AFRICAN HERITAGE CONSULTANTS CC

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DR. UDO S KÜSEL

Tel/fax: (012) 567 6046
Cell: 082 498 0673
E-mail: udo.heritage@absamail.co.za

P.O. Box 652
Magalieskruin
0150

1st Phase

CULTURAL HERITAGE RESOURCES IMPACT ASSESSMENT
FOR A PROPOSED MINING LICENCE
ON THE FARM NOOITGEDACHT 436 JR PORTION 25.

March 2013

Sidney Miller.
B.Sc (Eng) Civ. M.(Architecture) Conservation. ASAPA MEMBER NO 087

1. EXECUTIVE SUMMARY

Ecca Holdings (Proprietary) Limited has been involved with the mining and refinement of clay ***in the previously known KwaNdebele since 1994.*** The proposed new mine on portion 25 of Nooitgedacht 436 JR ***(that is evaluated in this report)*** is then only ***a southward extension of an existing mine located on portion 24 of Nooitgedacht 436 JR.*** The mining operation entails the following actions. First a suitable clay source is identified near ***the existing processing plant on portion 22 of Nooitgedacht 436 JR***. This is accomplished by normal geological exploration work, entailing fieldwork by well-informed geologists, followed by exploration core drilling. In collaboration with government agencies and local landowners, permission is then procured to establish the necessary Environmental Impact assessment study and all other prerequisites as prescribed by law.

Secondly, once these fundamental actions have been adhered to then mining proceeds. This normally entails the removal of an overburden, as the required clays are normally located below the ancient coal bearing formations related to the Ecca Group sedimentary deposits and the formation of the Cape Supergroup (S***ee geological description page 11***). When the overburden happens to be an exploitable resource, such as coal in the present case, it is channelled into the South African Mining economy so as to limit costs involved in dealing with the overburden. Finally, once the overburden is dealt with, the clay is excavated and stockpiled on site. From this stockpile it is transported in bulk form to the processing plant. Here it is then treated in the standard fashion and worked into a final product. This final product is then sold to companies such as Vesuvius (Pty) Ltd., Olifantsfontein, and Calderys (Pty) Ltd., Vereeniging, and Duracast (Pty) Ltd., Vereeniging, and Ekan Base Minerals (Pty) Ltd., Springs and finally Vereeniging Refractory's (Pty) Ltd., Vereeniging where it is reworked into a variety of fire resistant clay products that have application in a large number of manufacturing businesses that are important to the South African economy.

Regarding the heritage remains on portion 25 the following were identified during ***the fieldwork.*** In the first place it was noticeable that the general grass vegetation consisted mainly of a small number of pioneer species. Google images then also confirms that most of the land on portion 25 (as well as in the larger area) had at one time or another in the past been ploughed for the production of dry-land mono-culture crops such as maze or peanuts.

On the eastern portion of the land, in a cops of black wattle trees **(*Acacia mearnsii) (Coates Palgrave page 271-272*),** a disturbance was identified that may once have contained some buildings. The cause of the disturbance is unknown. ***As it is located over one and a half kilometre from the proposed mining area it will not be impacted on.***

In the central portion of the land there occur three homesteads of modern people, still occupied. As these dwellings are modern its heritage value is of no importance to Act 25 of 1999. ***The impact of the mining on these people is an issue to be addressed in another section of the Environmental Impact Assessment***.

On and in the southern extremity of the proposed mining area there occurs a cemetery containing 15 graves. There are two ways to mitigate this situation. Either the graves are relocated or it is retained in situ. As it is likely that the mine will reach an expected depth of between ten and fifteen meters at this point, it will be difficult to retain the graves in place.

Recommendation

Mitigation regarding the graves can be done in two ways

1. They are relocated to a modern facility following standard legal procedure regarding the relocation of graves.

2. They are retained in-situ within a protected zone with guaranteed access road.

3. For either of the above to be accepted negotiations with the families of the deceased must be undertaken, and a document of legal and mutual understanding must be procured.

4. The document of legal and mutual understanding must accompany this report to SHARA to demonstrate the intent of Ecca Holdings (Proprietary) Limited

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2. CONTACT DETAILS

2.1. Description of the farm.

Farm.	Portion no 25 of the farm Nooitgedacht 436 JR
District.	Ekandustria
Province.	Mpumalanga

2.2. Land Owner.

Name.	Department of Rural Development and Land Reform
Contact person.	Mr Max de Kock (Deputy-Director: State Land Administration)
Telephone.	Business 013 755 3499 Fax 086 620 7769
Address	Corner of Rhodes and Botha Streets Witbank / Emalahleni.

2.3. Developers (Mining Company).

Name.	Ecca Holdings (Proprietary) Limited
Contact person.	Mr Callie Roos
Telephone.	Cell. 082-880-4750 Business ? Fax ?

2.4. Consultants.

a. Environmental

Company.	Shangoni Management Services
Contact name.	Jan Nel.
Contact telephone.	Cell. 0823795935 Business 0128077036. Fax 0128071014
Contact e-mail.	jan@shangoni.co.za

b. Heritage

Company.	African Heritage Consultants
Contact name.	Sidney Miller
Contact telephone.	Cell. 082 939 6536
Contact e-mail.	sidneymears@gmail.com.

2.5. Local Authorities detail.

Authority (governmental)	Thembisile Hani municipality,
Contact name.	Ward 32 councillor Me SM Hlungwani
Contact telephone.	Cell. 078 127 9140

Authority (tribal) Fene Tribal authority - chief passed away - no replacement yet.

2.6. Type of Development.
Mining

2.7. Zoning of Site.
Agriculture.

2.8 GPS Positions taken on portion 25.

A	25° 33′ 47, 43′′	south	28° 48′ 17, 59′′	east	Border beacon of portion 25
B	25° 34′ 19, 35′′	south	28° 48′ 29, 29′′	east	Border beacon of portion 25
C	25° 33′ 46, 56′′	south	28° 46′ 56, 35′′	east	Border beacon of portion 25
D	25° 33′ 42, 91′′	south	28° 46′ 57, 55′′	east	Border beacon of portion 25
E	25° 33′ 42, 41′′	south	28° 46′ 55, 32′′	east	Border beacon of portion 25
F	25° 33′ 46, 72′′	south	28° 46′ 57, 62′′	east	Border beacon of portion 25
G	25° 33′ 49, 73′′	south	28° 46′ 59, 09′′	east	Cemetery
H	25° 34′ 02, 61′′	south	28° 48′09, 13′′	east	Disturbed site
I	25° 33′ 53, 78′′	south	28° 47′27, 83′′	east	Occupied site
J	25° 33′ 56, 37′′	south	28° 47′26, 24′′	east	Occupied site
K	25° 33′ 56, 07′′	south	28° 47′26, 29′′	east	Occupied site
L	25° 33′ 15, 74′′	south	28° 46′47, 25′′	east	Occupied site

INDEX

3. DEFINITION

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

4. PROTECTED SITES IN TERMS OF THE NATIONAL HERITAGE ACT, Act. NO. 25 OF 1999

The following are the most important sites and objects protected by the National Heritage Act:

a. Structures or parts of structures older than 60 years
b. Archaeological sites and objects
c. Palaeontological sites
d. Meteorites
e. Ship wrecks
f. Burial grounds
g. Graves of victims of conflict
h. Public monuments and memorials
i. Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette
j. Any other places or object which are considered to be of interest or of historical or cultural significance
k. Geological sites of scientific or cultural importance
l. Sites of significance relating to the history of slavery in South Africa
m. Objects to which oral traditions are attached
n. Sites of cultural significance or other value to a community or pattern of South African history

5. METHODOLOGY

All relevant maps and documents on the site were studied. The site was visited and evaluated. The personnel of Shangoni Management Services, the environmental agent and the contact person of the mine, Mr Kallie Roos accompanied the investigator to the site and pointed out all the relevant areas of impact. Google Earth was consulted for aerial information.

The investigation route was not recorded by a GPS tracking device. Owing to the fact that most of portion 25 has been ploughed in the past, and that the proposed mining area forms only a very small fraction of portion 25, investigation was limited to reasonable scale.

If any heritage resources are located underground and are not visible at present, but are located during progress of planned work, then the appropriate authorities should be alerted to the state of affairs

As background to the study, sections on the ecology and the history of the area were also included.

6. LOCATION OF THE LAND UNDER INVESTIGATION

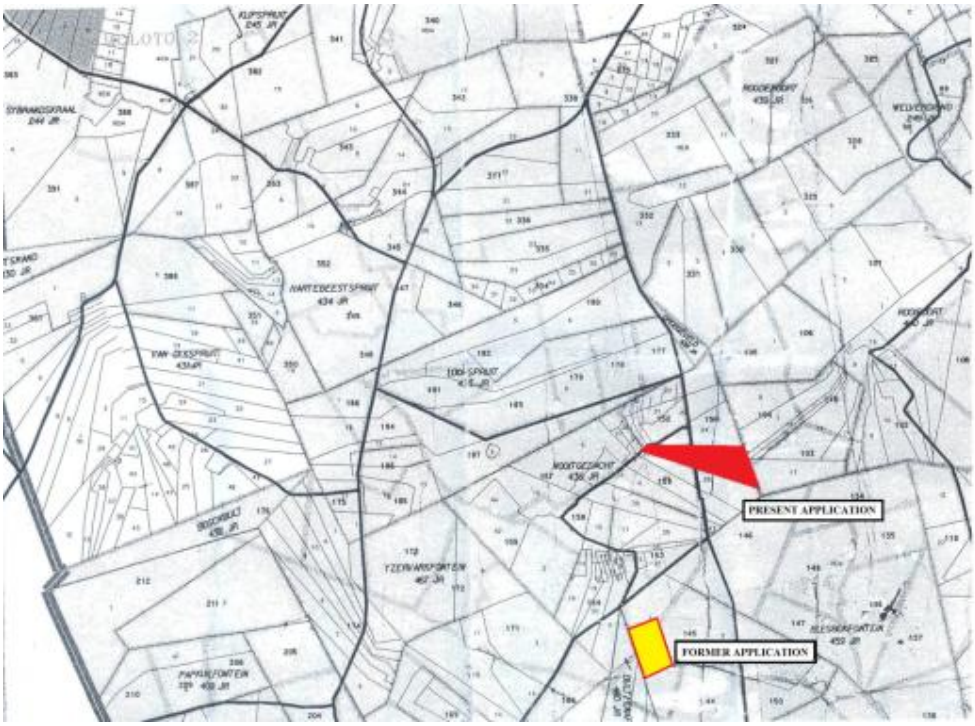

Figure 01. *The above image is a layout of the farms in the region of study. It indicates the position of a former application (yellow) and the position of the present application (red). This entire area formed part of the former KwaNdebele, one of the homelands in the previous South African political dispensation.*

Figure 02. *The above 2011 Google Earth image shows the location of portion 25 of Nooitgedacht 436 JR relative to other portions of the same farm. It also shows the present application area marked in yellow, the existing mine marked in white and the location of the processing plant lying to the north. By road the distance between the mine and the plant is approximately 3,5 kilometres.*

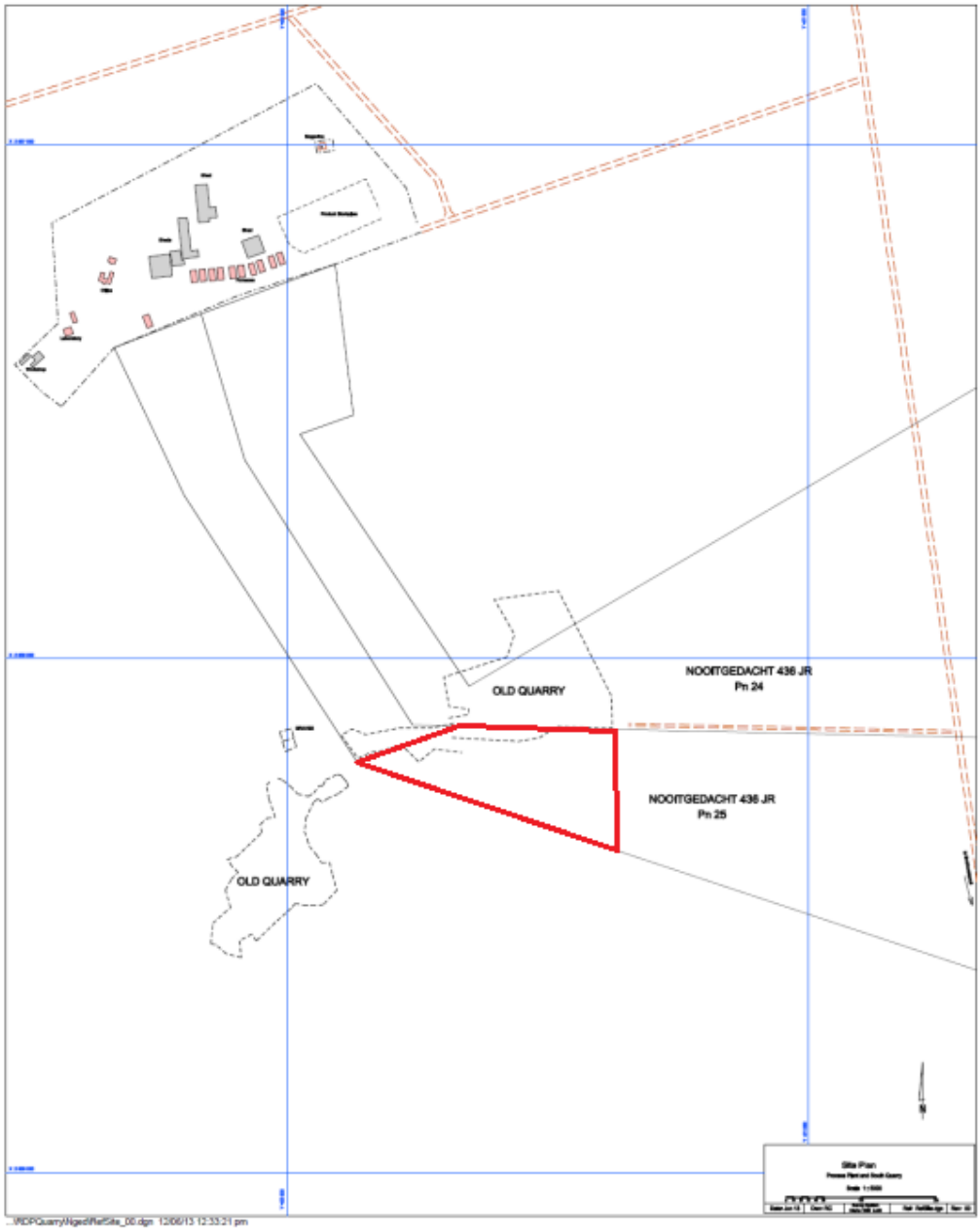

Figure 03. *The above figure is the official diagram of the existing situation included in the present Environmental Impact Assessment. The area delineated in red is the proposed mining area.*

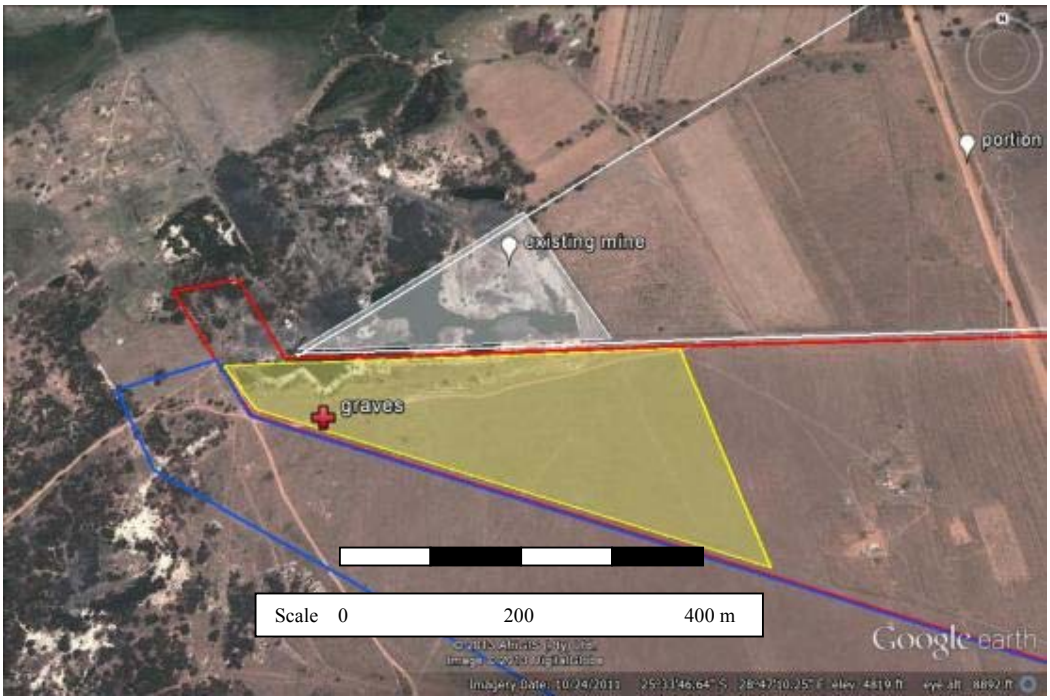

Figure 04. *The above 2011 Google Earth image shows the location of the application area (marked in yellow), the existing mine (marked in white) and the location of the cemetery that will be impacted on. As can be seen from the scale the proposed mining impact area is very small in comparison to the large collieries located to the south and southeast of Bronkhorstspruit.*

7. ECOLOGY.

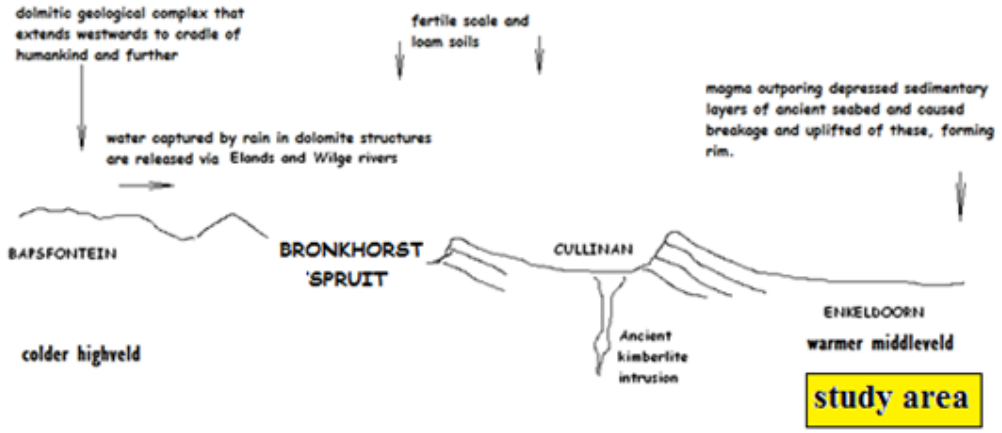

Figure 05. *The above image is an elementary schematic representation of the geological under build to the west of the study area also showing the Cullinan kimberlite pipe in context with the results of the geological phenomena known as the Bushveld Igneous Complex. To the east and the south we again find the extensive coal fields of the eastern Transvaal extending into KwaZulu-Natal. These are again derivatives from the sedimentary formations of the Ecca and Cape Supergroups as explained below.*

7.1. The geology of the coal region. (McCarthy and Rubidge, 2005 pages 199 to 201)

This is discussed as it is known that the clays required by this client are associated with "recent" sedimentary formations, often underlying coal deposits.

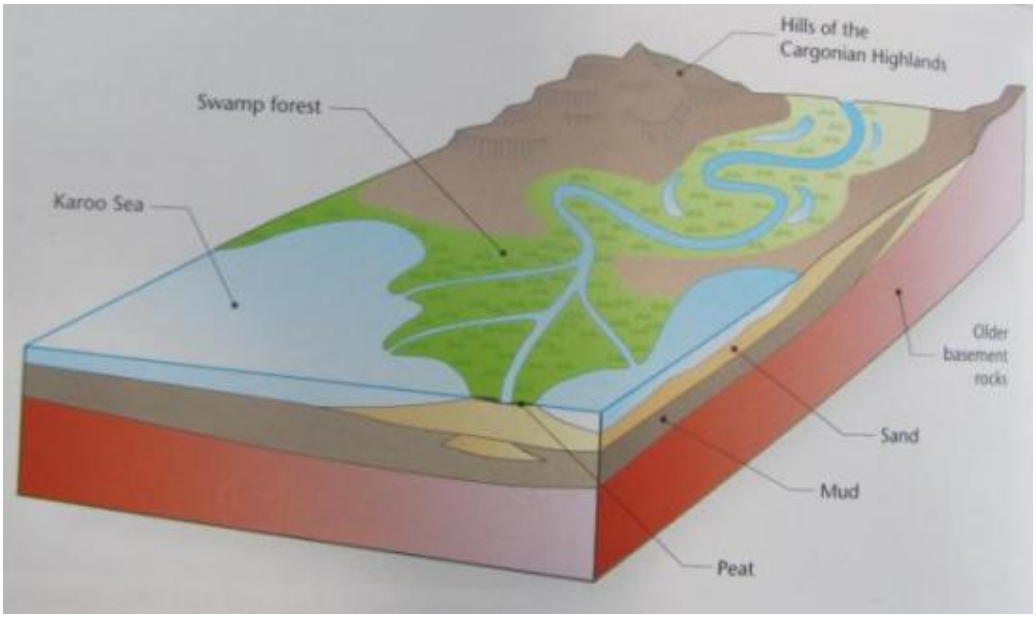

Figure 06: *Schematic explanation of the formation of peat deposits on the shores of the Karoo Sea according to* ***McCarthy and Rubidge, page 200.*** *The mud and sand deposits underlying the peat sediments are those that are associated with the deposits mined by the present client.*

Africa in general and Southern Africa in particular is fortunate to contain evidence of almost all of the geological information regarding the alterations in earth geology over nearly 3 500 million years including the oldest known oceanic crust, consisting of komatiite in the lower Onverwacht Group in Barberton. The only two older rock groups known today can be found in Canada (Granites from circa 4100 million years ago) and in Iceland (Sedimentary material from circa 3 900 million years ago). Since these early periods the earth's crust has been in a continuous process of reshaping owing to plate tectonic movement. Geologists uses terms such as the Kaapvaal Craton, the Pangean continent and Gondwanaland that encompasses thousands of millions of years, but for our present study the geological under-build is fortunately less complex. Apparently within the last 600 million years, as Gondwana drifted from the Antarctic region northwards, and as the ice covering continued to melt, an inland sea was formed between the Cargonian Highlands in the north and the Falkland Plateau in the south, and became linked to the open sea apparently similar to the Black sea. Deposits from the higher areas filled up the Karoo Sea over time forming what is formally known as the Ecca Group sedimentary deposits.

During the time of the formation of the Cape Supergroup though, it appears as if land plants were tentatively establishing themselves out of the primeval seas. It therefore followed that by the time of the emergence of the Southern Gondwana from underneath the ice sheets, several large tree-like plants had already evolved, and terrestrial life were firmly on its way to utilize the newly developing environment. A great number of plants were "quick" to colonise the extensive swamp-like deltas that were feeding into the Karoo Sea from the north. ***Glossopteris*** as the dominant tree species, with a large number of other plants were soon so prolific and abundant in these extensive swamps that dead vegetation accumulated faster than it could decay, and thick accumulations of peat were formed, which ultimately converted into coal.

7.2. The formation of coal

When recycling of vegetation does not occur, which usually happens if it is growing in a water-rich environment, the recycling organic material accumulates to form peat layers. Over time these layers may or may not be buried under sediments. In the case of the Karoo Basin, rivers draining into the basin along its northern margin formed a series of channels and deltas

with well-vegetated margins, which formed extensive swamps. These swamps were periodically drowned by "subsidence", and the peat layers were in turn buried beneath sediment, only to reform as the water again became shallower. In this way multiple peat layers were deposited. "Peat" contains about 50% carbon, the rest being made-up mainly of oxygen and hydrogen. Once peat is buried beneath sediment, it is compressed and slowly heated. Oxygen and hydrogen are expelled as water, and carbon content increases. Ultimately the process leads to the conversion of peat into coal, while low heat and pressure results in brown coal or lignite**.** With higher temperatures and pressures bituminous coal and anthracite may also be formed which contains much higher percentages of carbon. During formation, peat contains a certain percentage of fine sediment generally referred to as 'mud'. This is retained in the carbonisation process and when coal is burnt is a leftover in the form of ash. Coal in a mine often appears to have a multicoloured banded and or layered structure. This is often the result of a variety of plant types that contributed to the peat layers owing to climatic changes. ***The clays sought after by the present client normally precede coal deposits.***

Figure 07. *This mining pit illustrates the separation of coal seams by pale-coloured sedimentary rock as described in the text.* ***(McCarthy and Rubidge, 201) The clays sought after by the present client normally precede coal deposits.***

Figure 08. *The above image from Acocks Veldt Types of South Africa shows the location of the study area in a vegetative context. The blue region is described by Acocks as type 19 while the green region is described as type 61.*

5.3. Vegetation of the region.

Furthermore we know that the area that the research site is located in is demarcated as veldt types 19 and 61 by Acocks's grouping of veldt types of South Africa.[1] He describes type 19 as Sourish Mixed Bushveld that is a more clearly defined veldt type occupying an irregular belt on the gentle slopes to the mountains between the sour types and the mixed types. It is

[1] ***Although the modern work on South African vegetation by Mucina, L. and Rutherford, M.C. (2010) is known to the author, the generally less complex form of Acocks's work is preferred for heritage purposes.***

generally an open savannah with ***Acacia caffra*** *(Common hook thorn)* as the dominant tree species. Rainfall varies between 350 and 650 mm per annum. ***(Acocks, 1988, p54.)***

Other trees and shrubs that occur is the ***Acacias karroo robusta tortilus gerrardii, Rhus gueinzii, Grewia spp, Pelthophorum africanum, Pappea capensis, Dichrostachys cinerea, Dombeya rotundifolia, Combretum zeyheri, Sclerocarya birrea, Ziziphus mucronata and Burkea africana.*** Grass species include ***Cymbopogon, Themeda, Elionurus, Heteropogon, Aristida, Eragrostis, Brachiaria, Anthephora, aristida and Pannicum.***

Al of the above is providential for grazing for game and usable for humans in the form of fruit and timber. Veldt type 19 on the other hand will have been less 'user friendly' for pastoralists, as grazing of livestock in such areas are less nutritious and the presence of poison leaf (***dichapetalum cymosum***)[2] would have been troublesome for the keeping of domestic animals such as cattle. Even in modern days Upcoming farmers still regularly losses stock during August and September as recorded by the mine manager, Mr Callie Roos[3].

To the south of veldt Type 19 is Type 61, which consist of three variations, the Eastern, Central and Western categories. In the present case it is Type 61 b that concerns us. Apparently it is possible that this type is a derivative of an ***Acacia caffra*** savannah which it still is in parts. It is a sparse and tall tufted type with the forbs playing an important part, and is extremely sour. It is the veldt type of the Witwatersrand and the high undulating country sloping northwards down to the Mogalies Mountain. The rocks are mainly quartzite, shale, dolomite, chert and granite. The soils are poor and acid, either stony or sandy located at an altitude of 1450 to 1750 meters above sea level. Rainfall is in the region of 759 mm per annum and the winters are cold and frosty. Combined with continuous burning the veldt is particularly sour and supports wiry grazing, not particularly edible for livestock. At the ***Riet Vlei research station*** though, it was shown that the veldt may be particularly suitable for intensive farming.

Rocky ridges carry Bushveldt vegetation dominated by ***Protea caffra, Acacia caffra, Celtis africana and sometimes P. welwitschii*** as well as a large number of South Bushveld shrubs in smaller quantity. A typical plant of the hills is ***Xerophyta retinervis.*** In sheltered valleys and sinkholes there are traces of temperate or transitional forest, with such species as ***Celtis africana, Kiggeleria africana, Halleria lucida, Leucosidea sericea, Buddleja salviifolia*** and ***Cassinopsis ilicifolia*** which for example, is the ***Fountains valley at Pretoria***, which is greatly in contrast with the traces of tropical forest a few miles away in the kloofs of the northern slopes of the Mogalies Mountain. For the extremely long lists of grass species and succulent species see page 114 of Acocks.

8. ARCHAEOLOGICAL AND HISTORICAL FRAMEWORK.

8.1. Stone Age.

The well known Mokopaan Shelter occurs some one hundred kilometres to the north where an almost continuous record of 2 million years of Stone Age occupation is recorded in the limestone caves relentlessly researched by the Paleo-Archaeological research centre of WITS. Associated with it is the Chunie's Poort dongas that are located some thirty kilometres east of the Mokopaan Shelter. The exposed donga site conservatively covers an estimated area of ten by two kilometres running westward from Chunie's Poort on the north side of the mountain.

The Waterberg, similarly located some one hundred kilometres to the northwest of the research area, contains countless sites and shelters that retain evidence of use during the Later Stone Age in the form of stone tools and rock art. The rock art recording centre of Wits has been actively busy with work in the area for several decades. The site on the farm Goudrivier

[2] ***Fox F.W. and Norwood Young M.E. 1982, Page 180***
[3] ***Personal communication.***

is a classical 'congregation' site with examples of rock art from San, Khoi and African societies. Similarly, UNISA had completed several excavation in shelters, the best known being the Olieboomspoort shelter.

Some hundred kilometres to the southwest of Cullinan there occurs the well known early engraving sites in the Magaliesberg, in the vicinity of Hekpoort, while the bundle of cradle of Humankind sites is also to be found here, although somewhat closer. To the east of our research area the tributaries of and the Oliphant's River itself is known to have exposed large assemblages of early to middle stone Age artefacts, stretching as far as to the confluence of the Oliphant's and Lethaba Rivers on the eastern border of the Kruger National Park.[4] To the northeast there is also located the Bushman Rock Shelter, extensively excavated by the University of Pretoria during the 1970's.

The largest recognised Stone Age Site in the general area though is the Wonderboom reservoir site originally found by Edwin Harnish in the early 1970's. In the direct vicinity of the Cullinan Mine the odd stone tool may be found, as is the case about anywhere in southern Africa, but no Stone Age site of stature is present.

8.2 Iron Age.

The Early Iron Age occupation period is very poorly represented, even in the greater vicinity of the site under investigation. To the north the nearest site is the fourth century Silver Leaves at Tzaneen, some one hundred and twenty kilometres away. This was one of the first sites of this period originally described by Klapwijk where the author was privileged to excavate as a student in 1976. Much further to the north, in the Zoutpansberg is located the well known Happy Rest and Klein Afrika sites first described by De Waal and Prinsloo, while in the Waterberg, near Thabazimbi, Aukema worked on the Diamand site, renowned for the earliest glass bead in South Africa, and the scull of a deformed individual. More than two hundred kilometres to the east, in the Lydenburg valley the well known ceramic "heads" were recovered dating from the eight century, while a number of similar sites were recently identified in the Sekhukhune area by Van Sckalkwyk, Küsel and the author. Again to the southwest at Broederstroom in the Magaliesberg, we find Masons work executed in the 1980's on an early Iron Age site. This work eventually extended to Melville Koppies in Johannesburg.

From the Later Iron Age many sites occur surrounding the research site. From Kwanyamane and Wonderboom's Poort some forty kilometres to the west we find the traditional homeland of the Ndzundza Ndebele stretching nearly a hundred kilometres to the east where it phases out against the Pedi and Swazi's ancestral grounds, these lands ever expanding and contracting over a period of four hundred years. These sites are all mainly identified owing to the use of stone as demarcation material, and normally date to between one and four hundred years ago.

To the northwest and west of the study area there exist hundreds of sites that can be identified by stone wall demarcations, traditionally linked to the Sotho and Tswana people. Many of these are also constructed on pre-stone walled sites, some of which had been excavated by archaeologists of the National Cultural Museum and UNISA. Mitigation work done by Küsel in the Brits area showed that some of the pre walling sites may date back to the fifteenth century with stone walling in vogue from the seventeenth century onwards. Mzilikazi, the renegade Zulu General's impact on the region during the early part of the nineteenth century is well know, and is historically well documented by Moffat and Smith that witnessed his reign of terror.

To the north and west into the Waterberg the well known Melora- and Muisvogelkraal

[4] University of Pretoria surveys and own observation.

Ruins occur, that was researched by UNISA in the first decade of the twenty-first century and documented by the author in the same period. It is also known that amongst others the Kekana Ndebele survived in the area as is known by the violent interaction between the White Pioneers and the people of Mokopaan during the cave siege in 1855 and the photographic recording of Gros in 1885.

Towards the northeast and east the Pedi state only really developed closely before European impact and is manly located to the east of the Oliphant's River. Again to the north northwest and northeast of the Pietersburg/Polokwane region we find the mixture of North Sotho and Venda archaeological sites, with the important religious dynasty of Modjadji located to the east of Tzaneen.

The most important to note though is that there is no Iron Age archaeological sites present in the direct vicinity of the area under investigation.

8.3. White occupation in the nineteenth century.

The advance party of the 'Great Trek' that passed through the vicinity, Louis Treghardt's party, and the van Rensburg Trek were the first Europeans to cross the land adjacent to the area under investigation with the aim of permanent settlement in 1836. Treghardt moved to a temporary camp at the foot of the Zoutpansberg, and the Van Rensburg trek met their fate somewhere along the banks of the Oliphant's River during eighteen thirty six or seven. In due course Treghardt retreated through Chunies' Poort to what is today known as Maputo with the loss of his own life, and that of most of his small group of pioneers. Before this a few wandering hunters briefly penetrated the areas to the west around the present Zeerust, which then also resulted in halting actions of missionary work by the French and British between 1810 and 1830.

In the following years there were several clashes between Potgieter and Mzilikazi and amongst others, the towns of Klerksdorp, Potchefstroom, Lydenburg and Ohrigstad were founded, and Europeans occupied farm land in these towns' spheres of influence. By eighteen forty eight the political difference between the pioneers again flared up, and Potgieter founded Zoutpansberg Town, later to become Schoemansdal. After the violent offensive against Mokopaan, Vredenburg, later to become Piet Potgietersrus, and today Mokopane was founded and again farms were occupied.

In eighteen fifty five Pretoria became the new focal point for the seat of government of the Z.A.R. with towns such as Marthinus Wesselstroom (Wakkerstroom), Heidelberg and Pietersburg (Polokwane) also springing into life. But it was clear that the area surrounding the area of investigation were never a target of settlement for the early White Pioneers surrounding the area of investigation owing to the poor and often dangerous grazing located here. It is therefore no surprise that we do not find any sign of early Pioneer Farmyards such as in the Waterberg, Roossenekal, Lydenburg and Dullstroom as described by Naude, amongst others, and as witnessed by the author in his forty years of travel and research in the area.

In the second half of the nineteenth century we see the placement of Berlin Missions at Walmansthal, Botshabelo and Lobenthal located to serve the Ndebele communities.

The first recognisable pioneer settlement adjacent to the research area, to the west, is the Bronkhorst 'Pioneer house' at Silverton, dating to the 1840's. Eventually Willem Petrus Prinsloo (1820-1898) bought the northern portion of the farm Elandsfontein from the Minnaars, old friends of his family, in 1896. The 699 hectares of land changed hands for the sum of seven hundred pounds. This was only one of several farms which he acquired after selling his farm Modderfontein, on the Witwatersrand, to a gold mining syndicate. There were no buildings of any kind on his portion of Elandsfontein, and neither did he ever build any.

The reason for this was that the farm was only used as a stage post for the moving of his stock between the high- and low-veldt, with the changing of seasons (Helme 1974:35).

The Second South African War also left its imprint in the vicinity of Cullinan with a range of fortifications in the area, as well as the two confrontational sites of Donkerpoort and Diamond Hill that protected the retreat of President Paul Kruger towards Machadodorp and Maputo. In this period of the turn of the century, there was also established at Edendale, just north of the present day Mamelodi, a missionary station that became a refuge for people that had contracted leprosy.

The last historical event that influenced the area was at first the incarceration, and later on the settlement, of Italian prisoners of war from World War II between Cullinan and Bronkhorstspruit. This site developed into the well known Zonderwater correctional facility as well as bequeathing to the Transvaal the craftsmanship of these Italian men, which to a large extent choose to remain in South Africa after their release.

It was in the period surrounding 1900 AD that Thomas Major Cullinan a successful building contractor in the infantile Johannesburg, was also trying his luck in the prospecting business. With the information gained through the work of other prospectors he reasoned that a major diamond source was to be found on Elandsfontein belonging to W.P. Prinsloo. As old man Willem Petrus Prinsloo had already once had to sell one of his farms to mineral hungry ***'uitlanders'*** he was at first not even interested to talk to Thomas Cullinan. In time though, Cullinan persuaded him to part from his ownership of Elandsfontein for, as he is quoted of saying ***' the "Princely Sum" of fifty two thousand pounds.'***

9. PHOTOGRAPHIC EVIDENCE OF THE AREA INVESTIGATED

Figure 09. *This is an image of the typical aspect of the site that was investigated during summer time. This image shows the mono-culture grass species that occurs on the "recovering" ploughed fields.*

Figure 10. *Typical aspect of the mining operations for the recovering of the clay taken by the author in November 2010 on another pit portrays the typical depth of a pit for the recovering of the mine product. This is included to indicate the peril that the cemetery will exposed to if retained on a* ***'pillar'*** *in the proposed mining area.*

Figures 11 to 14. *A number of views of the cemetery located in the area of the proposed mine. As the proposed mine area is relatively small, and the proposed mining depth relatively deep it will be difficult to retain the cemetery in place, as is today.*

Figure 15. *Looking east into the existing mine located just north of the proposed mining area. Here we again see the depth of the location of the product that is to be extracted.*

10. SUMMARY.

The above documentation and the investigation of the author revealed that the "Developer", in this investigation a mining company Ecca Holdings (Proprietary) Limited, has been active in the area for one and a half decade. During this time there is no indication that the company has had any adverse impact on its "heritage environment". The reason for this is twofold. In the first place both the "mines" that are worked, as well as the "processing plant" has ***extremely small footprints*** if compared to the vast coal mining operations located to the southeast of the present study area. Secondly it is clear that the company and its personnel appear to be specially informed and dedicated in matters of conservation in general, both environmental as well as heritage.

The physical investigation of Portion 25 of Nooitgedacht revealed that most of the land has been previously intensively ploughed an planted, especially during the Second World War period when worldwide "dry-land" cultivation were undertaken to produce food for the "war-effort". During "the Apartheid era" these planting practices were ceased as the general area was incorporated into what was then known as KwaNdebele, or the "homeland" of the Ndebele people. However the case may be, if any heritage estate were present on portion 25, it would have been destroyed during the years that the land was ploughed.

The investigation of the property revealed the possible existence of some form of "accommodation" on the eastern border of the property, but the "footprint" of this is so small that no chance exits to retrieve any logical information from that site. In the central portion of the property there are located for modern homesteads that at present has no "heritage value". Even so the "footprint" of the proposed new mine will have no impact thereon.

On the central southern border of the proposed mining "footprint" there occurs a "modern" cemetery containing some 15 graves. During the site visit it was observed that the cemetery is still visited and cared for by family. This, apart from its protection by the "Human Tissues" Act, is an important factor to be considered by both the mining company as well as from a "heritage" point of view.

Access to and from the proposed mine will be on existing roads, and no other infrastructure will be installed, leaving only the footprint of the mine itself as impact zone.

Therefore, apart from the cemetery, there exist no heritage impediments for the proposed new mine.

11. RECOMMENDATION.

For mitigation of the cemetery site there are two possibilities:-

1. The first possibility is the relocation of the grave to a facility that can be negotiated with the families of the deceased.
2. Secondly the grave site may be left in place with a "protected Zone" of at least thirty meters in all directions surrounding the cemetery. This "protected Zone" must be supplied with a guaranteed "access" route as negotiated with the families of the deceased.

As the graves have no specific "heritage value" either in terms "time" or of "persons of stature", the retention or relocation of the graves is a matter of negotiation between the mining company Ecca Holdings (Proprietary) Limited, and the families of the deceased.

Legal Proof of this negotiation must be supplied to SAHRA Cape Town with this report

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APPENDIX A: DECLARATION OF INDEPENDENCE

I. SIDNEY MEARS MILLER (ID 541213 5029 082) declare that:

•I act as the independent environmental practitioner in this application
•I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favorable to the applicant
•I declare that there are no circumstances that may compromise my objectivity in performing such work;
•I have expertise in conducting environmental impact assessments, including knowledge of the National Heritage Resources Act (No 25 of 1999) and any guidelines that have relevance to the proposed activity;
•I will comply with the Act, regulations and all other applicable legislation;
•I will take into account, to the extent possible, the matters listed in regulation **8 of the regulations when preparing the** application and any report relating to the application;
•I have no, and will not engage in, conflicting interests in the undertaking of the activity;
•I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
•I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
•I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
•I will keep a register of all interested and affected parties that participated in a public participation process; and
•I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favorable to the applicant or not
•all the particulars furnished by me in this form are true and correct;
•will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations;
and
•I realize that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest
I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations,2010.

Sidney Miller.
B.Sc (Eng) Civ. M.(Architecture) Conservation. ASAPA MEMBER NO 087