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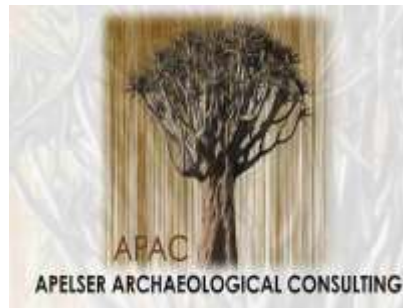
LYNNWOOD RIDGE

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Tel: 083 459 3091

Fax: 086 695 7247

Email: apac.heritage@gmail.com



Comprehensive and Professional Solutions for all Heritage Related Matters
CK 2006/014630/23 **VAT NO.: 4360226270**

APAC020/88

2020-10-07

To: Me. Dashantha Moodley
Bokamoso Landscape Architects & Environmental Consultants CC

P.O. Box 11375
Maroelana
0161

RE: MOTIVATION FOR FULL PHASE 1 HERITAGE IMPACT ASSESSMENT (HIA) EXEMPTION FOR THE EXISTING BMJ COAL (PTY) LTD PROCESSING SITE SITUATED ON PORTION 13 OF DOORNRUG 302 JS WITHIN THE EMALAHLENI LOCAL MUNICIPALITY, MPUMALANGA PROVINCE

APelsers Archaeological Consulting cc (APAC cc) was appointed by Bokamoso Landscape Architects & Environmental Consultants CC to provide a Motivation from Full Phase 1 HIA for BMJ Coal as part of their Water Use Licence Application (WULA).

Background to the Project

Bokamoso Landscape Architects & Environmental Consultants CC is applying for a Water Use Licence Application (WULA) for the existing BMJ Coal Mine located within the Emalahleni Local Municipality in the Mpumalanga Province. The facility is bordered by the N4 to the north, and is approximately 15km due west of Emalahleni.

In terms of the National Heritage Resources Act, (Act No. 25 of 1999), heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a Heritage Impact Assessment (HIA) is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The quickest process to follow for the archaeological component is to contact an accredited specialist (see the web site of the Association of Southern African Professional Archaeologists: www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place. The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in Section 38) about the

AJ Pelsers BA (UNISA), BA (Hons) (Archaeology) [WITS], MA (Archaeology) [WITS]

process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources, or at least a letter of exemption from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary a Phase 2 rescue operation might be necessary. Please note that a nationwide fossil sensitivity map is available on the South African Heritage Resources Information System (SAHRIS) to assist applicants with determining the fossil sensitivity of a study area.

If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for exemption from having to undertake further heritage assessments. Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.

Last mentioned option was decided on for this project which entailed desktop research as part of the assessment.

Relevant Legislation

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act No. 25 of 1999) and the National Environmental Management Act (Act No.107 of 1998), as amended.

The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

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

The National Estate includes the following:

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

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the

proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources.

According to Section 38 (1) of the Act, an HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length.
- b. The construction of a bridge or similar structure exceeding 50m in length.
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof.
- d. Re-zoning of a site exceeding 10 000m².
- e. Any other category provided for in the regulations of the SAHRA or a provincial heritage authority.

Description of the Study Area

The study area is located at the BMJ Coal Mine, on Portion 13 of the Farm Doornrug 302 JS, within the Emalahleni Local Municipality, in the province of Mpumalanga.

Based on aerial images of the area (Google Earth) the topography of the area is fairly flat and open. The area would have been used in the past for agricultural purposes and has recently been completely altered and disturbed through mining activities. If any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance did exist here in the past it would have been extensively disturbed or destroyed as a result.

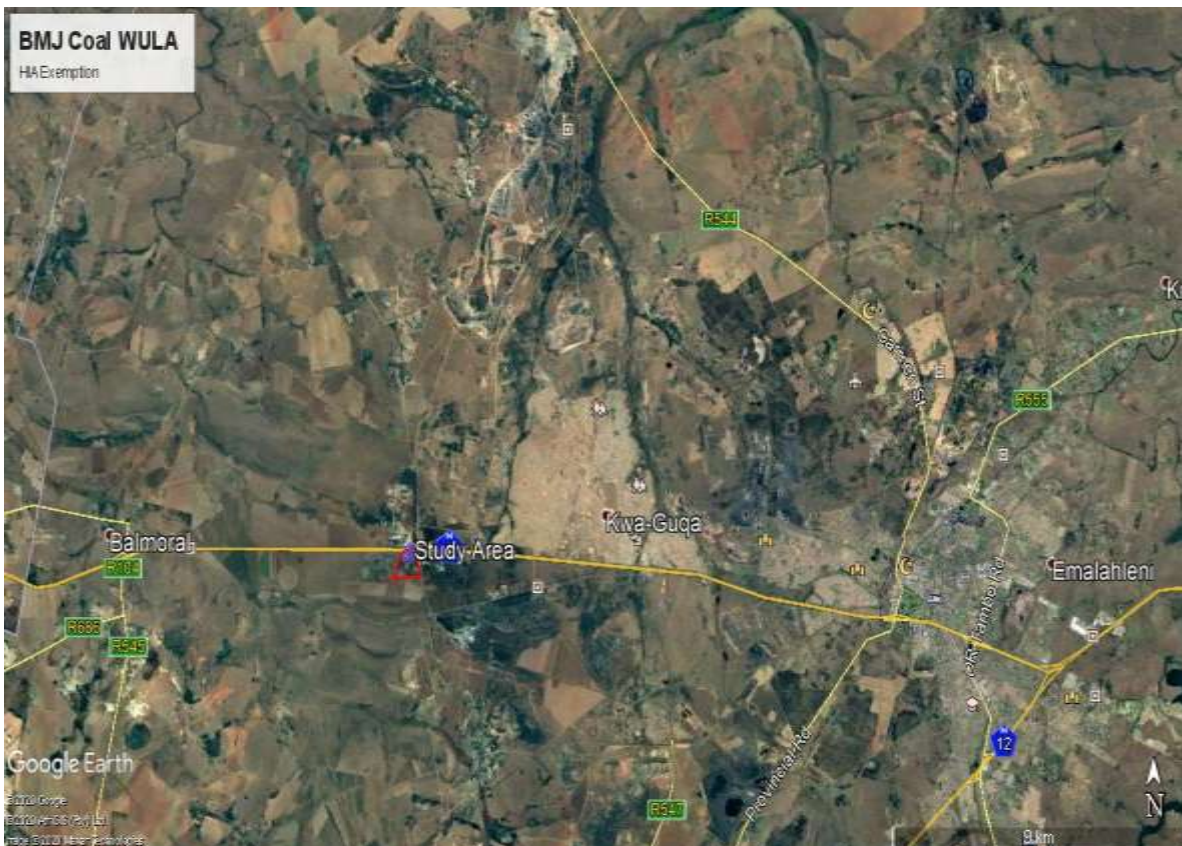


Figure 1: General location of the study area (Google Earth 2020).



Figure 2: Closer location of the study area (Google Earth 2020).

Results of Desktop Research

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

- Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago
- Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
- Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

There are no known Stone Age sites in close proximity to the study area, although rock paintings (associated with the Later Stone Age) are known south of Emalahleni (Witbank) near the confluence of the Olifants River and Rietspruit (Bergh 1999:4-5). Heritage surveys have recorded few outstanding Stone Age sites, rock paintings and engravings in the Eastern Highveld - mainly as a result of limited extensive archaeological surveys. Stone tools have however been recorded around some of the pans which occur on the Eastern Highveld (Pistorius 2010:16).

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artefacts. In South Africa it can be divided in two separate phases (Bergh 1999:96-98), namely:

- Early Iron Age (EIA) 200 – 1000 A.D
- Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

No Early or Middle Iron Age sites are known to occur in the study area (Bergh 1999: 6-7). According to Pistorius the Eastern Highveld had probably not been occupied by Early Iron Age communities, but was occupied by Late Iron Age farming communities such as the Sotho, Swazi and Ndebele who established stone walled settlement complexes. Seemingly these sites are more common towards the eastern perimeters of the Eastern Highveld. Small, inconspicuous stone walled sites have been observed along the Olifants River but are an exception and not the rule (Pistorius 2010:16-17).

The historical period usually starts with the moving into an area of people that were able to read and write and record histories such as early European travellers and/or missionaries. The earliest European group to travel through the area was that of Schoon in 1836. The early travellers were followed closely by the Voortrekkers after 1840 (Bergh 1999:13).

Witbank (modern-day Emalahleni) started when the railway line between Pretoria and Lourenço Marques (built in 1894) passed close to where the town is located today. The first Europeans who came to the area noticed the abundance of coal, which was evident on the surface or in stream beds. A stage post for wagons close to a large outcrop of whitish stones (a 'white ridge') gave the town its name. Witbank was established in 1903 on a farm known as Swartbos which belonged to Jacob Taljaard (Pistorius 2010:17). During the Anglo-Boer War (1899-1902) there was a skirmish between the British (under Hamilton) and the Boer (under Wolmarans) on the 11th of January 1902 at Witbank (Bergh 1999:54).

An 1870 map for Farm Doornrug 302 JS (for Portion 1) that could be obtained from the Chief Surveyor General's database (www.csg.dla.gov.za) indicates that the farm was then numbered as No.3 and was located in the District of Lydenburg (later Witbank) and the Ward of Witbank in the Zuid-Afrikaansche Republiek (Z.A.R). Portion 1 was surveyed for one D.Muller in January 1870 (**CSG Document 10230475**). Portion 13 of the Farm was surveyed in July 1946 and was then located in the District of Witbank, Province of Transvaal (**CSG Document 10230613**). No historical sites or features are visible on these maps however.

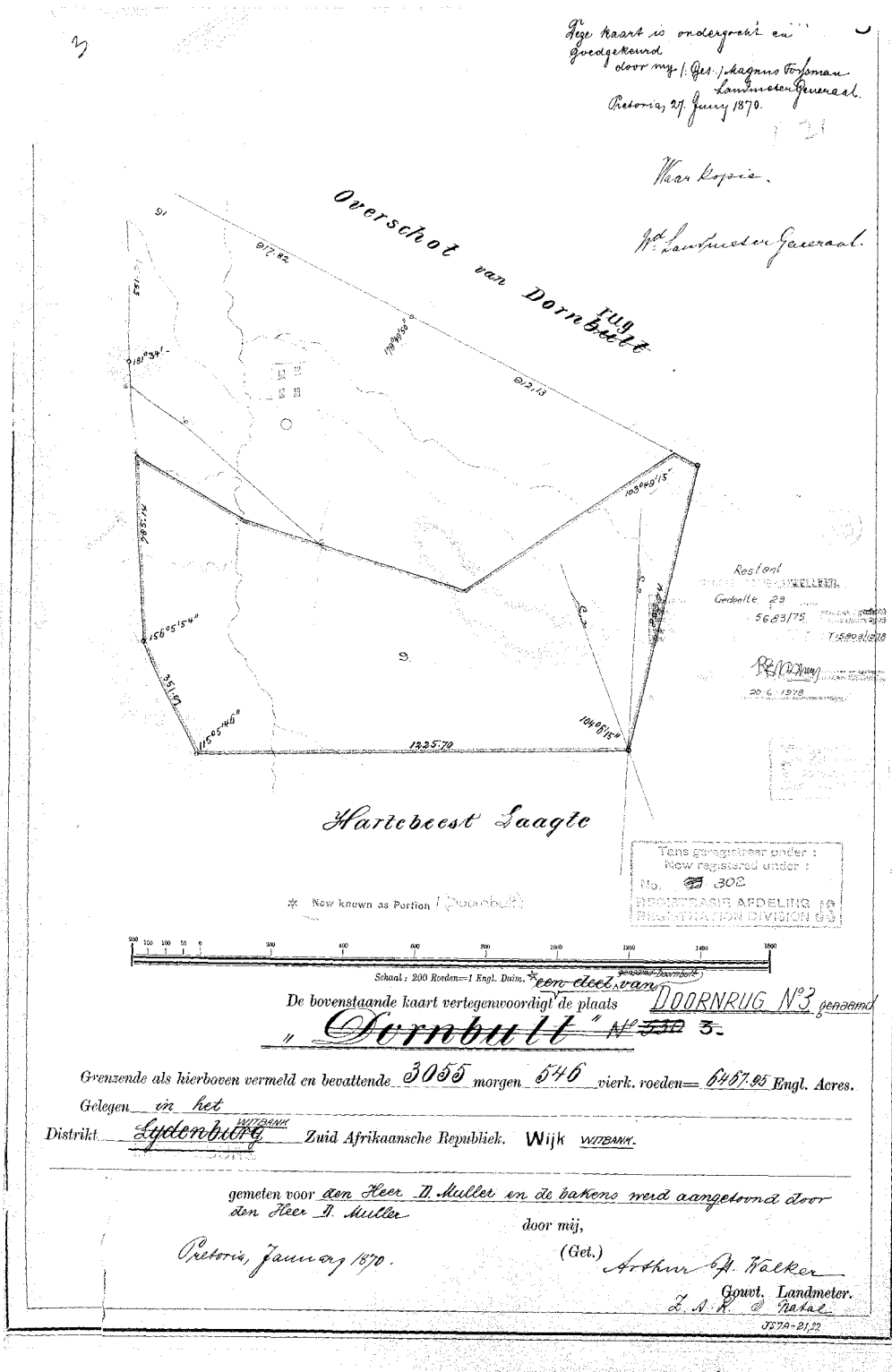
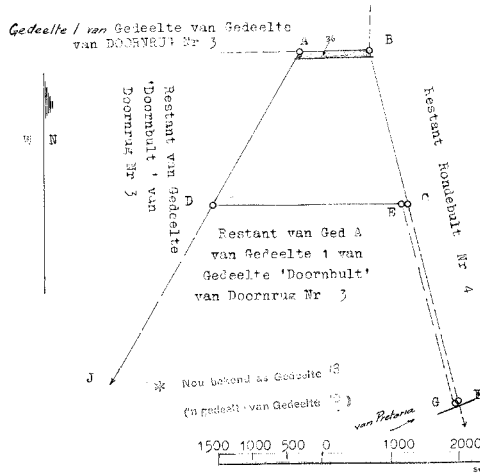


Figure 3: An 1870 map of Portion 1 of the Farm Doornrug 302 JS (www.csq.dla.gov.za).

Goedgekeur

W. Langhans
Langhans & Co.
17 SEP 1946



SYE	KORREKTE	RIGTINGS- HOEKE	KO-ORDINATE	
AB	1019.1	180.00.00	a	+5747.5
BC	2293.6	256.15.50	B	+5747.5
CD	2857.4	359.57.40	C	+3519.5
DEA	2578.0	20.07.10	D	+3517.6
EH	7628.6	256.15.50	H	-3890.9
DJ	5842.3	300.07.10	J	-1536.3

Figuur	ETFG			
EF	61.80	179.57.40	E	+5519.50
FG	3014.72	256.15.50	F	+552.40
GH	65.48	323.26.40	G	+591.00
GE	3054.76	76.16.20	G	-225.20
				-177.60

Grootte 2.1143 morges
ETFG stel 'n reg van oorpaa voor die Restant

Beskrywing van Bakens

- JA 3" standaard onder klipstapels
- B Ysterhout hoeknaal onder klipstapel
- H 3/4" deursnee pyp onder klipstapel
- OPFG 15"x5/8" yster penne onder klipstapels

302
PROVINSIE TRANSWAAL
Landmeter

Die figuur ABCD stel voor
49.9993 Morges grond synde Gedeelte 13 van Gedeelte van Gedeelte 1 van van die plaas
Gedeelte 'Doornbult' van die plaas DOORN RUG Nr 3
geleë in die DISTRIK Witbank

Gemeente Julie 1946

deur my

PROVINSIE TRANSWAAL

Landmeter

Hierdie kaart is gelyk aan Akte van

No. 1793/41 gedateer
ten gunste van

Registrateur van Aktes

Die ooreenstemmende kaart is No. 130/35

gehoeg aan Franspoort
No. 6382/435 gedateer
ten gunste van

L.G. Looer No. 267/6/1946/26

Meestukkie No. 131746
Kompilaasie No. JS. 7A + 0 4574-22

Suidbreedte Ooslengte

Figure 4: The 1946 map of Portion 13 of the Farm Doornrug 302 JS (www.csg.dla.gov.za).

It is clear from aerial images of the study area (Google Earth) that the study area has been extensively altered from its original landscape (farming) by mining activities since 2004. Prior to that agricultural activities (ploughing/crop growing) would also have impacted heavily on the study area. It is therefore very unlikely that any sites, features or material of cultural heritage origin or significance would still be present here. If there were any present here in the past it would have been extensively disturbed or destroyed as a result of recent activities.



Figure 5: Aerial image of the study area dating to 2004. At this point the agricultural nature of the area is still evident, while encroaching mining is visible (Google Earth 2020).



Figure 6: By 2010 mining activities have started appearing (Google Earth 2020).



Figure 7: A 2013 image shows the rapidly expanding mining operations here (Google Earth 2020).



Figure 8: By 2016 mining has nearly altered the total area (Google Earth 2020).



Figure 9: Aerial image dating to 2019 shows that the area has now been completely impacted (Google Earth 2020).

Conclusions & Recommendations

APelser Archaeological Consulting cc (APAC cc) was appointed by Bokamoso Landscape Architects & Environmental Consultants CC to provide a Motivation from Full Phase 1 HIA for BMJ Coal as part of their Water Use Licence Application (WULA). The study area is located at the BMJ Coal Mine, on Portion 13 of the Farm Doornrug 302 JS, within the Emalahleni Local Municipality, in the province of Mpumalanga.

It is clear from aerial images of the study area (Google Earth) that the study area has been extensively altered from its original landscape (farming) by mining activities since 2004. Prior to that, agricultural activities (ploughing/crop growing) would also have impacted heavily on the study area. It is therefore very unlikely that any sites, features or material of cultural heritage origin or significance would still be present here. If there were any present here in the past it would have been extensively disturbed or destroyed as a result of recent activities.

It is concluded that the likelihood of any sites, features or material of cultural heritage significance being present in the study and development area is very low and that there should therefore be no impact on any sites through the development actions. It is therefore recommended that Exemption for a Full Phase 1 HIA is given for the WULA.

However, the subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves) should always be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.

Should there be any questions or comments on the contents of this document please contact the author as soon as possible.

Kind regards



Anton Pelser

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