

## PHASE 1 HERITAGE IMPACT ASSESSMENT

**PROPOSED ESTABLISHMENT OF THE VAN OUDS COLLIERY ON PORTIONS  
20, 23, 32 AND 51 OF THE FARM VAN OUDSHOORNSTROOM 261-IT, IN THE  
VICINITY OF ERMELO, MPUMALANGA PROVINCE**



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**Date:**

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**Report Number:**

MEMS-HIA-VOC-1

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A handwritten signature in black ink, appearing to read 'P.D. Birkholtz', is written over the printed name.

## EXECUTIVE SUMMARY

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Impact Assessment for the proposed establishment of the Van Ouds Colliery on Portion 33 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

This study follows on a Heritage Scoping Assessment that was undertaken on Portions 20, 23, 32, 33 and 51 of the farm Van Oudshoornstroom 261-IT. While underground mining is earmarked for all these portions, the surface impacts of the mine (i.e. the incline shaft and coal processing plant) will be restricted to Portion 33. As a result this portion represents the study area of this Heritage Impact Assessment.

No sites were located within the study area.

It is the opinion of the author of this report that in terms of the heritage aspects addressed as part of the defined scope of work of this study (see Section 3) and based on the condition that all the recommendations made in this report are adhered to, the development may be allowed to continue.

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## **1. PROJECT BACKGROUND**

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Impact Assessment for the proposed establishment of the Van Ouds Colliery on Portion 33 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

This study follows on a Heritage Scoping Assessment that was undertaken on Portions 20, 23, 32, 33 and 51 of the farm Van Oudshoornstroom 261-IT. At the time it was not possible to access Portion 33. Furthermore, the exact position of the proposed mining development had not been finalised yet. As a result it was decided to compile a Heritage Scoping Assessment of the entire study area, and to recommend the compilation of a Heritage Impact Assessment once the location of the proposed mining development has been finalised. The Heritage Scoping Report (Reference Number MES-HSR-VOC-1) was submitted to Myezo Environmental Management Services cc on 31 May 2010.

On 17 June 2010 Professional Grave Solutions (Pty) Ltd was appointed to undertake the Heritage Impact Assessment for the proposed development of Van Ouds Colliery on Portion 33 of the farm Van Oudshoornstroom 261-IT. This report represents that Heritage Impact Assessment.

## **2. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT**

### **2.1 Study Area**

#### **2.1.1 General description**

The study area is located directly east of Ermelo. Its position and boundaries are defined by the following coordinates: S26.52336 E30.01239, S26.52308 E30.01475, S26.52825 E30.01375 & S26.52792 E30.01150.

The study area can be described as a moderately sloped landscape with reasonably large sections which had been disturbed by sand mining activities. The western boundary of the study area is covered by tree stumps and young saplings, both of exotic species. A recently constructed house is located in the south-western corner of the study area. A small pan is located directly east of the study area with a non-perennial stream running west-by-east across the study area.

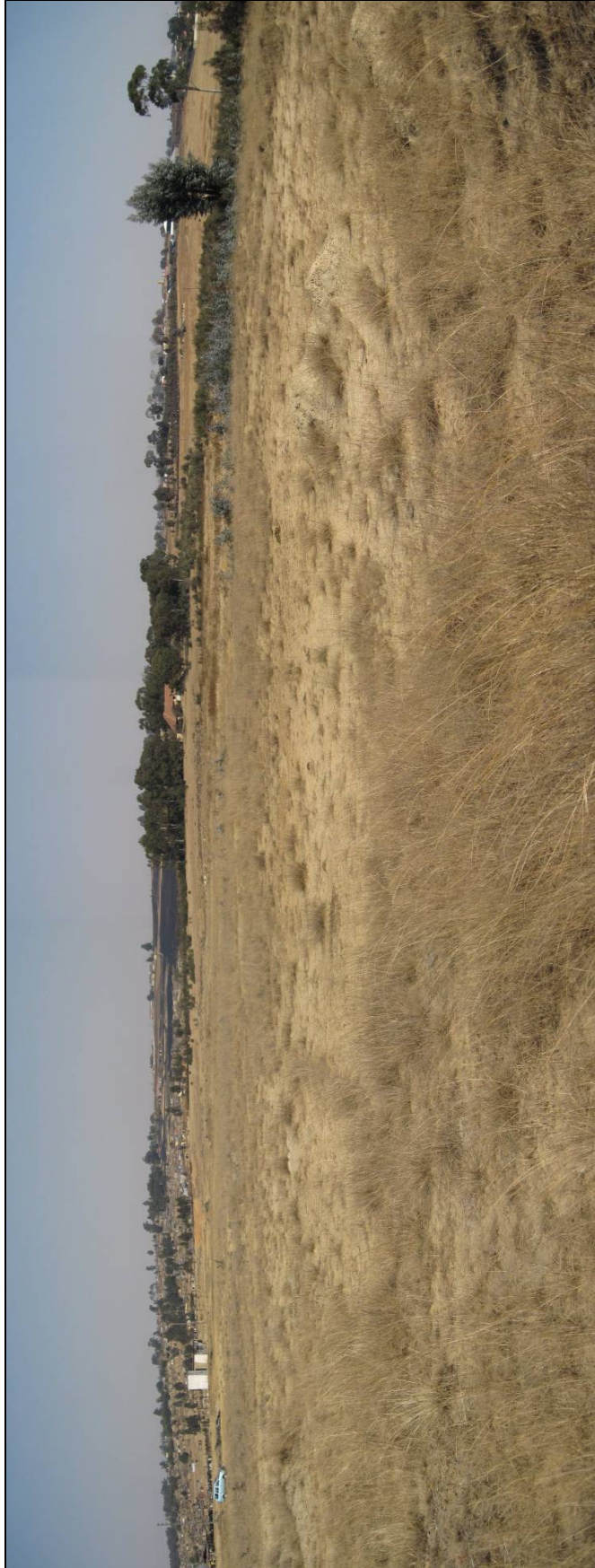


Plate 1 Panoramic view of a section of the study area.





Plate 2      Tree stumps and young saplings are found along the western boundary of the study area.



Plate 3      General view of the house that is located in the south-western corner of the study area. It must have been constructed in the last 20 or so years.

### **2.1.2 Extent of the study area**

The study area is 11.34 hectares in extent.

### **2.2 Proposed Development<sup>1</sup>**

Mazolo Holdings (Pty) Ltd is proposing the establishment of an underground coal mine within Portions 20, 23, 32, 33, and 51 of the farm Van Oudshoornstroom 261-IT. A Heritage Scoping Report was undertaken on these portions. Mazolo Holdings (Pty) Ltd has also decided to place all the surface aspects of the mining development (i.e. inclined shaft and coal processing plant) within Portion 33 of the said farm.

The company has undertaken prospecting within this proposed mining area in accordance with their Prospecting Right which was granted by the Department of Minerals and Energy (DME) in July 2008 (DME Reference Number F2007/07/20/003). Through prospecting efforts conducted since then, Mazolo Holdings has proven that the coal reserve is located within the granted portions of this farm. As such they have lodged an application for a Mining Right for this area in terms of Section 22 of the Minerals and Petroleum Resources Development Act (MPRDA; Act No 28 of 2002).

The coal seam is located approximately 40 m below the ground surface beneath a sandstone overburden. It is not considered to be economically viable to utilise opencast mining methods within the majority of the broader mining area, as the stripping ratio exceeds 6: 1 overburden-to-coal. Therefore, the proposed mining activities related to this Mining Right application will be primarily underground. The underground coal seam is proposed to be accessed via a vertical shaft that will be dug to intersect the target coal seam at depth. The coal will then be mined out of the coal seam using the mining technique known as 'bord and pillar' mining. It is referred to as such as the process is to mine out 'bords' or sections of the coal seam, leaving behind pillars designed in location and thickness according to strict safety and engineering standards, which will remain in place to hold up the roof overlying the coal seam. Mined coal will be extracted from the underground workings by means of a conveyor system and processed at a crushing and screening coal processing plant to be located within an area no more than three hectares in extent at the shaft entrance. This area will be required to be levelled and terraced in order to accommodate the crushing and processing plant, the coal stockpile area as well as other ancillary infrastructure such as offices, workshops, change rooms, ablutions, etc.

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<sup>1</sup> The information contained in this section was obtained from the client.



The market to which the coal is to be supplied will initially only specify a coal size grading. This will necessitate a crushing and screening coal processing plant without the present need for the coal to be washed. At present there will also be no requirement for discard dumps at the mine site. It must be noted however that future markets are anticipated to include the metallurgical industry which will require washing of the coal. Consumers will be able to purchase coal directly from the mine's processing plant. Transport will be supplied in the form of standing contracts with truck rental companies. The coal will initially be transported by road to various markets by means of trucks with a carrying capacity of 30 tons. The proposed project therefore comprises the following:

- Underground coal mining within the granted portions of the farm.
- Creation of an inclined shaft to gain entry to the underground workings and provide a point of exit for the mined coal.
- Coal processing including crushing, screening and stockpiling of coal on an area of approximately 3 ha.
- Transport of coal by truck from the mine workings via the existing local roads to the main national roads to end users.



Figure 1 Map Source Image showing the study area of the Heritage Scoping Report (marked in black outline with white fill) with the position of the present study area (marked with a red star) in its regional context.



### **3. SCOPE OF WORK**

The aim of the Heritage Impact Assessment is to locate any heritage resources situated within the study area, assess their respective levels of significance, evaluate the impact of the proposed development on these sites and provide mitigation measures should these sites be negatively impacted upon. The National Heritage Resources Act (25 of 1999) provides a very comprehensive list of what the national estate may consist of:

1. Places, buildings, structures and equipment of cultural significance
2. Places to which oral traditions are attached or which are associated with living heritage
3. Historical settlements and townscapes
4. Landscapes and natural features of cultural significance
5. Geological sites of scientific or cultural importance
6. Archaeological and palaeontological sites
7. Graves and burial grounds
8. Sites of significance relating to the history of slavery in South Africa
9. Movable objects such as military objects and ethnographic art.

With the exception of 'landscapes and natural features of cultural significance', 'geological sites of scientific or cultural importance' as well as 'palaeontological sites' all these items are covered in the scope of this study's work. Furthermore, it must be noted as well that this study focussed on the identification of tangible heritage resources. As a result very little work was undertaken in terms of intangible heritage (i.e. ritual or spiritual aspects of the area, indigenous knowledge systems and living heritage).

### **4. METHODOLOGY**

#### **4.1 Desktop Study**

The desktop study's aim is to compile as much available information as possible on the heritage resources of the area and thereby also providing historical context for any located sites. The focus in the study was placed on archival and historical maps. These were obtained from the National Archives in Pretoria as well as the Chief Directorate National Geo-Spatial Information of the Department of Rural Development and Land Reform.

## **4.2 Field Surveys**

The field survey of Portion 33 was undertaken on Wednesday, 23 June 2010. It consisted of a walkthrough of the entire study area. Location data was captured with a Garmin MAP60CS handheld GPS receiver, loaded with a Garmap South Africa Topographic & Recreation v1.00 base map. Photographs were taken with a Canon Powershot A550 digital camera.

## **4.3 Aspects regarding Visibility and Constraints**

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the heritage resources located there. This may be due to various reasons, including the subterranean nature of some archaeological sites and dense vegetation cover. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This is true for graves and cemeteries as well.

## **5. LEGISLATIVE REQUIREMENTS AND TERMINOLOGY**

### **5.1 Legislation**

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- National Environmental Management Act (NEMA) Act 107 of 1998
- National Heritage Resources Act (NHRA) Act 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- National Environmental Management Act (NEMA) Act 107 of 1998

- Basic Environmental Assessment (BEA) – Section (23)(2)(d)
  - Environmental Scoping Report (ESR) – Section (29)(1)(d)
  - Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
  - Environmental Management Plan (EMP) – Section (34)(b)
- National Heritage Resources Act (NHRA) Act 25 of 1999
  - Protection of Heritage resources – Sections 34 to 36; and
  - Heritage Resources Management – Section 38
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
  - Section 39(3)
- Development Facilitation Act (DFA) Act 67 of 1995
  - The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

Refer Annexure C for an overview of the National Heritage Resources Act (25 of 1999).

## **5.2 Terminology**

### ***Archaeological resources***

This includes:

- material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such;
- wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;

- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

### ***Cultural significance***

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

### ***Development***

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

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land;
- any removal or destruction of trees, or removal of vegetation or topsoil

### ***Heritage resources***

This means any place or object of cultural significance

## **6. ASSESSMENT CRITERIA**

This chapter describes the evaluation criteria used for the sites listed below. The four main criteria used in the evaluation of archaeological sites are:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g., stonewalling and stone tools)
- **uniqueness** and
- **potential** to answer present research questions.



In terms of heritage sites, Section 3 (3) of the National Heritage Resources Act 25 of 1999 states that a place or object is considered part of the national estate if it has cultural significance or other special value because of:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

- A - No further action necessary;
- B - Mapping of the site and controlled sampling required;
- C - Preserve site, or extensive data collection and mapping of the site; and
- D - Preserve site

## **6.1 Impact**

The potential environmental impacts that may result from the proposed development.

### 6.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

## 6.2 Evaluation

### 6.2.1 Site significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

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

### 6.2.2 Impact rating

#### VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in **severe** or **very severe** effects, or **beneficial** or **very beneficial** effects.

**Example:** The loss of a species would be viewed by informed society as being of VERY HIGH significance.

**Example:** The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

## *HIGH*

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

**Example:** The loss of a diverse vegetation type, which is fairly common elsewhere, would have a HIGH significance over the long term, as the area could be rehabilitated.

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

## *MODERATE*

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

**Example:** The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

**Example:** The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

## *LOW*

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

**Example:** The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.

**Example:** The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

#### *NO SIGNIFICANCE*

No primary or secondary effects at all that are important to scientists or the public.

**Example:** A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

### **6.2.3 Certainty**

*DEFINITE:* More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

*PROBABLE:* Over 70% sure of a particular fact, or of the likelihood of impact occurring.

*POSSIBLE:* Only over 40% sure of a particular fact or of the likelihood of an impact.

*UNSURE:* Less than 40% sure of a particular fact or likelihood of an impact occurring.

### **6.2.4 Duration**

*SHORT TERM:* 0 to 5 years

*MEDIUM:* 6 to 20 years

*LONG TERM:* more than 20 years

*DEMOLISHED:* site will be demolished or is already demolished

Evaluation Example

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B



## 7. FINDINGS

### 7.1 Desktop Study Findings

#### 7.1.1 Cartographic findings

##### 7.1.1.1 'Ermelo' and 'Amersfoort' Sheets of the Major Jackson Series, 1901

**Figure 2** depicts enlarged sections of the Ermelo and Amersfoort Sheets of the Major Jackson Series. This series was produced during the South African War (1899-1902) by the Mapping Section of the Field Intelligence Department under the supervision of Major R.M. Jackson. Both sheets appear to date from 1901.

No heritage resources are depicted within or in the direct vicinity of the study area. However, a number of sites are depicted on the farm. Although these are not affected by the proposed mining development, they are briefly discussed to provide some background to the heritage fabric of the area:

- The original farmstead of Van Oudshoornstroom (see yellow arrow) was located north of the study area near the south-western foot of the hill known as Tafelkop. This farmstead is believed to have been associated with Jan Hendrik Kleynhans who passed away just before these maps were produced.
- The second farmstead (see blue arrow) was located some distance south-east of the study area. It was owned at the time by M.E. Pretorius and was the farmhouse for a section of the farm known as 'Uitkyk'. According to the farm ownership history (see RAK, 2848) Marthinus Eric Walter Pretorius obtained the portion known as 'Uitkyk' on 18 January 1891.
- A number of secondary roads are shown crossing over the farm. One wagon road is also shown north of the study area,

##### 7.1.1.2 2528CB Topographical Map, First Edition, 1943

**Figure 3** depicts a section of the first edition of the 2630CA 1:50 000 topographical sheet. It was based on aerial photography undertaken in 1963 and was surveyed in 1968. The sheet was printed by the Trigonometrical Survey Office in 1970.

The following observations can be made from the map:

- Three buildings or building clusters are depicted within the study area of the Heritage Scoping Assessment. These are marked with blue arrows on the map. No sites are depicted within the present study area.



Figure 2 Enlarged sections of the Ermelo and Amersfoort sheets of the Major Jackson Series. Both maps are believed to date from c. 1901. The approximate position of the study area is shown in red dotted line. The yellow arrow indicates what is believed to be the original farmstead on the farm, while the blue arrow indicates the second farmstead which is associated with the portion known as 'Uitkyk'.

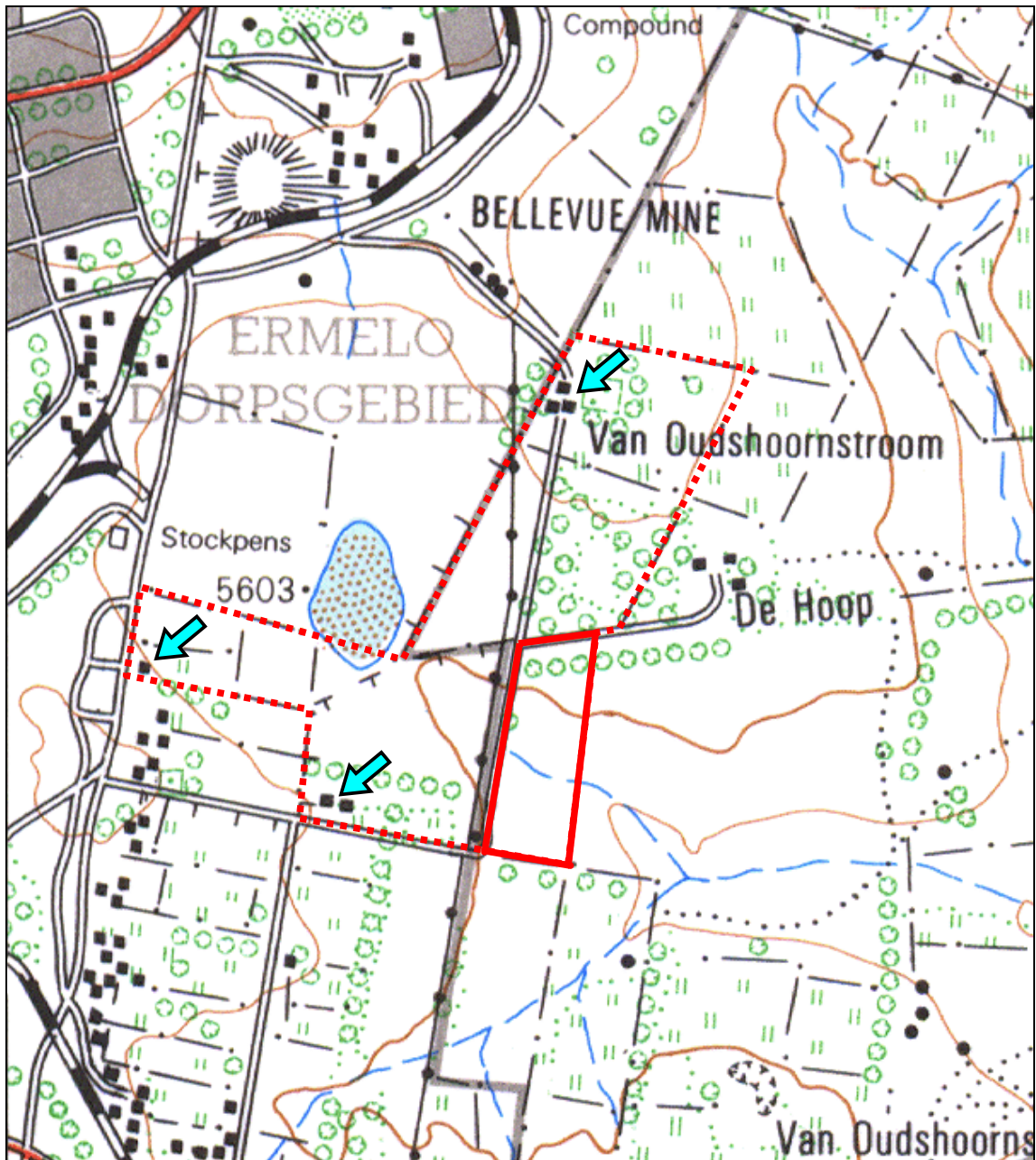


Figure 3 Enlarged section of the first edition of the 2630CA Topographical Sheet. It was based on aerial photography undertaken in 1963 and was surveyed in 1967. The three building clusters in existence at the time (and located within the wider study area covered as part of the Heritage Scoping Assessment) are marked in blue. The wider study area is marked in dotted line, whereas the present study area is marked in solid line.

### 7.1.2 Brief chronology of the area's history

DATE	DESCRIPTION
2.5 million to 250,000 years ago	The Earlier Stone Age is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these technological phases is known as Oldowan which is associated with crude flakes and hammer stones and dates to approximately 2 million years ago. The second technological phase in the Earlier Stone Age of Southern Africa is known as the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial handaxe. The Acheulian phase dates back to approximately 1.5 million years ago.
250,000 to 40,000 years ago	The Middle Stone Age is the second oldest phase identified in South Africa's archaeological history. This phase is associated with flakes, points and blades manufactured by means of the so-called prepared core technique.
40,000 years ago to the historic past	The Later Stone Age is the third phase identified in South Africa's Stone Age history. This phase in human history is associated with an abundance of very small stone artefacts or microliths.
AD 200 – AD 900	The earliest phase in the Iron Age history of Southern African is known as the Early Iron Age. No sites from this phase are known from the Ermelo area.
AD 900 – AD1300	The second phase in the Iron Age history of Southern Africa is known as the Middle Iron Age. No sites from the Middle Iron Age are known from the Ermelo area.
AD 1300 – AD 1850	<p>The third and final phase in the Iron Age history of Southern Africa is known as the Late Iron Age. Bergh (1999) identifies two main Late Iron Age groups within the wider vicinity of the Ermelo area, namely the Phuthing and the Khumalo Ndebele (Matabele).</p> <p>Furthermore, Lombard (1980) states that corbelled stone huts (which are also associated with the Late Iron Age) are found on the farms Tafelkop 270 and Middelplaat 271. These farms are located some 14 kilometres north-west of the present study area. According to Huffmann (2007) corbelled stone huts appear to be associated with the so-called Type V Iron Age sites. These Type V settlements date from the period 1700 to 1850.</p> <p>Lombard (1980) also mentions a Late Iron Age group he refers to as the Nhlapo people and indicates that when the first white people came to stay in the Ermelo district they already found the Nhlapo people in the vicinity of Maviristad. Myburgh (1956) refers to the followers of George Nhlapo who resided on the farm Witbank in the Ermelo District. It is presently not exactly certain whether this farm is the farm Witbank located directly south of the farm Van Oudtshoorn Stroom. What is known is that Maviristad is located some 32 kilometers south-east of the study area.</p>



1821	In this year the Matabele of Mzilikazi moved out of present-day KwaZulu Natal and encountered the Phuthing along the upper reaches of the Vaal and Olifants Rivers. This area was located north-west of present-day Ermelo, roughly between this town and Hendrina. After the Phuthing was attacked and defeated by the Matabele, they were forced to flee in a southern direction over the Vaal River. In turn, the Matabele moved to the banks of the Vaal River where they established themselves between 1823 and 1827 (Bergh, 1999).
Early 1860s	During the early 1860s the first Voortrekker families started establishing themselves in the present-day Ermelo area. Some of these early white residents include Hendrik Teodor Bührmann, Nicolaas Jacobus Breytenbach and F.P. van Rhede van Oudtshoorn (Lombard, 1980).
4 February 1867	The farm Van Oudtshoorn Stroom was first inspected on this day by Field Cornet F.P. van Rhede van Oudtshoorn (RAK, 2848).
28 December 1878	The farm Van Oudtshoorn Stroom was transferred on this day to its first owner, one Goosen Johannes Verdoorn (RAK, 2848).
12 February 1880	The town of Ermelo was officially proclaimed on this day by the Administrator of the Transvaal William Owen Lanyon (Lombard, 1980).
26 October 1882	The District of Ermelo was officially proclaimed on this day (Bergh, 1999).
1899 – 1902	Although no evidence for battles or skirmishes within or in the direct vicinity of the study area during the South African War could be found, Van der Westhuizen (2000) refers to the fact that the hill known as Bührmannstafelkop was used by the British as a military hospital during the war. The hill is located approximately 3 km north-by-northeast of the study area.
1914	The Bellevue coal mine was opened in this year. On 7 July 1916 the Bellevue Colliers Company Limited was registered (Lombard, 1980). The mine is approximately 1.3 km north-west of the study area.

## **7.2 SURVEY FINDINGS**

No heritage sites were identified within Portion 33 of the farm Van Oudshoornstroom 261-IT.

## **8. CONCLUSIONS AND GENERAL RECOMMENDATIONS**

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Impact Assessment for the proposed establishment of the Van Ouds Colliery on Portion 33 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

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No sites were located within the study area.

It is the opinion of the author of this report that in terms of the heritage aspects addressed as part of the defined scope of work of this study (see Section 3) and based on the condition that all the recommendations made in this report are adhered to, the development may be allowed to continue.

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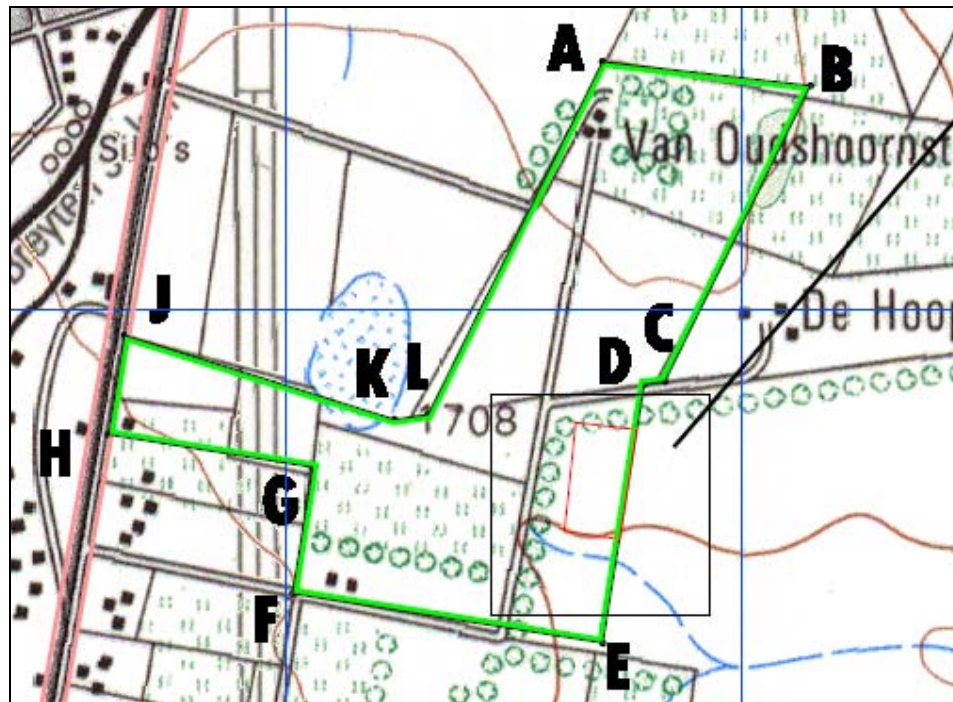
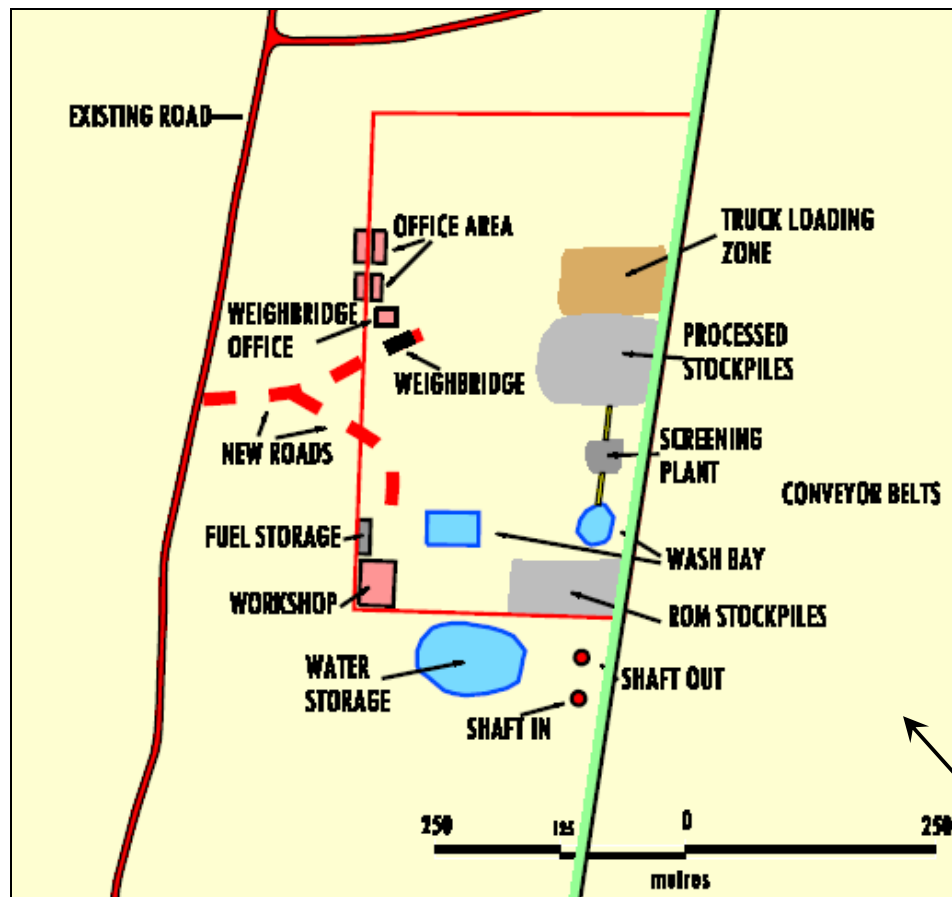
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**ANNEXURE A – DEVELOPMENT LAYOUT PLAN SHOWING  
THE PROPOSED SURFACE FEATURES**





The figure at the bottom depicts the boundaries of the prospecting rights area in green. The top figure shows the surface features of the Van Ouds Colliery. These surface features are all proposed for Portion 33 of the farm. Both figures are modified versions of a map obtained from client.

## **ANNEXURE B – LEGISLATIVE FRAMEWORK**

## LEGISLATIVE FRAMEWORK

South Africa has a number of legislative measures in place aimed at protecting its heritage resources. Of these the most important is the National Heritage Resources Act 25 of 1999.

### 1. National Heritage Resources Act 25 of 1999

The promulgation of the National Heritage Resources Act 25 of 1999 brings the conservation and management of heritage resources in South Africa on par with international trends and standards.

Section 38 (3) of the act provides an outline of ideally what should be included in a heritage report. The act states:

*“(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:*

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (c) an assessment of the impact of the development on such heritage resources;*
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.”*

Replacing the old National Monuments Act 28 of 1969, the Heritage Resources Act offers general protection for a number of heritage related features and objects (see below).

**Structures** are defined by the Heritage Resources Act as “...any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures,

*fittings and equipment associated with it."* In section 34 of the Act the general protection for structures is stipulated. It is important to note that only structures older than 60 years are protected. Section 34(1) of the National Heritage Resources Act reads as follows: *"No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority."*

The second general protection offered by the Heritage Resources Act which is of relevance for this project, is the protection of **archaeological sites and objects (as well as paleontological sites and meteorites)**. Section 35(4) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by the responsible heritage resources authority-*

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites."*

In order to understand exactly what is protected, it is important to look at the definition of the concept **"archaeological"** set out in section 2(ii) of the Heritage Act:

- "(a) material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures;*
- (b) rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;*

- (c) wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation; and*
- (d) features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found;..."*

The third important general protection offered by the Heritage Resources Act that is of importance here, is the protection of **graves and burial grounds**. Section 36(3) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by SAHRA or a provincial heritage resources authority –*

- a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or*
- c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals."*

Of importance as well is section 36 (5), which relates to the conditions under which permits will be issued by the relevant heritage authority should any action described in section 36 (3), be taken. Section 36(5) reads that:

*"SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –*

- a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and*

- b) *reached agreements with such communities and individuals regarding the future of such grave or burial ground."*

This section of the Act refers to graves and burial grounds which are older than 60 years and situated outside of a formal cemetery administered by a local authority.

Section 36 (6) of the act refers to instances where previously unknown graves are uncovered during development and other activities.

*"Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-*

- a) *carry out an investigation for the purpose of obtaining information on whether or not such a grave is protected in terms of the Act or is of significance to any community; and*
- b) *if such a grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangement for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any arrangements as it deems fit."*

## **2. Other Legislation**

In terms of graves, other legislative measures which may be of relevance include the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

## **ANNEXURE C – HERITAGE SCOPING REPORT**

## HERITAGE SCOPING REPORT

**PROPOSED ESTABLISHMENT OF THE VAN OUDS COLLIERY ON PORTIONS  
20, 23, 32 AND 51 OF THE FARM VAN OUDSHOORNSTROOM 261-IT, IN THE  
VICINITY OF ERMELO, MPUMALANGA PROVINCE**



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**Date:**

31 May 2010

**Report Number:**

MEMS-HSR-VOC-1

**Compiled by:**

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## EXECUTIVE SUMMARY

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Scoping Report for the proposed establishment of the Van Ouds Colliery on Portions 20, 23, 32, 33 and 51 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

At the time of the fieldwork it was not possible to access Portion 33. It is understood that the owner of this portion of land did not want to provide permission for the fieldwork team to access the land.

Three sites were located within the boundaries of the study area. Of these, two (Sites 1 and 3) are buildings which may be older than 60 years while the remaining site (Site 2) is an informal cemetery.

The significance of each site was established and appropriate mitigation measures identified. The following general mitigation measures are also required:

- Should the decision be made for the mining development footprint to be placed within Portion 33, this area will have to be surveyed on foot to establish whether any heritage resources are located there.
- Once the decision has been made as to exactly where the mining development footprint will be placed, this scoping report must be upgraded to a heritage impact assessment report and submitted to the relevant heritage agency for review.

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## ANNEXURES

Annexure A	Development Layout Plan Showing Distribution of Located Sites
Annexure B	Legislative Framework

## **1. PROJECT BACKGROUND**

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Scoping Report for the proposed establishment of the Van Ouds Colliery on Portions 20, 23, 32, 33 and 51 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

At present it has not been decided where the proposed mining development will be placed. Once this is decided, this report can be converted into a Heritage Impact Assessment Report and submitted to the relevant heritage agency for review.

## **2. DESCRIPTION OF STUDY AREA AND PROPOSED DEVELOPMENT**

### **2.1 Study Area**

#### **2.1.1 General description**

The study area is located directly east of Ermelo. Its position and boundaries are defined by the following coordinates:

- S 26.51669 E 30.01380
- S 26.51723 E 30.01842
- S 26.52303 E 30.01513
- S 26.52310 E 30.01475
- S 26.52824 E 30.01377
- S 26.52718 E 30.00690
- S 26.52474 E 30.00743
- S 26.52406 E 30.00284
- S 26.52208 E 30.00321
- S 26.52336 E 30.00770
- S 26.52376 E 30.00919
- S 26.52366 E 30.00989

The study area can be described as a moderately sloped landscape which comprises reasonably large open areas covered with grassy vegetation with clusters of thick woody vegetation in between. A pan is located directly north-west of the study area whereas a non-perennial stream commences within the south-eastern section of the study area.

### **2.1.2 Extent of the study area**

The study area is 75.9968 hectares in extent.

### **2.2 Proposed Development<sup>2</sup>**

Mazolo Holdings (Pty) Ltd is proposing the establishment of an underground coal mine within Portions 20, 23, 32, 33, and 51 of the farm Van Oudshoornstroom 261-IT. The company has undertaken prospecting within this proposed mining area in accordance with their Prospecting Right which was granted by the Department of Minerals and Energy (DME) in July 2008 (DME Reference Number F2007/07/20/003). Through prospecting efforts conducted since then, Mazolo Holdings has proven that the coal reserve is located within the granted portions of this farm. As such they have lodged an application for a Mining Right for this area in terms of Section 22 of the Minerals and Petroleum Resources Development Act (MPRDA; Act No 28 of 2002).

The coal seam is located approximately 40 m below the ground surface beneath a sandstone overburden. It is not considered to be economically viable to utilise opencast mining methods within the majority of the broader mining area, as the stripping ratio exceeds 6: 1 overburden-to-coal. Therefore, the proposed mining activities related to this Mining Right application will be primarily underground. The underground coal seam is proposed to be accessed via a vertical shaft that will be dug to intersect the target coal seam at depth. The coal will then be mined out of the coal seam using the mining technique known as 'bord and pillar' mining. It is referred to as such as the process is to mine out 'bords' or sections of the coal seam, leaving behind pillars designed in location and thickness according to strict safety and engineering standards, which will remain in place to hold up the roof overlying the coal seam. Mined coal will be extracted from the underground workings by means of a conveyor system and processed at a crushing and screening coal processing plant to be located within an area no more than three hectares in extent at the shaft entrance. This area will be required to be levelled and terraced in order to accommodate the crushing and processing plant, the coal stockpile area as well as other ancillary infrastructure such as offices, workshops, change rooms, ablutions, etc.

The market to which the coal is to be supplied will initially only specify a coal size grading. This will necessitate a crushing and screening coal processing plant without the present need for the coal to be washed. At present there will also be no requirement for discard dumps at the mine site. It must be noted however that future markets are anticipated to include the metallurgical industry which will require washing of the coal.

Consumers will be able to purchase coal directly from the mine's processing plant. Transport will be supplied in the form of standing contracts with truck rental companies. The coal will initially be transported by road to various markets by means of trucks with a carrying capacity of 30 tons. The proposed project therefore comprises the following:

- Underground coal mining within the granted portions of the farm Van Oudshoornstroom 261-IT.
- Creation of an inclined shaft to gain entry to the underground workings and provide a point of exit for the mined coal.
- Coal processing including crushing, screening and stockpiling of coal on an area of approximately 3 ha.
- Transport of coal by truck from the mine workings via the existing local roads to the main national roads to end users.



Figure 1 Map Source Image showing the study area (marked in black outline with white fill) within its regional context.

<sup>2</sup> The information contained in this section was obtained from the client.



Plate 1      General view of a section of the study area.



Plate 2      Another view of a section of the study area.



### 3. SCOPE OF WORK

The aim of the Heritage Scoping Report is to locate any heritage resources situated within the study area and assess their respective levels of significance. The information outlined in this scoping report can then be used to modify and defined the extent and position of the proposed development footprint to ensure that its impact is reduced as much as possible.

As indicated below, heritage resources can be defined as any place or object of cultural significance. The National Heritage Resources Act (25 of 1999) provides a very comprehensive list features, landscapes and objects which can comprise the national estate of heritage resources.

This list includes:

10. Places, buildings, structures and equipment of cultural significance
11. Places to which oral traditions are attached or which are associated with living heritage
12. Historical settlements and townscapes
13. Landscapes and natural features of cultural significance
14. Geological sites of scientific or cultural importance
15. Archaeological and palaeontological sites
16. Graves and burial grounds
17. Sites of significance relating to the history of slavery in South Africa
18. Movable objects such as military objects and ethnographic art.

With the exception of 'landscapes and natural features of cultural significance', 'geological sites of scientific or cultural importance' as well as 'palaeontological sites' all these items are covered in the scope of this study's work.

Furthermore, it must be noted as well that this study focussed on the identification of tangible heritage resources. As a result very little work was undertaken in terms of intangible heritage (i.e. ritual or spiritual aspects of the area, indigenous knowledge systems and living heritage).

## **4. METHODOLOGY**

### **4.1 Desktop Study**

The desktop study's aim is to compile as much available information as possible on the heritage resources of the area and thereby also providing historical context for any located sites. The focus in the study was placed on archival and historical maps.

### **4.2 Field Surveys**

The field survey was undertaken on Monday, 19 April 2010. It consisted of a walkthrough of the entire study area. Location data was captured with a Garmin MAP60CS handheld GPS receiver, loaded with a Garmap South Africa Topographic & Recreation v1.00 base map. Photographs were taken with a Canon Powershot A550 digital camera.

### **4.3 Aspects regarding Visibility and Constraints**

Not subtracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the heritage resources located there. This may be due to various reasons, including the subterranean nature of some archaeological sites and dense vegetation cover. As such, should any heritage features and/or objects not included in the present inventory be located or observed, a heritage specialist must immediately be contacted. Such observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This is true for graves and cemeteries as well.

As mentioned elsewhere, it is understood that access to Portion 33 of the study area was denied at the time of the fieldwork.

## **5. LEGISLATIVE REQUIREMENTS AND TERMINOLOGY**

### **5.1 Legislation**

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:



- National Environmental Management Act (NEMA) Act 107 of 1998
- National Heritage Resources Act (NHRA) Act 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
- Development Facilitation Act (DFA) Act 67 of 1995

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- National Environmental Management Act (NEMA) Act 107 of 1998
  - Basic Environmental Assessment (BEA) – Section (23)(2)(d)
  - Environmental Scoping Report (ESR) – Section (29)(1)(d)
  - Environmental Impacts Assessment (EIA) – Section (32)(2)(d)
  - Environmental Management Plan (EMP) – Section (34)(b)
- National Heritage Resources Act (NHRA) Act 25 of 1999
  - Protection of Heritage resources – Sections 34 to 36; and
  - Heritage Resources Management – Section 38
- Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
  - Section 39(3)
- Development Facilitation Act (DFA) Act 67 of 1995
  - The GNR.1 of 7 January 2000: Regulations and rules in terms of the Development Facilitation Act, 1995. Section 31.

Refer Annexure C for an overview of the National Heritage Resources Act (25 of 1999).

## **5.2 Terminology**

### ***Archaeological resources***

This includes:

- material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such;
- wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act,

and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;

- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

### ***Cultural significance***

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

### ***Development***

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

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land;
- any removal or destruction of trees, or removal of vegetation or topsoil

### ***Heritage resources***

This means any place or object of cultural significance

## **6. ASSESSMENT CRITERIA**

This chapter describes the evaluation criteria used for the sites listed below. The four main criteria used in the evaluation of archaeological sites are:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g., stonewalling and stone tools)
- **uniqueness** and

- **potential** to answer present research questions.

In terms of heritage sites, Section 3 (3) of the National Heritage Resources Act 25 of 1999 states that a place or object is considered part of the national estate if it has cultural significance or other special value because of:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

- A - No further action necessary;
- B - Mapping of the site and controlled sampling required;
- C - Preserve site, or extensive data collection and mapping of the site; and
- D - Preserve site

## **6.1 Impact**

The potential environmental impacts that may result from the proposed development.

### 6.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

## 6.2 Evaluation

### 6.2.1 Site significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report.

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

### 6.2.2 Impact rating

#### *VERY HIGH*

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in **severe** or **very severe** effects, or **beneficial** or **very beneficial** effects.

**Example:** The loss of a species would be viewed by informed society as being of VERY HIGH significance.

**Example:** The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

### *HIGH*

These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

**Example:** The loss of a diverse vegetation type, which is fairly common elsewhere, would have a HIGH significance over the long term, as the area could be rehabilitated.

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

### *MODERATE*

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial.

**Example:** The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

**Example:** The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

### *LOW*

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

**Example:** The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels.

**Example:** The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.

#### *NO SIGNIFICANCE*

No primary or secondary effects at all that are important to scientists or the public.

**Example:** A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.

### **6.2.3 Certainty**

*DEFINITE:* More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

*PROBABLE:* Over 70% sure of a particular fact, or of the likelihood of impact occurring.

*POSSIBLE:* Only over 40% sure of a particular fact or of the likelihood of an impact.

*UNSURE:* Less than 40% sure of a particular fact or likelihood of an impact occurring.

### **6.2.4 Duration**

*SHORT TERM:* 0 to 5 years

*MEDIUM:* 6 to 20 years

*LONG TERM:* more than 20 years

*DEMOLISHED:* site will be demolished or is already demolished

Evaluation Example

Impact	Impact Significance	Heritage Significance	Certainty	Duration	Mitigation
Negative	Moderate	Grade GP.B	Possible	Short term	B

## 7. FINDINGS

### 7.1 Desktop Study Findings

#### 7.1.1 Cartographic findings

##### 7.1.1.1 'Ermelo' and 'Amersfoort' Sheets of the Major Jackson Series, 1901

**Figure 2** depicts enlarged sections of the Ermelo and Amersfoort Sheets of the Major Jackson Series. This series was produced during the South African War (1899-1902) by the Mapping Section of the Field Intelligence Department under the supervision of Major R.M. Jackson. Both sheets appear to date from 1901.

No heritage resources are depicted within or in the direct vicinity of the study area. However, a number of sites are depicted on the farm. Although these are not affected by the proposed mining development, they are briefly discussed to provide some background to the heritage fabric of the area:

- The original farmstead of Van Oudshoornstroom (see yellow arrow) was located north of the study area near the south-western foot of the hill known as Tafelkop. This farmstead is believed to have been associated with Jan Hendrik Kleynhans who passed away just before these maps were produced.
- The second farmstead (see blue arrow) was located some distance south-east of the study area. It was owned at the time by M.E. Pretorius and was the farmhouse for a section of the farm known as 'Uitkyk'. According to the farm ownership history (see RAK, 2848) Marthinus Eric Walter Pretorius obtained the portion known as 'Uitkyk' on 18 January 1891.
- A number of secondary roads are shown crossing over the farm. One wagon road is also shown north of the study area,

##### 7.1.1.2 2528CB Topographical Map, First Edition, 1943

**Figure 3** depicts a section of the first edition of the 2630CA 1:50 000 topographical sheet. It was based on aerial photography undertaken in 1963 and was surveyed in 1968. The sheet was printed by the Trigonometrical Survey Office in 1970.

The following observations can be made from the map:

- Three buildings or building clusters are depicted within the study area. These are marked with blue arrows on the map.



Figure 2 Enlarged sections of the Ermelo and Amersfoort sheets of the Major Jackson Series. Both maps are believed to date from c. 1901. The approximate position of the study area is shown in red dotted line. The yellow arrow indicates what is believed to be the original farmstead on the farm, while the blue arrow indicates the second farmstead which is associated with the portion known as 'Uitkyk'.



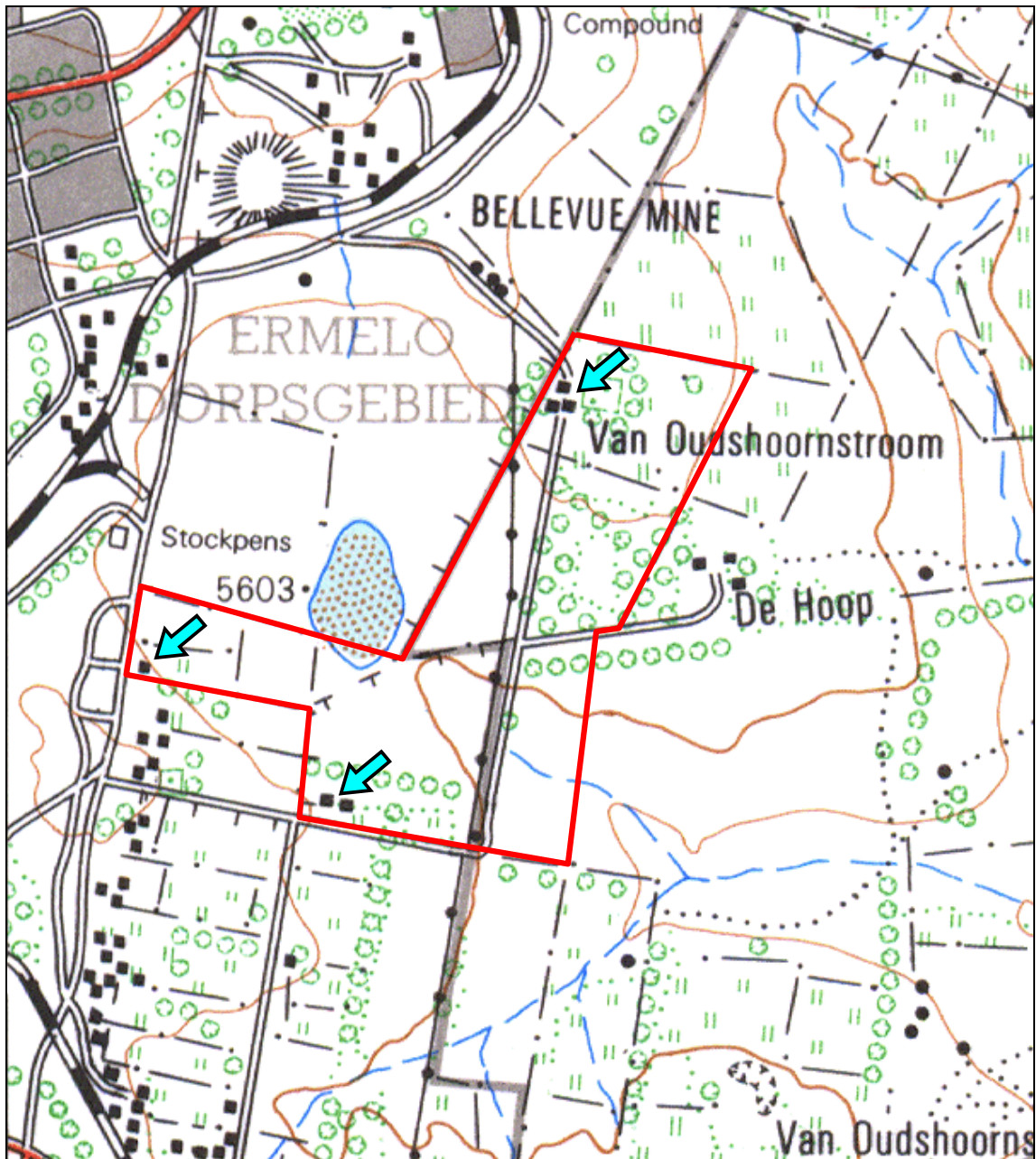


Figure 3 Enlarged section of the first edition of the 2630CA Topographical Sheet. It was based on aerial photography undertaken in 1963 and was surveyed in 1967. The three building clusters in existence at the time are marked in blue.

### 7.1.2 Brief chronology of the area's history

DATE	DESCRIPTION
2.5 million to 250,000 years ago	The Earlier Stone Age is the first and oldest phase identified in South Africa's archaeological history and comprises two technological phases. The earliest of these technological phases is known as Oldowan which is associated with crude flakes and hammer stones and dates to approximately 2 million years ago. The second technological phase in the Earlier Stone Age of Southern Africa is known as the Acheulian and comprises more refined and better made stone artefacts such as the cleaver and bifacial handaxe. The Acheulian phase dates back to approximately 1.5 million years ago.
250,000 to 40,000 years ago	The Middle Stone Age is the second oldest phase identified in South Africa's archaeological history. This phase is associated with flakes, points and blades manufactured by means of the so-called prepared core technique.
40,000 years ago to the historic past	The Later Stone Age is the third phase identified in South Africa's Stone Age history. This phase in human history is associated with an abundance of very small stone artefacts or microliths.
AD 200 – AD 900	The earliest phase in the Iron Age history of Southern African is known as the Early Iron Age. No sites from this phase are known from the Ermelo area.
AD 900 – AD1300	The second phase in the Iron Age history of Southern Africa is known as the Middle Iron Age. No sites from the Middle Iron Age are known from the Ermelo area.
AD 1300 – AD 1850	<p>The third and final phase in the Iron Age history of Southern Africa is known as the Late Iron Age. Bergh (1999) identifies two main Late Iron Age groups within the wider vicinity of the Ermelo area, namely the Phuthing and the Khumalo Ndebele (Matabele).</p> <p>Furthermore, Lombard (1980) states that corbelled stone huts (which are also associated with the Late Iron Age) are found on the farms Tafelkop 270 and Middelplaat 271. These farms are located some 14 kilometres north-west of the present study area. According to Huffmann (2007) corbelled stone huts appear to be associated with the so-called Type V Iron Age sites. These Type V settlements date from the period 1700 to 1850.</p> <p>Lombard (1980) also mentions a Late Iron Age group he refers to as the Nhlapo people and indicates that when the first white people came to stay in the Ermelo district they already found the Nhlapo people in the vicinity of Maviristad. Myburgh (1956) refers to the followers of George Nhlapo who resided on the farm Witbank in the Ermelo District. It is presently not exactly certain whether this farm is the farm Witbank located directly south of the farm Van Oudtshoorn Stroom. What is known is that Maviristad is located some 32 kilometers south-east of the study area.</p>

1821	In this year the Matabele of Mzilikazi moved out of present-day KwaZulu Natal and encountered the Phuthing along the upper reaches of the Vaal and Olifants Rivers. This area was located north-west of present-day Ermelo, roughly between this town and Hendrina. After the Phuthing was attacked and defeated by the Matabele, they were forced to flee in a southern direction over the Vaal River. In turn, the Matabele moved to the banks of the Vaal River where they established themselves between 1823 and 1827 (Bergh, 1999).
Early 1860s	During the early 1860s the first Voortrekker families started establishing themselves in the present-day Ermelo area. Some of these early white residents include Hendrik Teodor Bührmann, Nicolaas Jacobus Breytenbach and F.P. van Rhede van Oudtshoorn (Lombard, 1980).
4 February 1867	The farm Van Oudtshoorn Stroom was first inspected on this day by Field Cornet F.P. van Rhede van Oudtshoorn (RAK, 2848).
28 December 1878	The farm Van Oudtshoorn Stroom was transferred on this day to its first owner, one Goosen Johannes Verdoorn (RAK, 2848).
12 February 1880	The town of Ermelo was officially proclaimed on this day by the Administrator of the Transvaal William Owen Lanyon (Lombard, 1980).
26 October 1882	The District of Ermelo was officially proclaimed on this day (Bergh, 1999).
1899 – 1902	Although no evidence for battles or skirmishes within or in the direct vicinity of the study area during the South African War could be found, Van der Westhuizen (2000) refers to the fact that the hill known as Bührmannstafelkop was used by the British as a military hospital during the war. The hill is located approximately 2.5 km north-by-northeast of the study area.
1914	The Bellevue coal mine was opened in this year. On 7 July 1916 the Bellevue Colliers Company Limited was registered (Lombard, 1980). The mine is approximately 900m north-west of the study area.

## **7.2 SURVEY FINDINGS**

### **7.2.1 Site 1**

#### **7.2.1.1 Coordinates**

S 26.52393

E 30.00303

#### **7.2.1.2 General Site Description**

A reasonably old dilapidated farm dwelling and its outbuilding are located here. The house is in a poor state of preservation and building rubble is scattered around it.

The dwelling is a brick-built structure and extends from a single storey on the one side to a double storey on the other end. The windows are all steel framed and the building has a corrugated iron roof.

The house is currently used as a storage facility by Eskom.

#### **7.2.1.3 Current Protection Status**

It is presently not certain how old the buildings are. The dwelling from this site is indicated on the first edition of the 2630CA topographical sheet which was based on aerial photography undertaken in 1963 and surveys undertaken in 1968. This means that the site is definitely older than 42 years and very likely older than 47 years as well.

If the site is older than 60 years it falls under the protection of the National Heritage Resources Act. All structures older than 60 years are protected by Section 34(1) of National Heritage Resources Act and may not be demolished or altered without a permit from the relevant heritage authority.

Should the buildings be younger than 60 years, no heritage legislation applies.

#### **7.2.1.4 Evaluation of Site Significance**

The site must be assessed by an architectural historian. Provisionally, it can be stated that although there is a chance for the site to be older than 60 years, its condition is reasonably poor.

The site is of **Low Significance** and as such is classified as Grade GP.C.

In terms of the criteria contained in the National Heritage Resources Act (25 of 1999), the site's significance grading was based on the following relevant elements:

- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;

#### **7.2.1.5 Impact of Proposed Development on Site**

At the present time it is not known where the proposed mining development footprint will be positioned within the study area. As such the impact of the proposed development on the site can not be ascertained.

#### **7.2.1.6 Mitigation**

Should the decision be made for the mining development footprint to be placed within a 250m buffer area around the site, the following mitigation measures would be required:

- The site must be assessed by an architectural historian and any recommendations made should be adhered to. It must be noted here that there is a chance for the heritage specialist to conclude that the site is younger than 60 years and as a result does not have any significance.



Plate 3 General view of the dwelling at Site 1.



Plate 4 Another view of the dwelling at Site 1.

## **7.2.2 Site 2**

### **7.2.2.1 Coordinates**

S 26.52073

E 30.01633

### **7.2.2.2 General Site Description**

Site 2 consists of an informal cemetery located along the eastern boundary of the property. The cemetery is comprised of nine graves located in two rows. All these graves are orientated along the east-west axis. While no formal headstones were found, all the graves have dressings. One grave has a large rectangular dressing of packed bricks while two others have oval shaped dressings comprised of soil mounds with bricks on top. Three other graves have oval shaped mounds of soil with stones on top while the last three graves have dressings of only oval shaped mounds of soil.

Although vegetation was found on the cemetery, it seemed to be only from the previous season. As a result the assumption can be made that at least some of the graves are maintained. A number of the graves also had grave goods associated with their dressings. These observations suggest that the graves are visited by family members.

The characteristics of the grave dressings and the position of the cemetery along the farm boundary suggest that the graves can be associated with black farm workers. While no inscribed headstones were observed with which the age of the graves may have been indicated, it seems likely that they date from the early to mid 20<sup>th</sup> century.

### **7.2.2.3 Current Protection Status**

Graves and burial grounds fall under various legislative protections, depending on factors such as their age. Such legislation may include the National Heritage Resources Act 25 of 1999, the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

### **7.2.2.4 Evaluation of Site Significance**

All graves and burial grounds have high levels of emotional, religious and in some cases historical significance. The site is of **High / Medium Significance** and as such is

classified as Grade GP.A. In terms of the criteria contained in the National Heritage Resources Act (25 of 1999), the site's significance grading was based on the following relevant elements:

- its importance in the community, or pattern of South Africa's history;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

#### **7.2.2.5 Impact of Proposed Development on Site**

At the present time it is not known where the proposed mining development footprint will be positioned within the study area. As such the impact of the proposed development on the site can not be ascertained.

#### **7.2.2.6 Mitigation**

The *in situ* preservation of the site is strongly recommended here. The mitigation measures required in such an option would be the following:

- A concerted effort must be made to locate the family (ies) of the buried individuals. All aspects of the site's management must be discussed with them.
- Once the final decision has been taken that the site will be preserved *in situ*, a site management plan must be compiled with which its preservation during the mine development and operational phases can be ensured. Such a management plan may include the erection of a fence around the entire cemetery, controlled access to the graves by way of a locked gate and visitor book, a system of vegetation clearing as well as a monitoring process.





Plate 5 General view of Site 2.



Plate 6 One of the graves from Site 2. It has a dressing of packed stones.

### **7.2.3 Site 3**

#### **7.2.3.1 Coordinates**

S 26.51747

E 30.01406

#### **7.2.3.2 General Site Description**

Site 3 is located near the north-western corner of the study area. It consists of an old farmstead which was built from brick and has a corrugated iron roof. The building appears to have originally consisted of a square structure. At a later stage two rondavels were added to the one façade of the original structure.

All the window frames are of wood and are furthermore in the form of sash windows. If these window frames are the original ones from the building it would indicate that the building is older than 89 years. This can be said as steel frame windows only became available in South Africa during 1921.

Mr. Hein Mentz, the current owner of the property on which the house is located, uses it for offices. The site is in a very good condition.

#### **7.2.3.3 Current Protection Status**

The site is indicated on the first edition of the 2630CA topographical sheet which was based on aerial photography undertaken in 1963 and surveys undertaken in 1968. This means that the site is definitely older than 47 years. Based on the general appearance of the house as well as the presence of wooden sash windows, a much older age for the building can be expected. The farmstead is certainly older than 60 years. Furthermore, the site is not depicted on the Major Jackson Map dating from c. 1901. This suggests that the farmstead was built between 1901 and 1921.

All structures older than 60 years are protected by Section 34(1) of National Heritage Resources Act and may not be demolished or altered without a permit from the relevant heritage authority. Furthermore, the chance also exists for the site to be older than 100 years. Should this be the case the site is defined as an archaeological site by the National Heritage Resources Act 25 of 1999. Archaeological sites are protected by Section 35(4) of the said Act.



#### 7.2.3.4 Evaluation of Site Significance

The site must be assessed by an architectural historian. Provisionally it can be stated that the site is certainly older than 60 years and possibly older than 100 years as well. It is also in a very good condition.

As such the site can provisionally be given a **High / Medium Significance** and such can be classified as Grade GP.A.

In terms of the criteria contained in the National Heritage Resources Act (25 of 1999), the site's significance grading was based on the following relevant elements:

- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

#### 7.2.3.5 Impact of Proposed Development on Site

At the present time it is not known where the proposed mining development footprint will be positioned within the study area. As such the impact of the proposed development on the site can not be ascertained.

#### 7.2.3.6 Mitigation

Should the decision be made for the mining development footprint to be placed within a 250m buffer area around the site, the following mitigation measures would be required:

- The site must be assessed by an architectural historian and any recommendations made should be adhered to.
- It must be noted at this point that the *in situ* preservation of the site is highly recommended here.



Plate 7 General view of Site 3.



Plate 8 Side elevation of the farmstead at Site 3. The sash windows can be seen.

## 8. CONCLUSIONS AND GENERAL RECOMMENDATIONS

Professional Grave Solutions (Pty) Ltd was appointed by Myezo Environmental Management Services cc to undertake a Heritage Scoping Report for the proposed establishment of the Van Ouds Colliery on Portions 20, 23, 32, 33 and 51 of the farm Van Oudshoornstroom 261-IT, Msukaligwa Municipality, Mpumalanga Province. The proponent is Mazolo Holdings (Pty) Ltd.

At the time of the fieldwork it was not possible to access Portion 33. It is understood that the owner of this portion of land did not want to provide permission for the fieldwork team to access the land.

Three sites were located within the boundaries of the study area. Of these, two (Sites 1 and 3) are buildings which may be older than 60 years while the remaining site (Site 2) is an informal cemetery.

The significance of each site was established and appropriate mitigation measures identified. The following general mitigation measures are also required:

- Should the decision be made for the mining development footprint to be placed within Portion 33, this area will have to be surveyed on foot to establish whether any heritage resources are located there.
- Once the decision has been made as to exactly where the mining development footprint will be placed, this scoping report must be upgraded to a heritage impact assessment report and submitted to the relevant heritage agency for review.

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**ANNEXURE A – DEVELOPMENT LAYOUT PLAN SHOWING  
DISTRIBUTION OF LOCATED SITES**





## **ANNEXURE B – LEGISLATIVE FRAMEWORK**

## LEGISLATIVE FRAMEWORK

South Africa has a number of legislative measures in place aimed at protecting its heritage resources. Of these the most important is the National Heritage Resources Act 25 of 1999.

### 1. National Heritage Resources Act 25 of 1999

The promulgation of the National Heritage Resources Act 25 of 1999 brings the conservation and management of heritage resources in South Africa on par with international trends and standards.

Section 38 (3) of the act provides an outline of ideally what should be included in a heritage report. The act states:

*“(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:*

- (h) The identification and mapping of all heritage resources in the area affected;*
- (i) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*
- (j) an assessment of the impact of the development on such heritage resources;*
- (k) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (l) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (m) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (n) plans for mitigation of any adverse effects during and after the completion of the proposed development.”*

Replacing the old National Monuments Act 28 of 1969, the Heritage Resources Act offers general protection for a number of heritage related features and objects (see below).

**Structures** are defined by the Heritage Resources Act as “...any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated with it.” In section 34 of the Act the general protection for structures is stipulated. It is important to note that only structures older than 60 years are protected. Section 34(1) of the National Heritage Resources Act reads as follows: “No person may alter or demolish any structure or

*part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority."*

The second general protection offered by the Heritage Resources Act which is of relevance for this project, is the protection of **archaeological sites and objects (as well as paleontological sites and meteorites)**. Section 35(4) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by the responsible heritage resources authority-*

- (d) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (e) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (f) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite;*  
*or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites."*

In order to understand exactly what is protected, it is important to look at the definition of the concept "**archaeological**" set out in section 2(ii) of the Heritage Act:

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

The third important general protection offered by the Heritage Resources Act that is of importance here, is the protection of **graves and burial grounds**. Section 36(3) of the National Heritage Resources Act states that:

*"No person may, without a permit issued by SAHRA or a provincial heritage resources authority –*

- d) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- e) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or*
- f) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals."*

Of importance as well is section 36 (5), which relates to the conditions under which permits will be issued by the relevant heritage authority should any action described in section 36 (3), be taken. Section 36(5) reads that:

*"SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority –*

- c) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and*
- d) reached agreements with such communities and individuals regarding the future of such grave or burial ground."*

This section of the Act refers to graves and burial grounds which are older than 60 years and situated outside of a formal cemetery administered by a local authority.

Section 36 (6) of the act refers to instances where previously unknown graves are uncovered during development and other activities.

*"Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must*

*immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-*

- c) carry out an investigation for the purpose of obtaining information on whether or not such a grave is protected in terms of the Act or is of significance to any community; and*
- d) if such a grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangement for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any arrangements as it deems fit."*

## **2. Other Legislation**

In terms of graves, other legislative measures which may be of relevance include the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act 65 of 1983, the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.