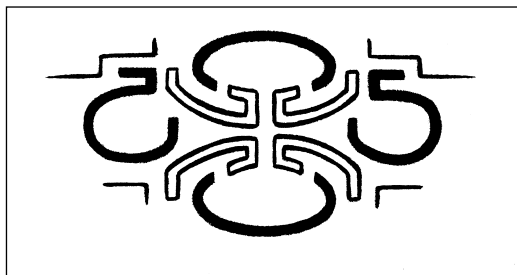


**Cultural Heritage Impact Assessment of the Proposed Coal Mining on the
Farm Grootfontein 165 IR, District Nigel, Ekurhuleni Metropolitan
Municipality, Gauteng**



For

<p>Project Applicant Brikor Ltd/Ilangabi Investments 12 (Pty) Ltd P O Box 867 Nigel 1490 Tel no: 011 814 6043 Fax no: 086 637 7868 marguerite@ilangabicoal.co.za</p>	<p>Environmental Consultant Monica Niehof ENVASS (Pty) Ltd 394 Tram Street Nieuw Muckleneuk Pretoria 0181</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------



By
Francois P Coetzee
Heritage Consultant
ASAPA Professional Member No: 028
99 Van Deventer Road, Pierre van Ryneveld,
Centurion, 0157
Tel: (012) 429 6297
Fax: (012) 429 6091
Cell: 0827077338
coetzfp@unisa.ac.za

Date:	March 2017
Version:	2 (Final Report)

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) and focuses on the survey results from a cultural heritage survey as requested by Ilangabi Investments (Pty) Ltd. The survey forms part of an Environmental Impact Assessment (EIA) for the proposed coal mining application that was granted by the DMR in terms of the National Environmental Management Act (Act 107 of 1998). The application area comprises of the farms Grootfontein 165 IR, Portions 23, 52 and 85 and the farm Vogelstruisbult 127 IR, remaining portion, Nigel District, Ekurhuleni Metropolitan Municipality, Gauteng.

Please note that no archaeological (Stone Age and Iron Age) and historical settlements, structures, features, assemblages or artefacts were recorded during the survey.

It is therefore recommended, from a cultural heritage perspective, that the proposed mining activities may proceed.

However, please note:

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, 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.



Francois P Coetzee
Cultural Heritage Consultant
Accredited Archaeologist for the SADC Region
Professional Member of ASAPA (CRM Section) Reg no: 28

Contents

1. <i>Introduction and Terms of Reference</i>	5
2. <i>Objectives</i>	5
3. <i>Description of Physical Environment of Study Area</i>	5
4. <i>Proposed Project Description</i>	10
5. <i>Legal Framework</i>	11
6. <i>Study Approach/Methods</i>	13
6.1 <i>Review of existing information/data</i>	13
6.2 <i>Site visits</i>	14
6.3 <i>Impact assessment</i>	14
6.4 <i>Assumptions, restrictions, gaps and limitations</i>	15
7. <i>Description and Evaluation of Cultural Heritage Sites</i>	15
8. <i>Locations and Evaluation of Sites</i>	15
9. <i>Recommendations and Conclusions</i>	15
10. <i>References</i>	15
<i>Addendum 1: Archaeological and Historical Sequence</i>	17
<i>Addendum 2: Description of Recorded Sites</i>	22
<i>Addendum 3: Surveyor General Farm Diagrams</i>	24

Figures

<i>Figure 1: Regional context of the survey area north of Nigel (indicated by the red area)</i>	6
<i>Figure 2: Local context of the survey area (1:250 000 Map 2628)</i>	7
<i>Figure 3: General location of the survey area as indicated on the 1:50 000 topographic map 2628 AD</i>	7
<i>Figure 4: Detail of survey area as indicated on Google Earth (2017)</i>	8
<i>Figure 5: General view of the dormant agricultural fields in the western area</i>	8
<i>Figure 6: General view of active agricultural fields</i>	9
<i>Figure 7: General view of the current mining activities</i>	9
<i>Figure 8: View of the current mining dumps</i>	10
<i>Figure 9: Detail of the proposed mining area</i>	10
<i>Figure 10: Recorded survey tracks for the project</i>	13
<i>Figure 11: Jeppe's Map dating to 1899 clearly indicates that the boundaries of the farms under investigation</i>	14
<i>Figure 12: War Office Map indicating the probable location of the survey area as it was in 1900</i>	14
<i>Figure 13: The location of the major spheres of influence of Mzilikazi from the early 1820s to late 1830s</i>	19
<i>Figure 14: Movement of Mzilikazi's warriors relative to the survey area north of Brits (after Bergh 1998)</i>	19
<i>Figure 15: The layout of the Military base today (on the left); the functioning air base in 1942 (on the right)</i>	21
<i>Figure 16: Surveyor General's sketch of the farm Grootfontein 165 IR in 1921</i>	24

Tables

<i>Table 1: Rating the significance of sites</i>	12
--------------------------------------------------------	----

1. Introduction and Terms of Reference

Ilangabi Investments (Pty) Ltd have appointed me as an independent heritage consultant to conduct a Heritage Impact Assessment (HIA) to evaluate the potential cultural impact of the proposed coal mining operation. Please note that the Vlakfontein Mining Right for clay and coal was granted to Ilangabi Investments 12 (Pty) Ltd by the Department of Mineral Resources (DMR) on the remainder of the farm Vlakfontein 281IR, Nigel District on 11 August 2011 and expires in August 2041.

The prospecting right for clay, coal and sand for the farm Grootfontein 165 IR was granted by the DMR on portions 23, 52, 85 of the farm Grootfontein 165IR and a portion of the remainder of the farm Vogelstruisbult 127 IR, Nigel District.

The portion of land adjoining the Vlakfontein quarry (Grootfontein prospecting right) will be converted to a mining right and will be submitted as the revised Vlakfontein mining right. In addition an independent mining right application will be made on the Grootfontein site. The coal resource on the Grootfontein site can be mined economically from Vlakfontein.

A partial closure application is in process on the remainder of the Grootfontein property that Ilangabi no longer wishes to pursue.

The properties are situated in the Nigel Magisterial District, Ekurhuleni Metropolitan Municipality, Gauteng Province. This cultural heritage survey forms part of this Environmental Impact Assessment (EIA) application process.

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 possible mitigation measures which will limit or prevent any further impact.

3. Description of Physical Environment of Study Area

The heritage survey focussed on an area situated north of Nigel, east of Dunnottar and south of Springs.

Farm Name(s) and Portions	Grootfontein 165 IR, Portions 23, 52 & 85 Vogelstruisbult 127 IR, Remaining Portion
Size of Survey Area	Approximately 170 hectares

Magisterial District	Nigel Magisterial District, Ekurhuleni Metropolitan Municipality
1:50 000 Map Sheet	2628AD
1:250 000 Map Sheet	2628
Central Coordinates of the Development	28.47754°E; 26.33972°S

The survey area falls within the Grassland Biome, particularly the Mesic Highveld Grassland Bioregion and specifically the Tsakane Clay Grassland (Mucina & Rutherford 2006). The area is characterised by open and flat areas utilised as agricultural fields. The Marievale Bird Sanctuary is situated immediately to the northeast of the survey area with the Vogelstruisbult Dam further to the north. Infrastructure consists of several dirt roads that provide access to the area, as well as power lines, fences, and extensive agricultural fields (both used and dormant).

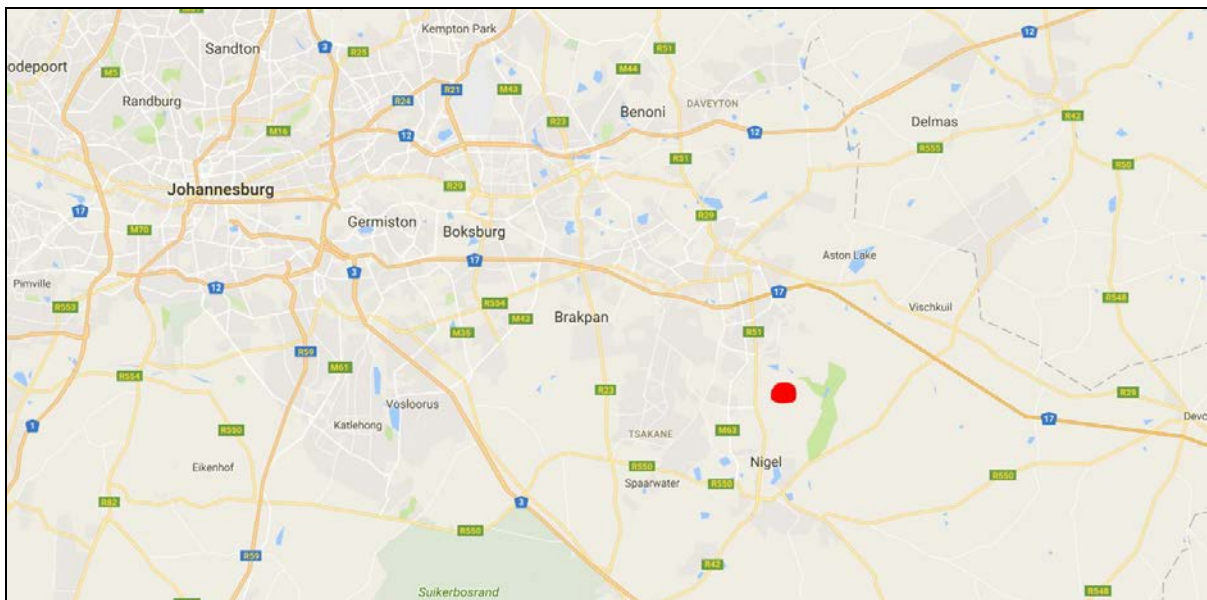


Figure 1: Regional context of the survey area north of Nigel (indicated by the red area)

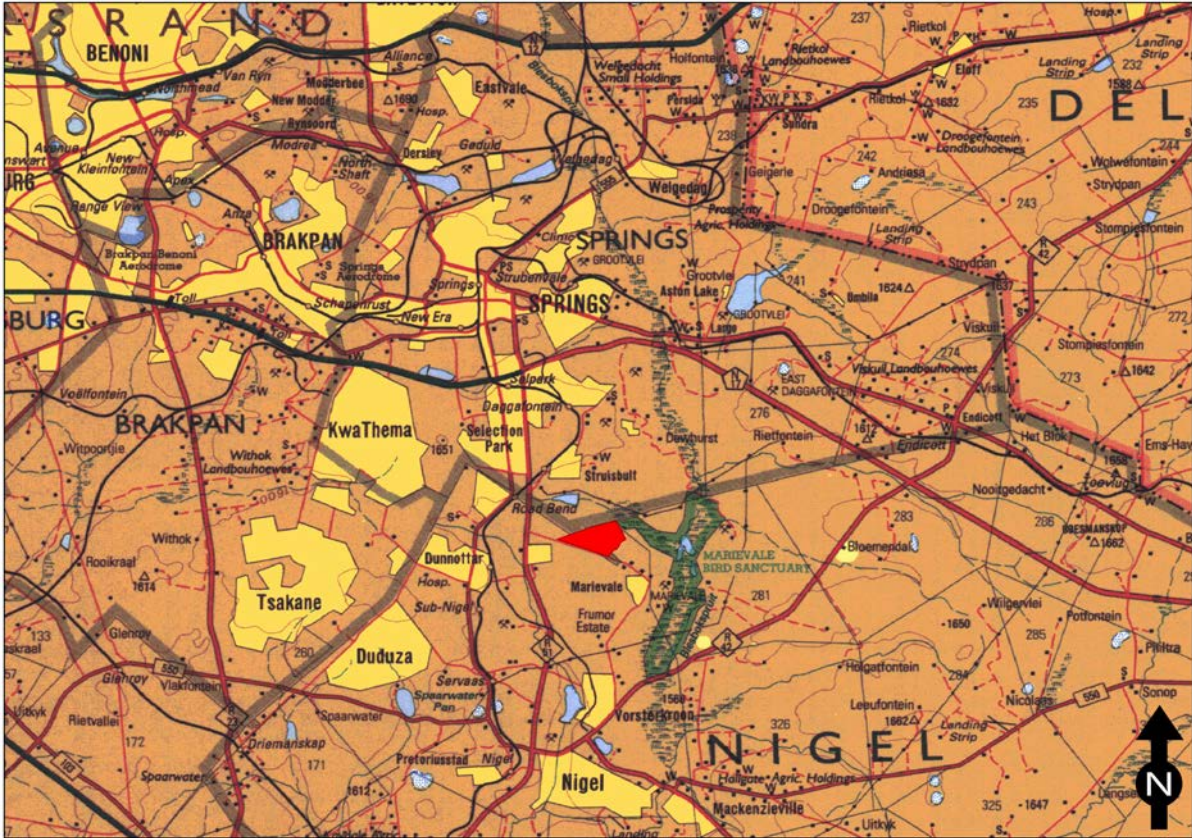


Figure 2: Local context of the survey area (1:250 000 Map 2628)

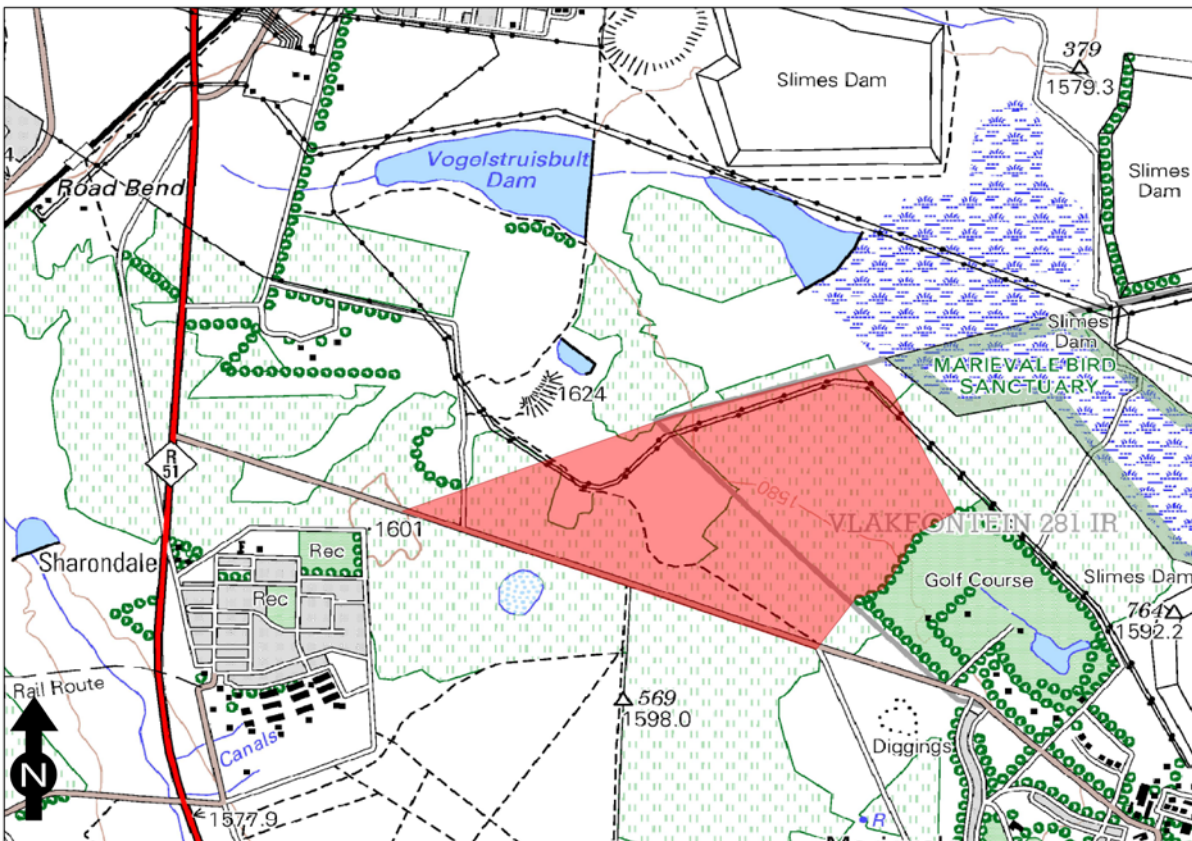


Figure 3: General location of the survey area as indicated on the 1:50 000 topographic map 2628 AD



Figure 4: Detail of survey area as indicated on Google Earth (2017)



Figure 5: General view of the dormant agricultural fields in the western area



Figure 6: General view of active agricultural fields



Figure 7: General view of the current mining activities



Figure 8: View of the current mining dumps

4. Proposed Project Description

The proposed development will enact mining rights on the farm Grootfontein 165 IR and will consist of open cast mining using the existing infrastructure on the farm Vlakfontein 281 IR.

All infrastructure associated with open cast mining activities will be deployed.

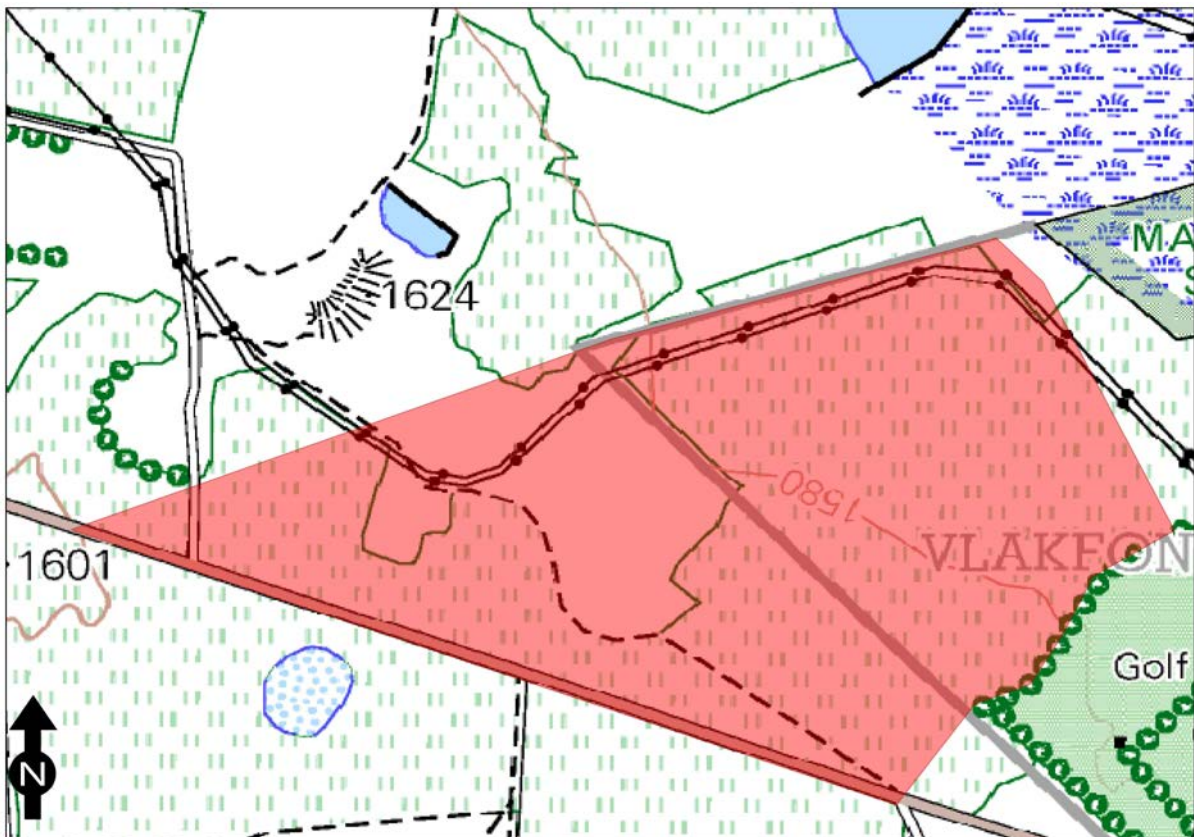


Figure 9: Detail of the proposed mining area

5. Legal Framework

- Section 38 of the NHRA (Act No. 25 of 1999) stipulates that the following activities trigger a heritage survey:
 - the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
 - the construction of a bridge or similar structure exceeding 50 m in length;
 - any development or other activity which will change the character of a site—
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - the re-zoning of a site exceeding 10 000 m² in extent; or
 - any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,
- Archaeological remains can be defined as human-made objects, which reflect past ways of life, deposited on or in the ground.
- 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.
- **Mitigation guidelines (The significance of the site):**

Rating the significance of the impact on a historical or archaeological site is linked to the significance of the site itself. If the significance of the site is rated high, the

significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low (also see Table 1).

Significance Rating	Action
Not protected	1. None
Low	2a. Recording and documentation (Phase 1) of site adequate; no further action required
	2b. Controlled sampling (shovel test pits, augering), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium	3. Excavation of representative sample, ¹⁴ C dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism 4b. Graves: Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinterment [including 2a, 2b & 3]

Table 1: Rating the significance of sites

- 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.
- It should be kept in mind that 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)).
- A copy of this report will be lodged with the **SAHRA** 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/Methods

Regional maps and other geographical information (ESRI shapefiles) were supplied by Ilangabi Investments (Pty) Ltd. The most up-to-date Google Earth images and topographic maps were used to indicate the survey area. Please note that all maps are orientated with north facing upwards (unless stated otherwise).

The strategy during this survey was to survey all the areas associated with the development in detail through conducting a pedestrian (foot) survey. However the area is characterised by open and flat plains mostly used as agricultural fields.

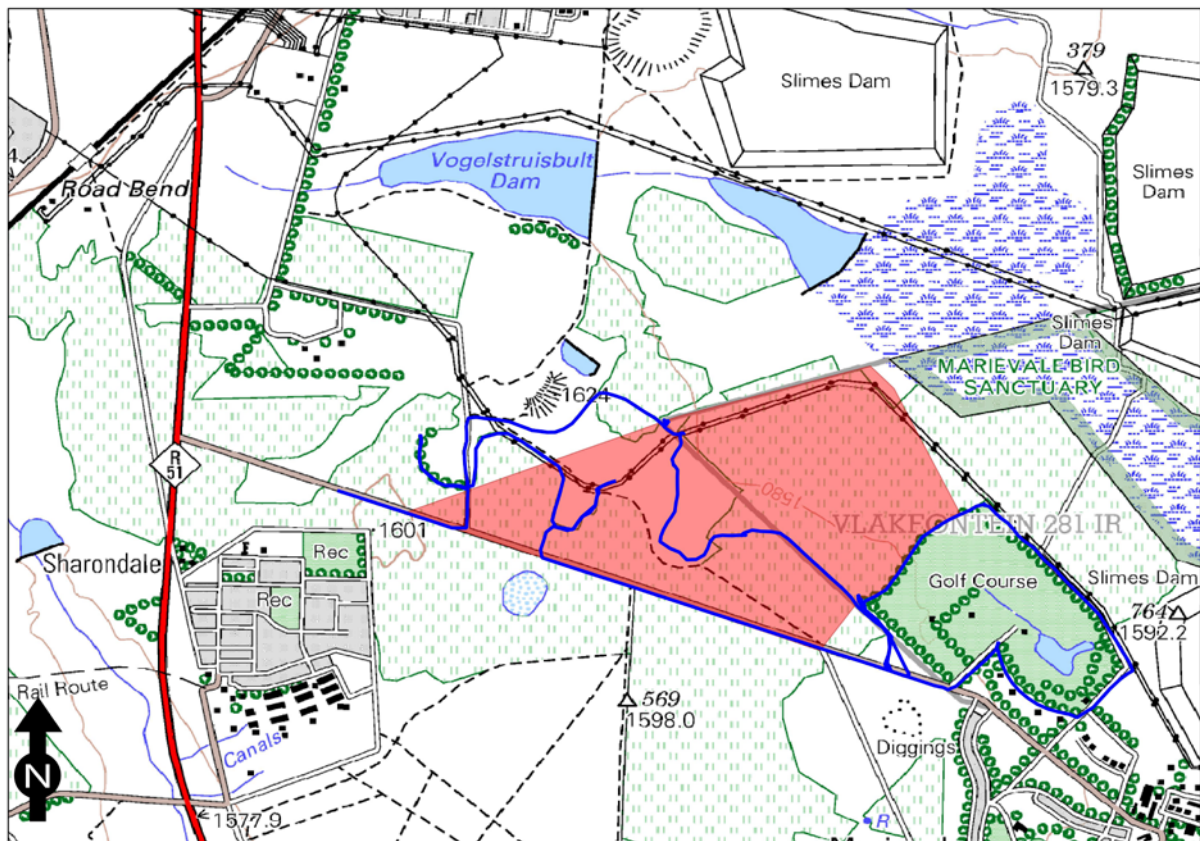


Figure 10: Recorded survey tracks for the project

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);
- Online SAHRIS database;
- Maps and information documents supplied by the client; and
- Several surveys have been conducted in the region (published and unpublished material on the area). Please note that two previous studies were also conducted for the farms currently under investigation (Coetzee 2009 & 2012).

According to the Surveyor General's database the farm Grootfontein 165 IR was originally surveyed in 1921 (although title deed dated back to 1862 (see Addendum 3).

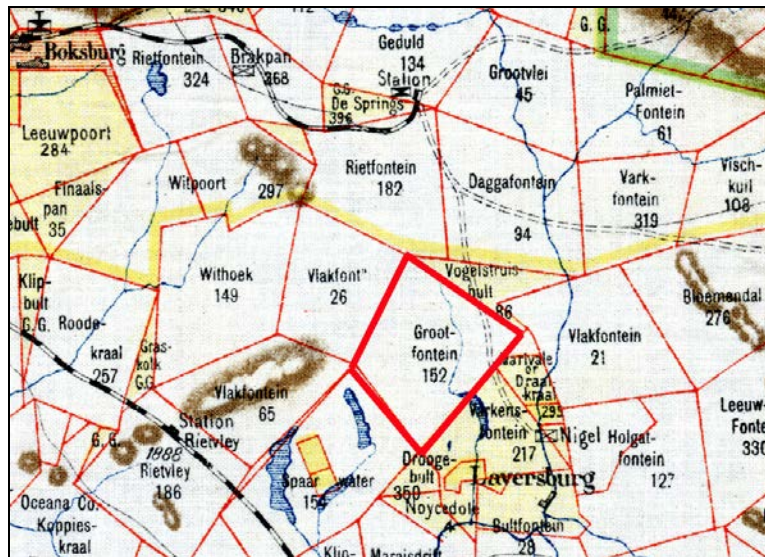


Figure 11: Jeppe's Map dating to 1899 clearly indicates that the boundaries of the farms under investigation

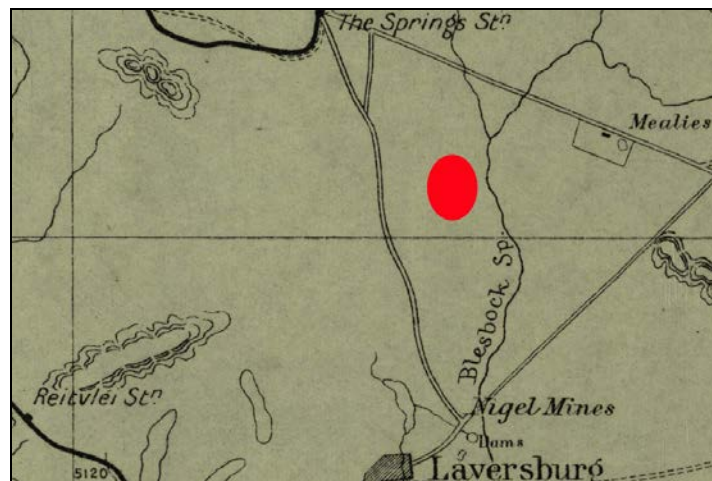


Figure 12: War Office Map indicating the probable location of the survey area as it was in 1900

6.2 Site visits

The field surveys were conducted on 29 December 2016.

6.3 Impact assessment

The criteria used to describe heritage resources and to provide a significance rating of recorded sites are listed in the NHRA (Act No. 25 of 1999) specifically Section 7(7) and Section 38. SAHRA also published various regulations including: Minimum standards: Archaeological and palaeontological components of impact assessment reports in 2006 and updated requirements in 2012 and draft guidelines in 2016.

6.4 Assumptions, restrictions, gaps and limitations

No severe physical restrictions were encountered as the survey area was fairly accessible. The area is however extremely overgrown and not all areas were covered due to the extreme dense undergrowth.

7. Description and Evaluation of Cultural Heritage Sites

No archaeological or historical sites were recorded.

8. Locations and Evaluation of Sites

No sites were recorded.

9. Recommendations and Conclusions

Please note that no archaeological (Stone Age and Iron Age) and historical settlements, structures, features, assemblages or artefacts were recorded during the survey.

It is therefore recommended, from a cultural heritage perspective, that the proposed mining activities may proceed.

However, please note:

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)).

10. References

Becker, D. 1989. *Yellow Wings: The Story of the Joint Air Training Scheme in World War 2*. Pretoria: The SAAF Museum.

Bergh, J.S. (ed.) 1998. *Geskiedenis Atlas van Suid-Afrika: Die Vier Noordelike Provinsies*. Pretoria: Van Schaik Publishers

Coetzee, F.P. 2009. *Cultural Heritage Survey of the Proposed Mining on the Remainder of the Farm Vlakfontein 281IR and the Remainder of the Farm Draaikraal 166IR, near Nigel, Gauteng*. Unpublished report for Brikor Ltd.

Coetzee, F.P. 2012. *Cultural Heritage Survey of the Proposed Prospecting for Clay, Coal and Sand on the Farms Grootfontein 165 IR and Vogelstruisbult 127 IR, Ekurhuleni Metropolitan Municipality, Gauteng*. Unpublished report for Brikor Ltd.

Huffman, T. N. 2007. *Handbook to the Iron Age: the Archaeology of Pre-Colonial Farming Societies in Southern Africa*. University of KZN Press: Pietermaritzburg.

Jeppe, F. 1899. Jeppe's Map of the Transvaal. London: Edward Stanford.

Mason, R.J. 1962. Prehistory of the Transvaal. Johannesburg. Witwatersrand University Press.

Mason, R.J. 1986. The origins of black people of Johannesburg and the southern western central Transvaal, AD350 – 1880. Johannesburg. University of the Witwatersrand Archaeological Research Unit, Occasional Paper 16.

Mucina, L. & Rutherford, M.C. 2010. The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. Pretoria: South African National Biodiversity Institute.

National Heritage Resources Act. Act No. 25 of 1999. Government Printer: Pretoria.

Ordnance Survey Office (Intelligence Division). 1900. Transvaal and Orange Free State: Potchefstroom. War Office No. 1367. Southampton: War Office.

Office of the President. 27 November 1998. National Environmental Management Act (Act No. 107 of 1998). Government Gazette Vol 401 (19519). Pretoria: Government Printer.

Rasmussen, R.K. 1977. The Migrant Kingdom: Mzilikazi's Ndebele in South Africa. London: Rex Collins.

SAHRA, 2005. Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports, Draft version 1.4.

South African Heritage Resources Agency (SAHRA). Report Mapping Project. Version 1.0, 2009.

Tyson, P.D. 1992. The climate of the last 2000 years in Southern Africa. *The Holocene*. Vol. 2.

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 DATE
Earlier Stone Age	More than c. 2 million years ago - c. 250 000 years ago
Middle Stone Age	c. 250 000 years ago – c. 25 000 years ago
Later Stone Age (Includes San Rock Art)	c. 25 000 years ago - c. AD 200 (up to historic 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)

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.

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 sites without stone walls (Early Moloko settlements such as Icon (AD 1350 – 1500) and stone-walled sites such as Madikwe (AD 1500 – 1700) and Buispoort (AD 1700 – 1800) situated on defensive hilltops. This occupation phase has been linked to the arrival of ancestral Tswana speakers and 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*).

Sites that were identified during the survey are archaeological sites dated to the later (stone walled) phase of the Late Iron Age (c. AD 1640 - AD 1830s) also known as the Late Moloko. These sites all conform to a general settlement layout that forms part of a certain worldview. As such, the livestock enclosures are situated in the central area of a settlement. The court (kgotla) is also located in this central area and is associated with men (men are usually also buried here). The surrounding scalloped walling is where the houses are situated and is associated with women. This type of settlement layout is generally known as the Central Cattle Pattern (CCP).

Ethno-historical Context

Difaqane (mfecane)

The period of upheaval known as the Difaqane (Mfecane) had widespread implications for the northern interior of South Africa. Mzilikazi, one of the generals of King Shaka of the Zulu kingdom left KwaZulu-Natal in 1820 and took his Khumalo clan north-westward on a journey which changed the face of the South African interior. He first reached to Pedi people north of the Olifants and Steelpoort Rivers and took over their land. A year later and after a lengthy sojourn the group arrived at the slopes of the Magaliesberg Mountains in the Pretoria area in about 1827. Mzilikazi established two military kraal or capitals. The one was situated on the Apies River called enDinaneni which was situated north-west of Pretoria on the road to Hartebeespoort Dam and enKungweni which was built along the Daspoort range of hills.

His main residence was on the south side of Meintjieskop, but he later moved to the north of the Magaliesberg Mountains, to a place named emHlahlandlela. This aggressive occupation of the land forced the local Ndebele (Ndzundza) groups to scatter and hide in mountainous areas. Later during the 1830s Mzilikazi moved further west to establish a capital at Gabeni,

north of Zeerust where he subjugated various Sotho Tswana groups in the area. His power was only challenged in 1837 by a combined Boer, Tswana and Griqua force. Mzilikazi later migrated into Zimbabwe and established his next capital, Bulawayo (Rasmussen 1977).

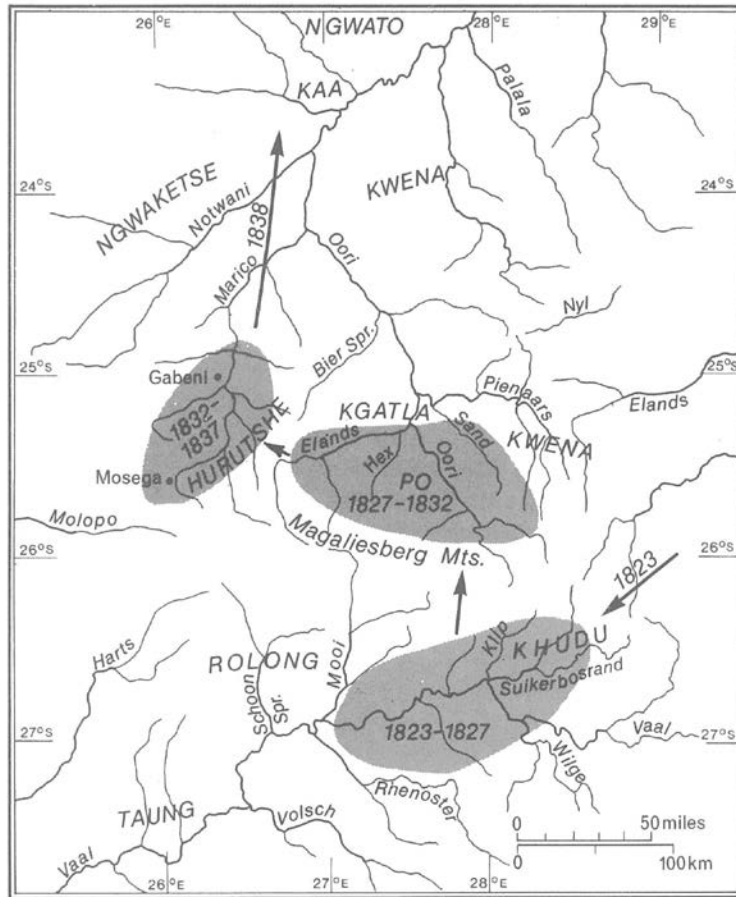


Figure 13: The location of the major spheres of influence of Mzilikazi from the early 1820s to late 1830s

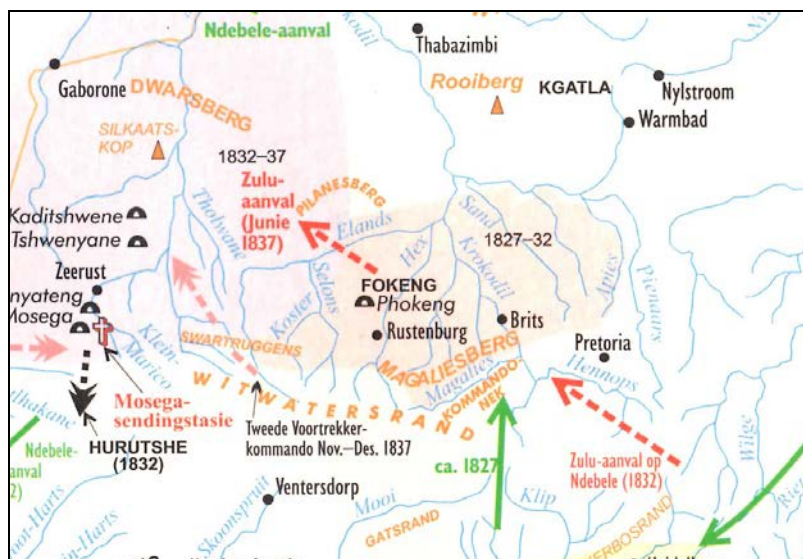


Figure 14: Movement of Mzilikazi's warriors relative to the survey area north of Brits (after Bergh 1998)

Built Environment and Mining Activities

Nigel

Petrus Johannes (Lang Piet) Marais, a Heidelberg storekeeper, was the owner of the farm Varkensfontein. As a result of growing gold fever in the Witwatersrand he employed a prospector by the name of Johnstone to examine his farm in 1886. The story goes that Lang Piet was reading *The Fortunes of Nigel* by Sir Walter Scott at the time when a well-dressed stranger walked into his shop offering to buy his farm for much more than the £400 it was worth. Thinking of the book and how the hero had almost been swindled out of his fortune, he became cautious and declined the offer, but offered the man a half share in his farm for £10 000. The stranger left.

Lang Piet then hastily rode out to the farm only to find Johnstone drunk in his tent. He admitted that he discovered a reef and that he accepted £50 and a case of liquor for not disclosing his find.

Lang Piet retained his farm and a company took up the share of £10 000 in his farm and he became the major shareholder in the Nigel Mining Co. formed in July 1888. The town that was established next to the gold find was duly named Nigel. Several street names of the town were also taken from the novel.

This is one account for the name. Alternatively, the town was actually named after Nigel MacLeish who discovered the gold reef on which the Nigel mine was to be developed.

According to archival documents it seems that the gold mining took on several phases and the controlling company also took on various shapes:

- 1896 - Marievale Nigel Gold Mining Company
- 1935 – Marievale Nigel Gold Mining and Estate Ltd
- 1935 – Marievale Consolidated Mines Ltd
- Today – Gencor owns the Marievale Mine

A Reduction Plant was already in operation in 1939 and a seven tube Mill erected in 1952. In the 1950s they also sunk shafts 3 and 5.

Dunnottar Landing Strip

The South African Air Force was started in 1921 and was based at Zwartkops in Pretoria. The main training activities later moved to Bloemspruit (Bloemfontein). After the Second World War the 24 Air School which was charged with training pilots and instructors moved to Dunnottar Airbase on 11 November 1940 with personnel starting to arrive in July 1941. The runways were grass-based. On 18 November 1945 commenced with 71 Harvards and 6 Oxfords. The Dunnottar Airbase also housed the required infrastructure to utilise and maintain the Harvard aircraft for training. In January 1946 the 24 Air School stopped active training and eventually closed on 3 September 1946 after which the Central Flying School (CFS) took over. In February 1968 the School changed its name to Flying Training School Dunnottar, but reverted back to its CFS title in January 1977. The CFS finally moved to

Langebaanweg in December 1991. Today all the infrastructure of the base is incorporated into the Marie Vale Army Camp 1 (Construction Regiment) and only the grass landing strips are still used by the Aero Club of South Africa for various air sports such as paragliding (with winches) and other air show events.

There are 6 landing strips in total. Three landing strips run south south-west to north north-east and another three run north south. Their layout is demarcated with white painted cement blocks and cement strips at the beginning and end. Lanterns could be inserted in them for night landings.

PRASA is currently preparing an industrial site adjacent to the Dunnottar Army Base, between Nigel and Springs.



Figure 15: The layout of the Military base today (on the left); the functioning air base in 1942 (on the right)

Addendum 2: Description of Recorded Sites**Example of criteria use in assessment**

A. GENERAL SITE DESCRIPTION				
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.				
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.				
It has significance relating to the history of slavery in South Africa.				
Aesthetic Value				
It has importance in exhibiting particular aesthetic characteristics valued by a particular 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.				
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				
It has importance to the wider understanding of the temporal change of cultural landscapes, settlement patterns and human occupation.				
Social Value				
It has strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				
Tourism Value				
It has significance through its contribution towards the promotion of a local sociocultural identity 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.				
Representative Value				
It is importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				
B2. REGIONAL CONTEXT				
Other similar sites in the regional landscape.				
B3. CONDITION OF SITE				
Integrity of deposits/structures.				
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				
National				
Provincial				
Local				
Specific community				
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]				
Generally Protected C [Low significance, no further action]				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				

High	
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT	
None	
Peripheral	
Destruction	
Uncertain	
G. RECOMMENDED MITIGATION	
<ul style="list-style-type: none"> • P 	
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS	
<ul style="list-style-type: none"> • 	
I. PHOTOGRAPHS	

Addendum 3: Surveyor General Farm Diagrams

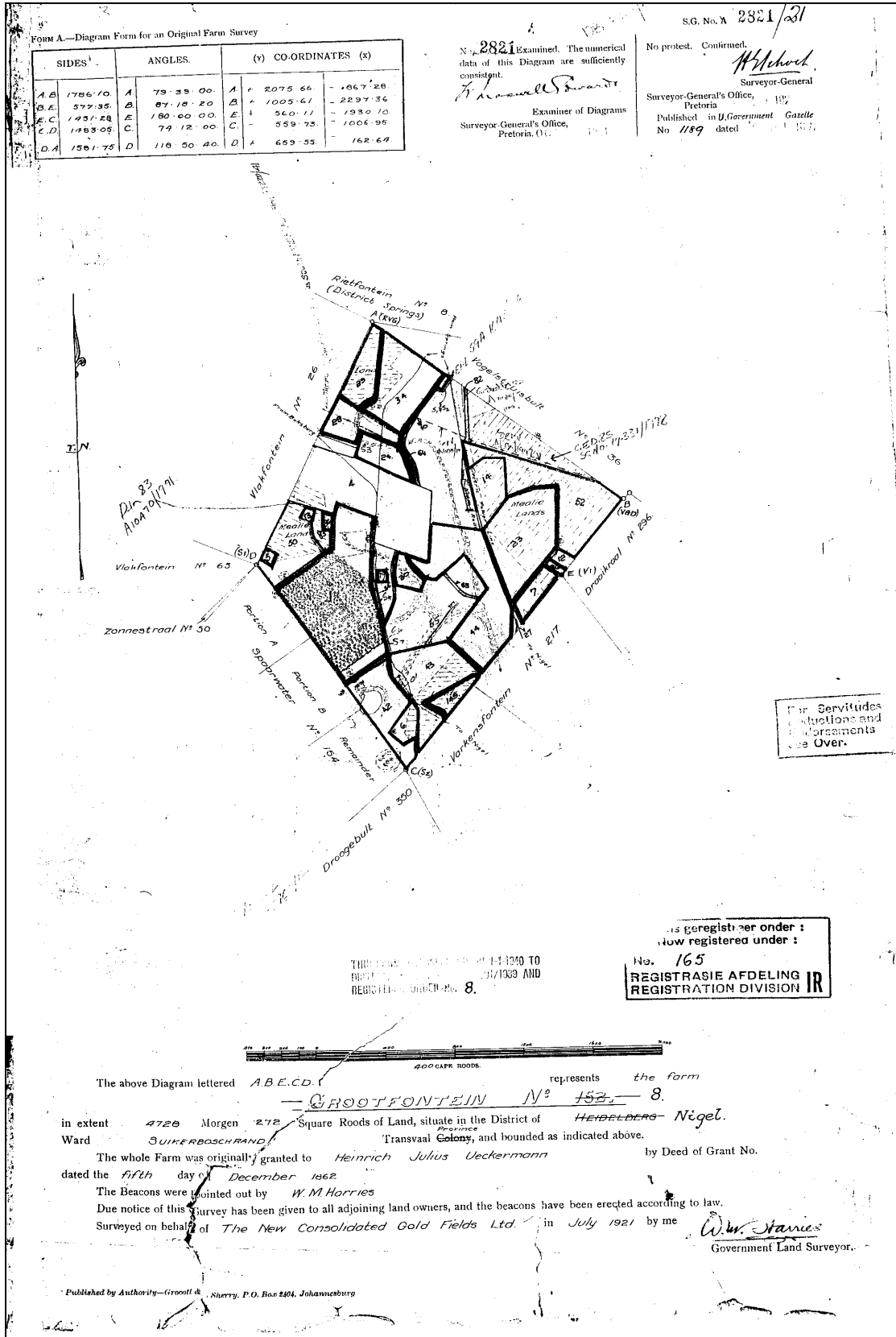


Figure 16: Surveyor General's sketch of the farm Grootfontein 165 IR in 1921