De Aar to the Orange River was officially opened in November 1884. Due to a world-wide economic slump the Cape Colony was in a recession and it was only after the British Government advanced £400 000 the line to Kimberley could be completed. The 121km track between the Orange River and Kimberley was opened on 28 November 1885. The history of the construction of the railway line between Kimberley and Hotazel seems to have been as a direct result of the discovery of various minerals in this region. The line was built in various sections first from Kimberley to Barkly West and then from Barkly West to Koopmansfontein. The line was then extended from Koopmansfontein to Postmasburg and from Postmasburg to Lohathla. As more mining development was earmarked it necessitated the extension of the line from Lohathla to Sishen and at a later stage from Sishen to Hotazel. It seems from archival documents that a proposal was submitted for

the establishment of a railway line from Kimberley to Barkly West with its terminus at Borrelskop, a railway siding between Longlands and Delpoortshoop in 1922. The line between Kimberley, Barkly West and Koopmansfontein thus had to be completed between 1922 and 1930 although the precise date on which the extension of the railway line was inaugurated could not be established.

Originally established in 1869 as a camp for alluvial diamond diggers the town Klipdrift was renamed Barkly West in the early 1870s after the Cape Governor Sir Henry Barkly during which time it became part of the Crown colony of Griqualand West. The town was occupied by Boer forces for four months who temporarily renamed it Nieuw Boshof. The town gained municipality status in 1881. Historical sites in the area include architectural treasures like the Dutch Reformed Church, Old Magistrate Court and St Mary's Church that was built respectively in 1906, 1897 and 1869. In close proximity of the railway line is the late nineteenth century bridge and toll house over the Vaal river that was designed by James Ford, as well as, the Canteen Kopje Nature reserve that, not only revealed Early Stone Age implements but also have alluvial diamond bearing gravels. Warrenton and Windsorton, both towns which are still actively mining diamonds, also originated at the end of the nineteenth century. While Windsorton originally Hebron, was first a mission station Warrenton was bought to produce vegetables for the miners. Railway sidings on the Barkly West-Kenilworth line includes Weir and Rivermead.



Figure 32: One of the last Nooitgedacht diggers, Louw Botes (in his 80's)

Pniel mission station is situated just south of the farm Nooitgedacht 66 and was started by the Berlin Mission. The mission station was established by the honorary Mr. Winter in 1845 (some sources: 1849). The mission station consisted of a school, magistrate office and jail. The aim was to focus on the christening of the Korana people. Theodore Wagemann visited the mission in 1867 and it was probably still functioning at during the early 20th century.



Figure 33: Pniel mission station as drawn by Wagemann in 1867

Addendum 2: Description of the Recorded Sites

A system for grading the significance of heritage sites was established by the NHRA (Act No. 25 of 1999) and further developed by the South African Heritage Resources Agency (SAHRA 2007) and has been approved by ASAPA for use in southern Africa and was utilised during this assessment.

Site 1 (SAHRA No. 9/2/049/0105)

A. GENERAL SITE DESCRIPTION		
Site type	Glacial pavements with rock art engravings	
Site Period	Glacial pavements: Carboniferous Period Engravings: Later Stone Age	
Physical description	<p>The site comprises several rock surfaces known as glacial pavements. During the remote geological epoch that included the Permo-Carboniferous Period, about one-ninth of South Africa was covered by an immense ice sheet with extensive glaciers. These ancient glaciers moved outwards from the old mountain areas, mainly in the old Trans-Vaal and Namibia and in their passage over the ground picked up boulders and rubble which scoured and scratched the rock surfaces they passed over. These scratched surfaces are now exposed and resting on and round them is the rubble and solidified mud which was deposited when the ice melted. The pebbles and boulders of the rubble are also scarred and faceted, and they include so-called 'erratics', blocks of rock derived from distant areas and carried down by the moving ice.</p> <p>In addition several rock art engraving occur throughout most of the glacial pavements at the site. These petroglyphs include animal figures and geomorphic designs. Also several more recent historical scratchings (graffiti) were also noted at the site.</p> <p>The site was declared a National Monument in 1956 and is currently a Declared Provincial Heritage Site (Grade 2).</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">No. 185.] [3 February 1956. DEPARTMENT OF EDUCATION, ARTS AND SCIENCE.—PROTECTION OF MONUMENT.</p> <p style="text-align: center;">It is hereby notified for general information that the Honourable the Minister of Education, Arts and Science has been pleased by virtue of the powers vested in him by section eight (1) of the Natural and Historical Monuments, Relics and Antiques Act, 1934 (Act No. 4 of 1934), to amend Government Notice No. 529 of the 6th April, 1936, as follows:—</p> <p style="text-align: center;">In the description of the Monument, Glacial Rock Formations, Nootgedacht, District Kimberley, insert the words "the boundaries of which are demarcated by suitable beacons" after the word "homestead".</p> <p style="text-align: center;">J. H. VILJOEN, Minister of Education, Arts and Science. Cape Town, 18th January, 1956.</p> </div> <p>Several Stone Age sites occur in the area surrounding the site notably N1, N3 and N4 and it can be assumed that a temporal connection exists between these sites as Stone Age communities were occupying the landscape.</p>	
Integrity of deposits or structures.	As indicated by extensive archaeological excavations by Peter Beaumont most of the Stone Age deposits are stable and intact.	
Site extent	Roughly 480 m x 250 m	
B. SITE EVALUATION		
B1. HERITAGE VALUE	Yes	No
Historic Value		
It has importance to the community or pattern of South Africa's history or precolonial history.	X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.	X	
It has significance relating to the history of slavery in South Africa.		X
Aesthetic Value		
It has importance in exhibiting particular aesthetic characteristics valued by a particular	X	

community or cultural group.			
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.	X		
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.	X		
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.	X		
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.	X		
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.	X		
Representative Value			
It is important in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
B2. REGIONAL CONTEXT			
Other similar sites in the regional landscape.		X	
C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International		X	
National	X		
Provincial	X		
Local	X		
Specific community	X		
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			X
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> • No direct impact on the site • Maintain a buffer zone of 500 metres during prospecting phase • 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> • National Heritage Resources Act (Act No. 25 of 1999, Sections 27 & 35) 			
I. PHOTOGRAPHS			



Figure 34: Glacial pavements at the northern section of the site



Figure 35: Rock art engravings depicting geomorphic designs



Figure 36: Glacial pavements at the southern section of the site



Figure 37: General view of the valley with the glacial pavements (Site 2 in the background)



Figure 38: General view of the valley with the glacial pavements



Figure 39: Rock art engravings depicting animals figures and geomorphic designs

Site 2

A. GENERAL SITE DESCRIPTION			
Site type	Historical farmhouse and dairy complex		
Site Period	Early 20 th century (established 1902-1910)		
Physical description	<p>The site comprises the following aspects:</p> <ul style="list-style-type: none"> ▪ The main multi-room farmhouse ▪ Buildings associated with the dairy (including a 'cold room') ▪ Cattle kraals ▪ Water reservoir <p>It seems that the dairy was established by a Mr Sachs just after the South African War (Second Anglo-Boer War (1899-1902)) in approximately 1902. The multi-room farmhouse was constructed with dressed stone blocks with wooden frames (windows and doors) and floors. The roof was constructed with corrugated iron sheets. The main entrance faces west. Later alterations and additions were also made to the house using mostly large cement bricks. The dairy consists of one dilapidated stone building and a 'cool room' constructed with bricks that functioned as a fridge to keep the milk cold. Water reticulated down from a tank on the roof of the structure and filtered through the walls. Several stone-walled kraals are located adjacent to these structures. A large water reservoir built with dressed stone and lined with cement is situated 15 metres to the north west. Large middens were recorded at the site with remains of cinder and other cultural material (glass, white ware and bone pieces) clearly visible on the surface.</p>		
Integrity of deposits or structures	Most of the deposits are stable. The structures are dilapidated and the farmhouse is fairly stable.		
Site extent	Farmhouse: 16 m x 11 m; wall eight 3.5 m Dairy buildings: 5 m x 7 m; wall height 2.2 m Cool room: 5 m x 5 m; wall height 2 m Cattle kraals: 23 m x 22 m; 23 m x 18 m: wall height 1.5 Water reservoir: 11 m x 8 m: wall height 1.2 m		
B. SITE EVALUATION			
B1. HERITAGE VALUE		Yes	No
Historic Value			
It has importance to the community or pattern of South Africa's history or precolonial history.			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance relating to the history of slavery in South Africa.			X
Aesthetic Value			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.		X	
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
Representative Value			
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
B2. REGIONAL CONTEXT			

Other similar sites in the regional landscape.			X
C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			X
National			X
Provincial			x
Local		X	
Specific community		X	
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			X
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			X
High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> No direct impact on the site 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Sections 34) 			
I. PHOTOGRAPHS			

Figure 40: The main farmhouse, buildings associated with the dairy, cattle kraals and reservoir (north west)



Figure 41: The historical farmhouse associated with the dairy



Figure 42: A structure probably used as the dairy (milking of cows)



Figure 43: Cool room that functioned as a fridge (milk storage)



Figure 44: Elaborate stone-walled cattle kraal system




Figure 45: Water reservoir (dressed stone and cement) near the dairy



Figure 46: Large midden associated with the dairy structures

Site 3 (Nooitgedacht 1)

A. GENERAL SITE DESCRIPTION				
Site type	Later Stone Age deposits (Ceramic LSA)			
Site Period	Later Stone Age			
Physical description	The site comprises deep Stone Age deposits that were excavated by Peter Beaumont of the McGregor Museum in Kimberley in the 1980s. One of the interesting finds is that ceramics were found throughout the Stone Age deposits (Beaumont & Morris 1990; Peringuey 1911:58)			
Integrity of deposits or structures	Stable			
Site extent	Approximately 70 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.			X	
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.				X
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.			X	
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				X
National			X	
Provincial		X		
Local		X		
Specific community		X		
D. FIELD REGISTER RATING				
National/Grade 1 [should be registered, retained]				
Provincial/Grade 2 [should be registered, retained]				
Local/Grade 3A [should be registered, mitigation not advised]				
Local/Grade 3B [High significance; mitigation, partly retained]				
Generally Protected A [High/Medium significance, mitigation]				X
Generally protected B [Medium significance, to be recorded]				
Generally Protected C [Low significance, no further action]				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				

Medium	
High	X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT	
None	X
Peripheral	
Destruction	
Uncertain	
G. RECOMMENDED MITIGATION	
<ul style="list-style-type: none"> No direct impact on the site 	
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS	
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 36) 	
I. PHOTOGRAPHS	
	
<p>Figure 47: Deposits are situated on the southern bank of the Vaal River</p>	

Site 4

A. GENERAL SITE DESCRIPTION			
Site type	Graveyard		
Site Period	Early to Mid-20 th Century		
Physical description	<p>The site comprises a graveyard which consists of at least 300 graves with an east-west orientation with the headstones on the western side. The graves are demarcated with packed stones. None of the graves have inscriptions, except one:</p> <ul style="list-style-type: none"> Martha Snye (?) (Born: 1876; Died: 15/02/1969) <p>Unmarked graves are by default regarded as older than 60 years and are therefore protected by the NHRA (Act No 25 of 1999, Section 36).</p>		
Integrity of deposits or structures	Stable		
Site extent	Approximately 120 m x 50 m		
B. SITE EVALUATION			
B1. HERITAGE VALUE			
			Yes
			No
Historic Value			
It has importance to the community or pattern of South Africa's history or precolonial history.			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance relating to the history of slavery in South Africa.			X
Aesthetic Value			
It has importance in exhibiting particular aesthetic characteristics valued by a particular			X

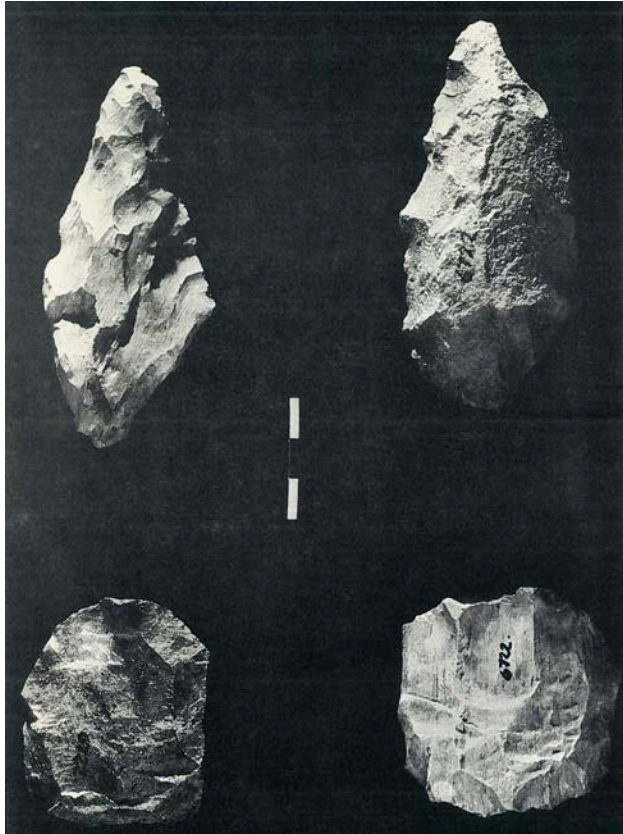
community or cultural group.			
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.	X		
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
Representative Value			
It is important in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
B2. REGIONAL CONTEXT			
Other similar sites in the regional landscape.		X	
C. SPHERE OF SIGNIFICANCE			
	High	Medium	Low
International			X
National			X
Provincial		X	
Local	X		
Specific community	X		
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			X
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> No direct impact on the site 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 36) Regulations Relating to the Management of Human Remains, in terms of the National Health Act No. 61 of 2003 Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925) Ordinance on Exhumations (Ordinance No. 12 of 1980) Local and regional provisions, laws and by-laws 			
I. PHOTOGRAPHS			



Figure 48: Some of the graves demarcated with packed stones

Site N2

A. GENERAL SITE DESCRIPTION				
Site type	Stone Age deposits			
Site Period	Early to Middle Stone Age (Acheulian and Fauresmith)			
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points and rare small handaxes. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).			
Integrity of deposits or structures	Stable			
Site extent	Approximately 50 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.			X	
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.				X
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.			X	
C. SPHERE OF SIGNIFICANCE		High	Medium	Low

International			X
National		X	
Provincial	X		
Local	X		
Specific community	X		
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			X
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> No direct impact on the site 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 			
I. PHOTOGRAPHS			
 <p>The photograph shows four stone artifacts arranged in a 2x2 grid. The top-left and top-right items are handaxes, which are elongated, pointed tools with sharp edges. The bottom-left and bottom-right items are prepared cores, which are roughly circular or oval-shaped stones with visible flaking patterns. A vertical white scale bar is positioned in the center between the top and bottom rows of artifacts.</p>			
<p>Figure 49: Nooitgedacht 2 site with handaxes (upper left and right) and prepared cores (lower left and right) (after Beaumont & Morris 1990)</p>			

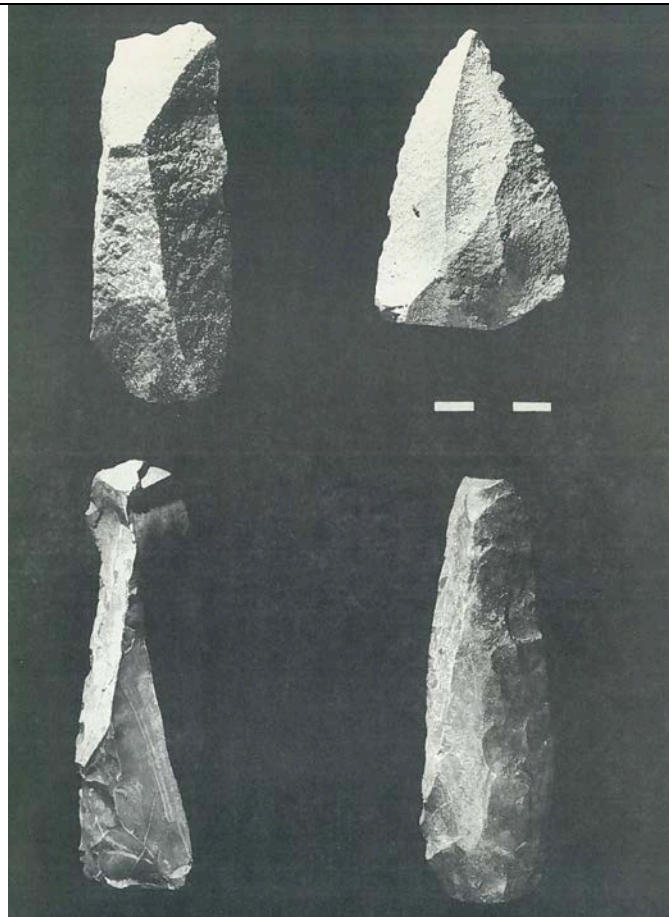


Figure 50: Nooitgedacht 2 site with a blade (upper left), convergent point (upper right), blade (lower left) and laterally retouched point (lower right)

Site N3

A. GENERAL SITE DESCRIPTION				
Site type	Stone Age deposits			
Site Period	Early to Middle Stone Age (Acheulian and Fauresmith)			
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).			
Integrity of deposits or structures	Stable			
Site extent	Approximately 50 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X

It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.	X	
Social Value		
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X
Tourism Value		
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.		X
Rarity Value		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.		X
Representative Value		
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X
B2. REGIONAL CONTEXT		
Other similar sites in the regional landscape.	X	
C. SPHERE OF SIGNIFICANCE		
	High	Medium
International		Low
National		X
Provincial	X	
Local	X	
Specific community	X	
D. FIELD REGISTER RATING		
National/Grade 1 [should be registered, retained]		
Provincial/Grade 2 [should be registered, retained]		
Local/Grade 3A [should be registered, mitigation not advised]		
Local/Grade 3B [High significance; mitigation, partly retained]		
Generally Protected A [High/Medium significance, mitigation]		X
Generally protected B [Medium significance, to be recorded]		
Generally Protected C [Low significance, no further action]		
E. GENERAL STATEMENT OF SITE SIGNIFICANCE		
Low		
Medium		
High		X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT		
None		X
Peripheral		
Destruction		
Uncertain		
G. RECOMMENDED MITIGATION		
<ul style="list-style-type: none"> No direct impact on the site 		
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS		
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 		
I. PHOTOGRAPHS		

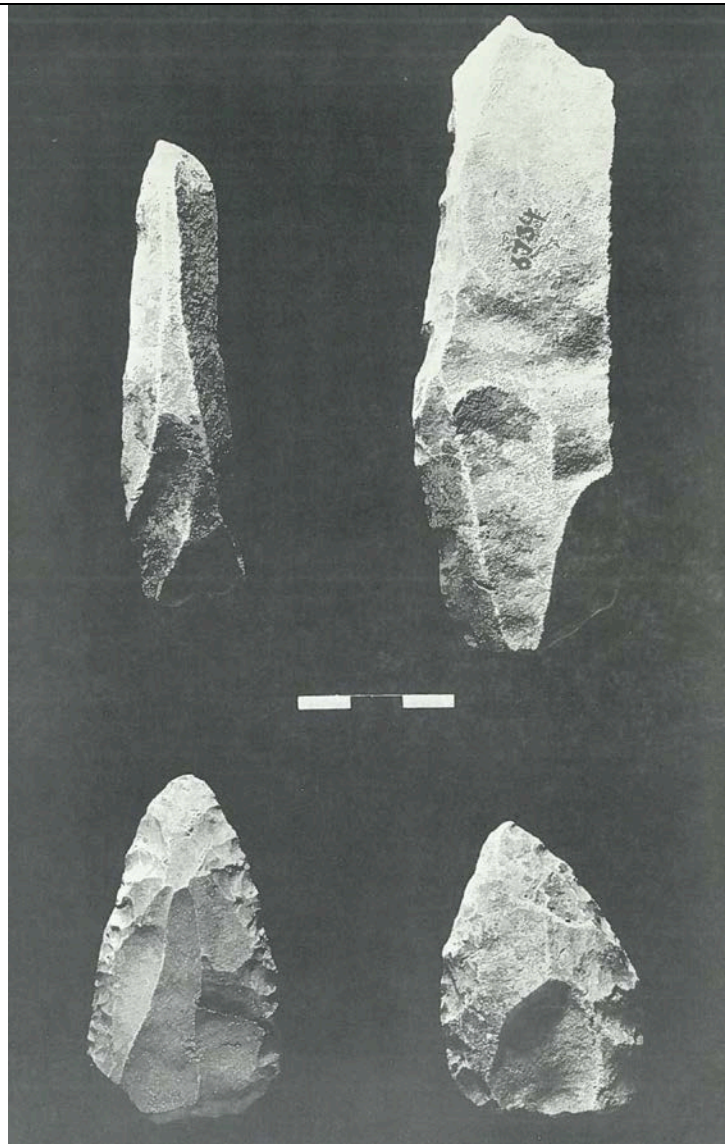


Figure 51: Nooitgedacht 3 site with a blade (upper left), side scraper or flake upper right) and unifacial points (bottom) (after Beaumont & Morris 1990)

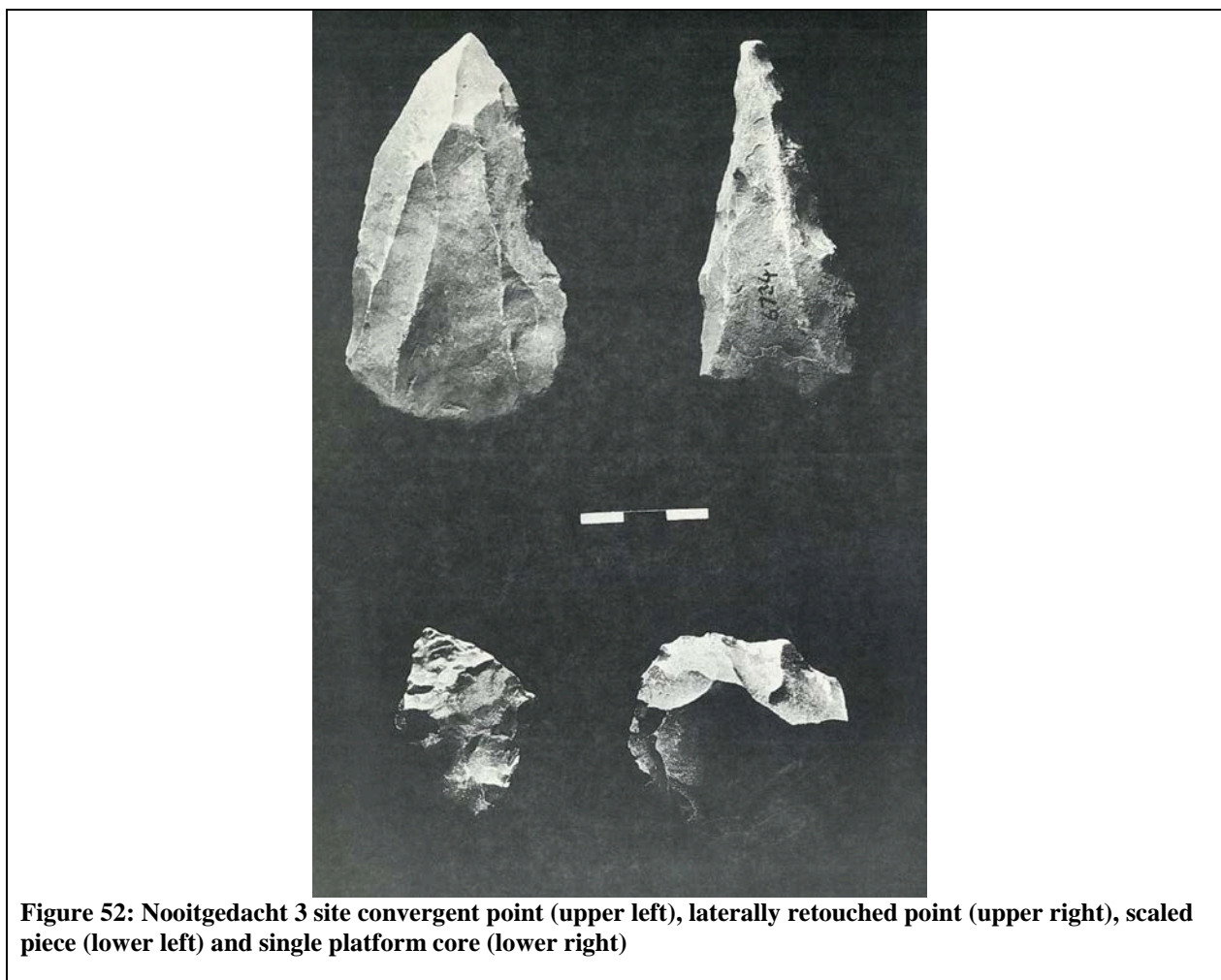


Figure 52: Nooitgedacht 3 site convergent point (upper left), laterally retouched point (upper right), scaled piece (lower left) and single platform core (lower right)

Site N4

A. GENERAL SITE DESCRIPTION			
Site type	Stone Age deposits		
Site Period	Middle Stone Age		
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).		
Integrity of deposits or structures	Stable		
Site extent	Approximately 50 m x 50 m		
B. SITE EVALUATION			
B1. HERITAGE VALUE		Yes	No
Historic Value			
It has importance to the community or pattern of South Africa's history or precolonial history.			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance relating to the history of slavery in South Africa.			X
Aesthetic Value			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It has importance in demonstrating a high degree of creative or technical achievement at a			X

particular period.			
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.		X	
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
Representative Value			
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
B2. REGIONAL CONTEXT			
Other similar sites in the regional landscape.		X	
C. SPHERE OF SIGNIFICANCE			
	High	Medium	Low
International			X
National		X	
Provincial	X		
Local	X		
Specific community	X		
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			X
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> No direct impact on the site 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 			
I. PHOTOGRAPHS			

Site N5

A. GENERAL SITE DESCRIPTION	
Site type	Stone Age deposits
Site Period	Later Stone Age
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).
Integrity of deposits	Stable

or structures			
Site extent	Approximately 50 m x 50 m		
B. SITE EVALUATION			
B1. HERITAGE VALUE		Yes	No
Historic Value			
It has importance to the community or pattern of South Africa's history or precolonial history.			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance relating to the history of slavery in South Africa.			X
Aesthetic Value			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.		X	
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
Representative Value			
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
B2. REGIONAL CONTEXT			
Other similar sites in the regional landscape.		X	
C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			X
National		X	
Provincial	X		
Local	X		
Specific community	X		
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			X
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			X
Peripheral			
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> No direct impact on the site 			

H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35)
I. PHOTOGRAPHS

Site N6

A. GENERAL SITE DESCRIPTION				
Site type	Stone Age deposits			
Site Period	Later Stone Age			
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).			
Integrity of deposits or structures	Stable			
Site extent	Approximately 50 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.			X	
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.				X
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.			X	
C. SPHERE OF SIGNIFICANCE				
	High	Medium	Low	
International			X	
National		X		
Provincial	X			
Local	X			
Specific community	X			
D. FIELD REGISTER RATING				
National/Grade 1 [should be registered, retained]				
Provincial/Grade 2 [should be registered, retained]				

Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	X
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	
E. GENERAL STATEMENT OF SITE SIGNIFICANCE	
Low	
Medium	
High	X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT	
None	X
Peripheral	
Destruction	
Uncertain	
G. RECOMMENDED MITIGATION	
<ul style="list-style-type: none"> No direct impact on the site 	
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS	
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 	
I. PHOTOGRAPHS	

Site N7

A. GENERAL SITE DESCRIPTION				
Site type	Stone Age deposits			
Site Period	Later Stone Age (Mosselbay)			
Physical description	The site comprises a Stone Age deposit that was investigated by Peter Beaumont and contains homogeneous assemblage with refined cores, coarse blades, convergent points. Mostly chert, quartzite and hornfels were used (Beaumont & Morris 1990:4).			
Integrity of deposits or structures	Stable			
Site extent	Approximately 50 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.			X	
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity				X

and can be developed as tourist destination.				
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X	
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X	
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.			X	
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				X
National			X	
Provincial		X		
Local		X		
Specific community		X		
D. FIELD REGISTER RATING				
National/Grade 1 [should be registered, retained]				
Provincial/Grade 2 [should be registered, retained]				
Local/Grade 3A [should be registered, mitigation not advised]				
Local/Grade 3B [High significance; mitigation, partly retained]				
Generally Protected A [High/Medium significance, mitigation]			X	
Generally protected B [Medium significance, to be recorded]				
Generally Protected C [Low significance, no further action]				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				
High			X	
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT				
None			X	
Peripheral				
Destruction				
Uncertain				
G. RECOMMENDED MITIGATION				
<ul style="list-style-type: none"> No direct impact on the site 				
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS				
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 				
I. PHOTOGRAPHS				

Site H1

A. GENERAL SITE DESCRIPTION				
Site type	Stone Age assemblage			
Site Period	Stone Age			
Physical description	No more information on SAHRIS			
Integrity of deposits or structures	Stable			
Site extent	Approximately 50 m x 50 m			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.				X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X

It has significance relating to the history of slavery in South Africa.			X
Aesthetic Value			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
Scientific Value			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.	X		
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.	X		
Social Value			
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
Tourism Value			
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X
Rarity Value			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
Representative Value			
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
B2. REGIONAL CONTEXT			
Other similar sites in the regional landscape.		X	
C. SPHERE OF SIGNIFICANCE			
	High	Medium	Low
International			X
National			X
Provincial		X	
Local		X	
Specific community		X	
D. FIELD REGISTER RATING			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			X
Generally Protected C [Low significance, no further action]			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			X
High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
None			
Peripheral			X
Destruction			
Uncertain			
G. RECOMMENDED MITIGATION			
<ul style="list-style-type: none"> Maintain a buffer zone of 50 metres during prospecting phase 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> National Heritage Resources Act (Act No. 25 of 1999, Section 35) 			
I. PHOTOGRAPHS			

Site R1

A. GENERAL SITE DESCRIPTION				
Site type	Historical Structure (Railway line)			
Site Period	Late 19 th century to early 20 th century			
Physical description	The site comprises the historical railway line between Kimberley and Barkley West that was completed in 1890. The railway line is situated on the north eastern border of the proposed prospecting area.			
Integrity of deposits or structures	Stable, in use			
Site extent	See map			
B. SITE EVALUATION				
B1. HERITAGE VALUE			Yes	No
Historic Value				
It has importance to the community or pattern of South Africa's history or precolonial history.			X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.				X
It has significance relating to the history of slavery in South Africa.				X
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.				X
Scientific Value				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X	
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.			X	
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity and can be developed as tourist destination.			X	
Rarity Value				
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.			X	
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				X
National				X
Provincial			X	
Local			X	
Specific community			X	
D. FIELD REGISTER RATING				
National/Grade 1 [should be registered, retained]				
Provincial/Grade 2 [should be registered, retained]				
Local/Grade 3A [should be registered, mitigation not advised]				
Local/Grade 3B [High significance; mitigation, partly retained]				
Generally Protected A [High/Medium significance, mitigation]				
Generally protected B [Medium significance, to be recorded]				X
Generally Protected C [Low significance, no further action]				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				X

High	
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT	
None	
Peripheral	X
Destruction	
Uncertain	
G. RECOMMENDED MITIGATION	
<ul style="list-style-type: none">Maintain a buffer zone of 50 metres during prospecting phase	
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS	
<ul style="list-style-type: none">National Heritage Resources Act (Act No. 25 of 1999, Section 34)	
I. PHOTOGRAPHS	

Addendum 3: Surveyor General Farm Diagram

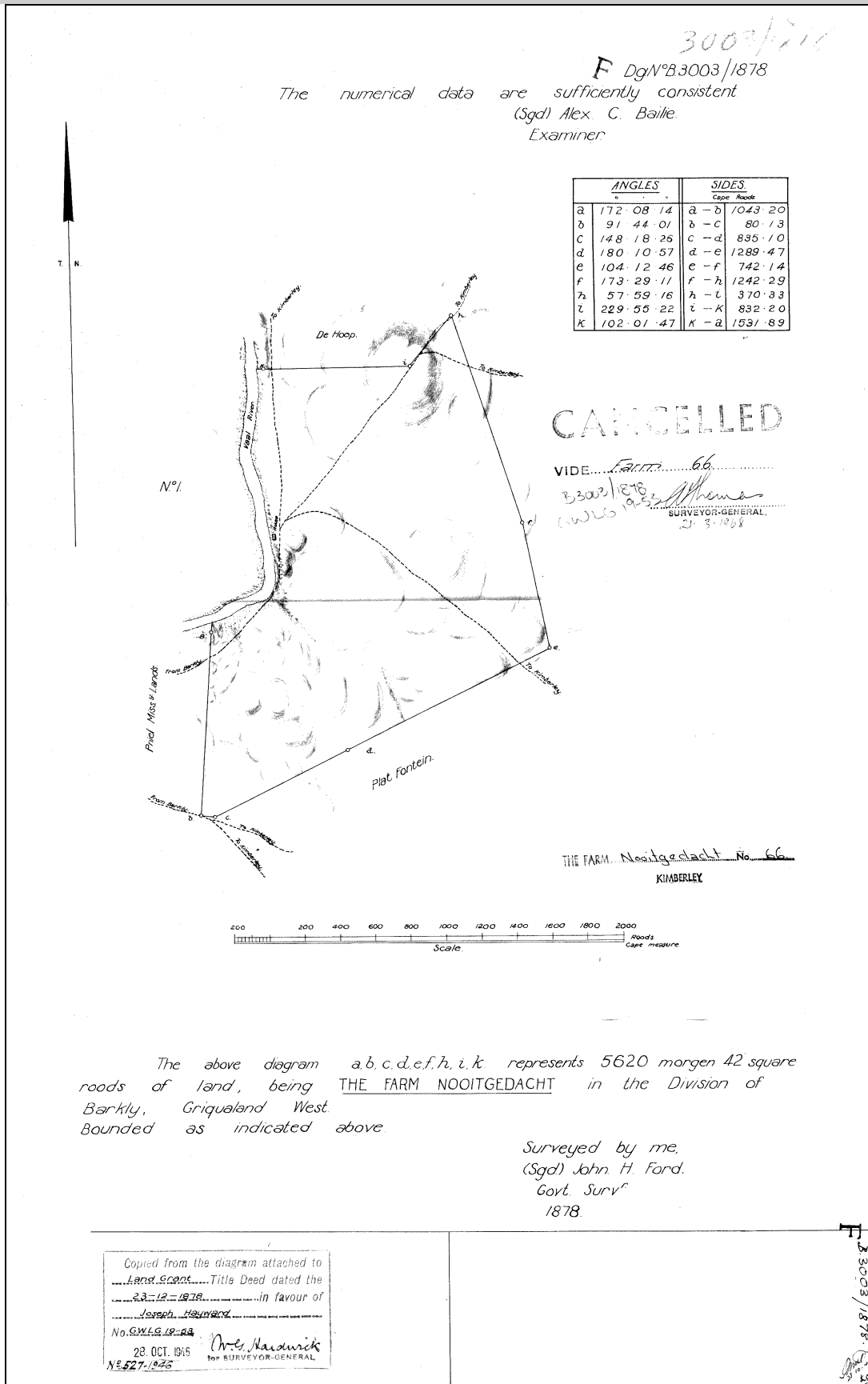


Figure 53: Surveyor General's sketch of the farm Nooitgedacht 66 surveyed in 1878

Addendum 4: Relocation of Graves

Marked graves younger than 60 years do not fall under the protection of the NHRA (Act No. 25 of 1999) with the result that exhumation, relocation and reburial can be conducted by an undertaker. This will include logistical aspects such as social consultation, purchasing of plots in cemeteries, procurement of coffins, etc. Other legislative measures which may be pertinent include the Removal of Graves and Dead Bodies Ordinance (Ordinance No. 7 of 1925), Regulations Relating to the Management of Human Remains (GNR 363 of 22 May 2013) made in terms of the National Health Act No. 61 of 2003, Ordinance on Exhumations (Ordinance No. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

Marked graves older than 60 years are protected by the NHRA (Act No. 25 of 1999) as a result an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. Note that unmarked graves are by default regarded as older than 60 years and therefore also falls under the NHRA (Act No. 25 of 1999, Section 36).

The relocation of graves entails the following procedure:

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

Information needed for the SAHRA permit application

- The permit application must be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- A letter of permission from the landowner granting permission to the developer to exhume and relocate the graves.

- A letter (or proof of purchase of the plots) from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

Graves are generally be classified into four categories. These are:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict or of individuals of royal descent.