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**HIA REPORT FOR THE NEW INCLINE SHAFTS & P53-1
ROAD ALIGNMENT DEVELOPMENT
GOEDGEVONDEN COLLIERY, NEAR OGIES MPUMALANGA**

For:

Jacana Environmentals cc

REPORT: **APAC022/17A**

by:

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March 2022

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SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Jacana Environmentals cc to undertake a Phase 1 Heritage Impact Assessment for 4 new Incline Shaft Areas, as well as the new P53-1 Road Alignment at the Goedgevonden (GGV) Colliery near Ogies in Mpumalanga. A physical assessment was undertaken in February 2022. The aim was to see if any heritage sites (previously unknown & known ones) exist close to these areas and if there will be any negative impacts on these sites.

A number of known cultural heritage (archaeological and historical) sites exist in the larger geographical area within which the study area falls while a number of site of cultural heritage (archaeological and/or historical) origin or significance is known for the GGV Mining area. These were identified during various previous assessments of the area. A number of these are Grave/Burial Sites, some of which has been exhumed and relocated already. One new site was identified during the assessment close to Incline Shaft 2.

Based on the February 2022 assessment it is recommended that the development of the proposed new Incline Shafts and new P53-1 Road Alignment should be allowed to continue from a Cultural Heritage perspective.

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1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Jacana Environmentals cc to undertake a Phase 1 Heritage Impact Assessment for 4 new Incline Shaft Areas, as well as the new P53-1 Road Alignment at the Goedgevonden (GGV) Colliery near Ogies in Mpumalanga. A physical assessment was undertaken in February 2022. The aim was to see if any heritage sites (previously unknown & known ones) exist close to these areas and if there will be any negative impacts on these sites.

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The client indicated the location and extent of the study area that had to be assessed, and the work focused on this. The Heritage Specialist was escorted to the impact areas and accompanied by a representative of Glencore located at GGV.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed project;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Review applicable legislative requirements; and
4. Part of the work included undertaking a Desktop Study of available prior heritage studies in the area to see if any cultural heritage resources do or did exist here in the past.

3. LEGISLATIVE REQUIREMENTS

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

3.1. The National Heritage Resources Act

According to the Act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, 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
- 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
- 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. 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 10 000 m²
- e. Any other category provided for in the regulations of the South African Heritage Resources Agency (SAHRA) or a provincial heritage authority

Structures

Section 34 (1) of the Act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of the Act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the SAHRA. In order to demolish such a site or structure, a destruction permit from the SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant 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 or 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, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act, 1983 (Act No. 65 of 1983 as amended)**.

3.2. The National Environmental Management Act

This Act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made. In this case now new development will take place, except for possible borrow pits required as part of the road construction.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. METHODOLOGY

4.1. Survey of literature

A survey of available literature was undertaken in order to place the project area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2. Field survey

The field assessment section of the study is normally conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed rehabilitation project. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.2. Documentation

All sites, objects, features and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The study area is located on various portions of the original farms Goedgevonden 10IS and Zaiwater 11IS. The area is situated a few kilometers south of the town of Ogies in Mpumalanga.

The GGV study area has been impacted to a large degree by past agricultural activities (ploughing/crop growing) and more recently by extensive mining-related operations. The topography of the study area is in general flat and open with very few if any rocky outcrops or ridges present. Other impacts on the larger area around GGV include both formal and informal residential settlement and associated infrastructure developments such as roads, power lines and others. As a result the original natural and cultural historical landscape has been nearly completely altered, although the remains of historical farmsteads and related infrastructure, as well as burial grounds (formal and informal cemeteries) and graves are known to exist throughout the GGV study area. Many of the burial grounds and graves have been the subject of exhumation and relocation projects over the years since 2008 (more recently during 2021) because of the impacts of expanding mining operations by GGV, and as such these sites do not exist anymore.

At the time of the February 2022 field assessment the status quo of the historical ruins (farmsteads, laborer homesteads & other related features) were less well known. What was however evident from the assessment of the Incline Shaft and Road Alignment areas is that none of the existing known heritage sites are located in close proximity to the new development areas and that there will be minimal impacts as a result on them. Many of the sites (grave sites especially) located in relative proximity to these areas also does not exist anymore with the graves located here having been exhumed and relocated previously.

The areas that were assessed in February is situated for the most part in existing mining areas that had been completely altered through mining-related activities and if any sites did exist here in the past it would have been extensively disturbed or completely destroyed as a

result. It is highly unlikely that any cultural heritage (archaeological and/or historical) sites, features or material would be present here.



Figure 1: General location of the GGV study area (Google Earth 2021).



Figure 2: Closer location of the study area (Google Earth 2021). Note the extensive mining-related as well as agricultural impacts. The Incline Shaft Areas (numbered 1-4) as well as P53-1 Road Alignment is indicated.

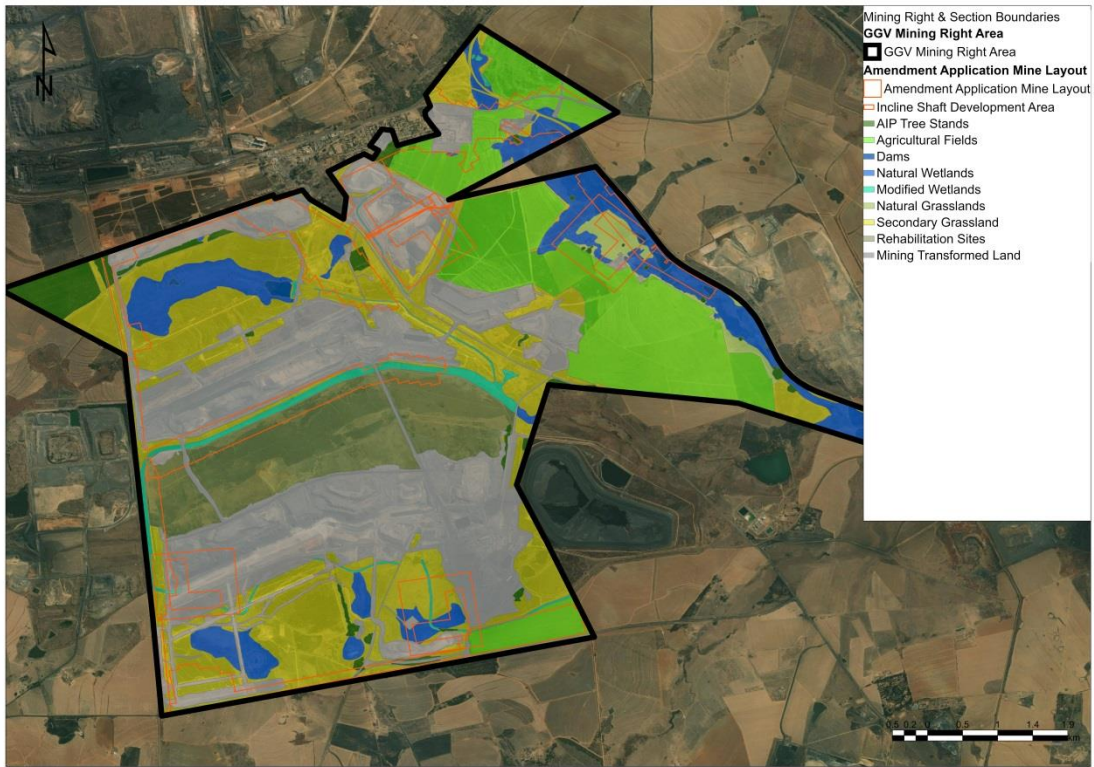


Figure 3: GGV Mining Rights Area showing the Land Use Cover (courtesy Jacana Environmentals cc).

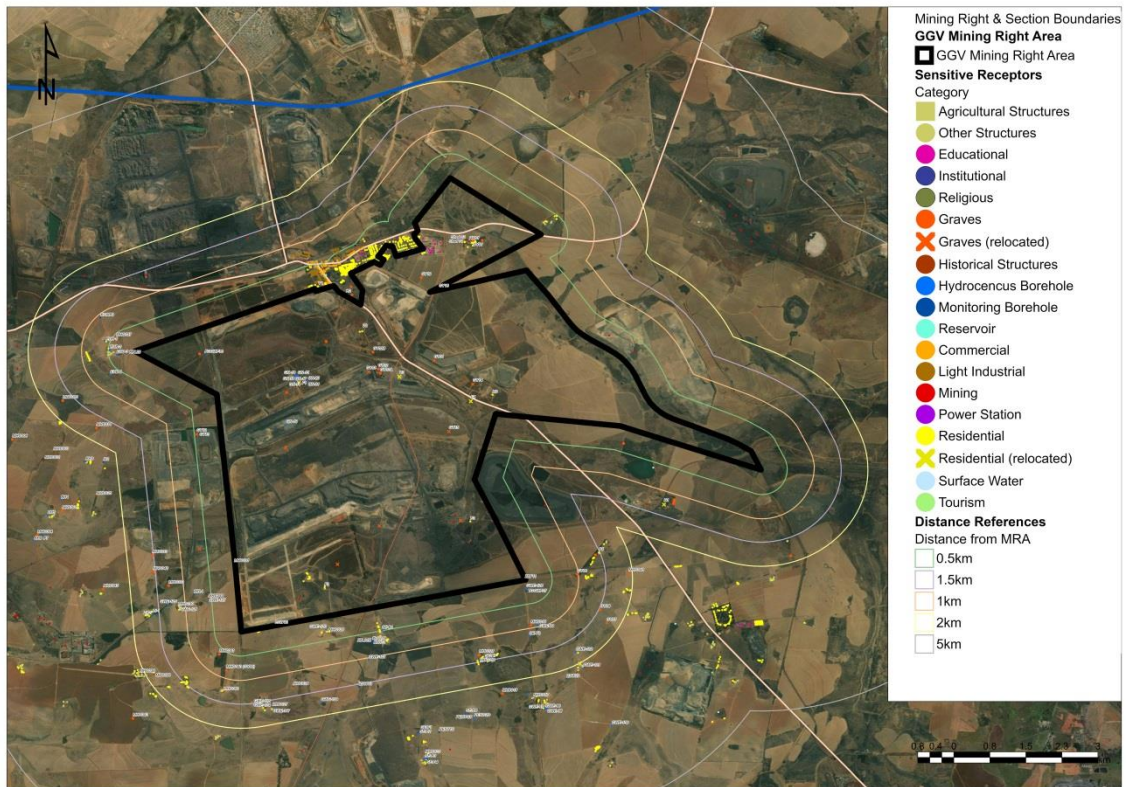


Figure 4: Sensitivity Receptor Map. Historical structures & Grave sites (including those relocated) are also shown (courtesy Jacana Environmentals cc).

6. DISCUSSION

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 basically 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).

The closest known Stone Age occurrences are Late Stone Age sites at Carolina and Badplaas, and rock painting sites close to Machadodorp, Badplaas and Carolina. Rock art is also found close to the Olifants River and at the Rietspruit near Witbank (eMalahleni) [Bergh 1999: 4-5]. Some individual Later Stone Age artifacts were identified in the larger area during a 2007 HIA for Goedgevonden Colliery, but the location of the site is not indicated (De Jong 2007: 19). During a 2020 HIA for the Goedgevonden Colliery (GGV) Joint Venture (JV) South Witbank Pipeline Environmental Authorization (EA) Application Project no Stone Age sites or material were identified and recorded in the area (Pelser 2020: 9).

It needs to be mentioned here that if any Stone Age material are to be found in the area during the physical assessment these would more than likely be single or small scatters of stone tools in open-air contexts.

None was identified or recorded during the February 2022 field work.

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. 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.

Based on Tom Huffman's research LIA sites, features or material that could present in the larger area will be related to the Ntsuanatsatsi facies of the Urewe Tradition, dating to

between AD1450 and AD1650 (Huffman 2007: 167) or the Makgwareng facies of the same dating to between AD1700 & AD1820 (Huffman 2007: 179). According to De Jong no Iron Age sites or features were identified during his assessment of the Goedgevonden area and if any did exist here in the past recent farming and mining activities would have disturbed or destroyed any traces (De Jong 2007: 20). Again, during the September 2020 GGV pipeline assessment, Pelsier found no Iron Age sites (2020: 9).

No Iron Age sites, features or material were identified in the area during the February 2022 field assessment.

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Background information on the archaeology and history of the specific study area and larger geographical area is contained in a 2015 report by Celliers, while information on cultural heritage sites located in the study area was also found in the same report. Historians agree that the earliest Africans to inhabit in the Lowveld in Mpumalanga were of Sotho, or more particularly Koni-origin. According to Bergh no signs of major Stone Age or Iron Age terrains are present in the vicinity of the Ogies area. The Ogies area was vacant of any settlement until the advent of the nineteenth century, when the Phuthing Tribe was prominent in the area to the north thereof (Celliers 2015: 11).

The *Difaqane* (Sotho), or *Mfecane* (“the crushing” in Nguni) was a time of bloody upheavals in Natal and on the Highveld, which occurred around the early 1820’s until the late 1830’s. It came about in response to heightened competition for land and trade, and caused population groups like gun-carrying Griquas and Shaka’s Zulus to attack other tribes. Mzilikazi and his raiders had moved from the Northern Nguni area to the area north of the Vaal River by 1821. It has been recorded that the Ndebeles first attacked the Phuthing tribe, which in turn migrated to the south of the Vaal River and joined groups of Southern Sotho speakers. The Phuthing and Southern Sotho tribes moved westward and northward and started raiding Tswana communities in the surrounding area. The Phuthing were commanded first by Chief Tshane, and later Ratsebe. As the Phuthing under Ratsebe moved eastwards along the Vaal River, they collided with Mzilikazi’s Ndebele once more. The Phuthing and other raiding groups were finally taken captive in 1823 by Mzilikazi’s men (Celliers 2015: 10-11).

During the time of the Difaqane, a northwards migration of white settlers from the Cape was also taking place. Some travellers, missionaries and adventurers had gone on expeditions to the northern areas in South Africa – some as early as in the 1720’s. One such an adventurer was Robert Scoon, who formed part of a group of Scottish travellers and traders who had travelled the northern provinces of South Africa in the late 1820s and early

1830s. Scoon had gone on two long expeditions in the late 1820s and once again ventured eastward and northward of Pretoria in 1836. During the latter journey, he passed by the area where Ogies is located today (Celliers 2015: 11).

By the late 1820's, a mass-movement of Dutch speaking people in the Cape Colony started advancing into the northern areas. This was due to feelings of mounting dissatisfaction caused by economical and other circumstances in the Cape. This movement later became known as the Great Trek. This migration resulted in a massive increase in the extent of that proportion of modern South Africa dominated by people of European descent. As can be expected, the movement of whites into the Northern provinces would have a significant impact on the black farmer - herders who populated the land. By 1860, the population of whites in the central Transvaal was already very dense and the administrative machinery of their leaders was firmly in place. Many of the policies that would later be entrenched as legislation during the period of apartheid had already been developed (Celliers 2015: 11-12).

The discovery of diamonds and gold in the Northern provinces had very important consequences for South Africa. After the discovery of these resources, the British, who at the time had colonized the Cape and Natal, had intentions of expanding their territory into the northern Boer republics. This eventually led to the Anglo-Boer War, which took place between 1899 and 1902 in South Africa, and which was one of the most turbulent times in South Africa's history. During the British march into the Transvaal between February and September 1900, several troops passed by the area where Ogies is situated today. The battalions of Lieutenant Generals J. French, R. Pole-Carew and F. Roberts all travelled close by the Witbank area and through Middelburg. A railway line ran along this route at the time (Bergh, 1999: 51). At the time of the War, two railway stations were located in the vicinity of the Witbank/Ogies area, and close to each a black concentration camp had been established.

At Middelburg, about 20 kilometers to the east of Witbank, one white and one black concentration camp was also set up. No skirmishes took place in the direct vicinity of the Ogies area (Celliers 2015: 12-13). Ogies is a small town situated 27 km south of Witbank in the Mpumalanga province. It is surrounded by coal-mines. The name is derived from the farm Oogiesfontein (fountain with many "eyes") on which the railway station was built. According to Celliers the name of the town was originally misspelt as Oogies, but corrected by the Place Names Commission in 1939. Ogies is on the link railway from Springs to Witbank and is the junction for the Broodsniersplaas, where a large power station was erected (Celliers 2015: 17).

According to De Jong many of the farms in the area were established in the 1870's and that some of the graveyards located here attest to the practice of employing local African communities as farm laborers. The town of Ogies developed around the railway station which was built on the farm Ogiesfontein in 1928 (De Jong 2007: 21).

Many sites, structures and features dating to the recent historical period have been identified in the larger geographical area, including homesteads, farm laborer remains and

graves (De Jong). Some of the earlier identified grave sites formed the focus of later grave relocation projects.

During the February 2022 assessment one recent historical site (ruins of structures associated with farming activities) was identified close to the proposed new Incline Shaft 2 area.

From a 2004 HIA Report for the Goedgevonden Expansion Project by Pistorius the following information is of importance:

“The Eastern Highveld has a rich heritage comprised of remains dating from the pre-historical and from the historical (colonial) periods of South Africa. Pre-historical and historical remains on the Eastern Highveld form a record of the heritage of most groups living in South Africa today. Various types and ranges of heritage resources that qualify as part of South Africa’s ‘national estate’ occur in this region (p.7).

Stone Age sites are usually associated with stone artefacts usually found scattered on the surface or as part of deposits in caves and rock shelters. The Stone Age is divided into the Early Stone Age, the Middle Stone Age and the Late Stone Age. The Early Stone Age covers the period from 2.5 million years ago to 250 000 years ago. The Middle Stone Age refers to the time period from 250 000 years ago to 22 000 years ago and the Late Stone Age is the period 22 000 years ago to 2 000 years ago. Each of these ‘ages’ are divided into different ‘cultural’ periods, which may differ chronologically or which may have existed roughly simultaneous in different regions and therefore under different climatic conditions in South Africa. Heritage surveys done on the Eastern Highveld has not revealed the presence of significant numbers of Stone Age sites from any of the different periods identified for the Stone Age. This can largely be attributed to a lack of heritage surveys that have been done in this part of South Africa. Stone Age sites are numerous all over South Africa and tend to crop up even where the presence of humans in the past was not remotely expected (p.18-19).

Numerous pre-difaqane and difaqane wars took place on the Highveld during the last quarter of the 18th century and the first three decades of the 19th century. These wars led to the displacement of large numbers of Tswana clans on the Highveld where Mzilikazi’s Ndebele caused chaos and havoc. The Ndebele established several settlement complexes in this region although it is possible that Mzilikazi may have had settlements on the Eastern Highveld, between Pretoria and Witbank. However, the locations of these settlements have not yet been pointed out by researchers (p.19).

The Goedgevonden Expansion Project will take place to the south of Ogies on the Eastern Highveld in the Mpumalang Province of South Africa. Ogies is located approximately twenty five kilometres to the south-west of Witbank. The towns of Ogies and Witbank therefore are closest to the Goedgevonden Expansion Project area so that project has to be contextualised in terms of the origins and development of these two towns. The railway line between Pretoria and Lourenzo Marques was built in 1894. It passed close to where Witbank is located today. The first Europeans who came to the area observed the abundance of coal, which was evident on the surface or in the beds of streams. A stage post for wagons close to

a large outcrop of whitish stones (a 'white ridge', possibly a sandstone ridge) gave the town its name. Witbank was established in 1903 on a farm known as Swartbos which belonged to Jacob Taljaard (p.19).

Ogies serves as an important link in the running railway line running between Pretoria and Maputo which was built in 1896. It is also linked via Broodsnyersplaas, 35km south of Middelburg to join the railway line between Ermelo and Piet Retief to Richards Bay. This railway line carries some of the longest and heaviest trains in the world. The town of Ogies developed around the railway station which was built on the farm Ogiesfontein in 1928. The earliest use of coal (charcoal) in South Africa was during the Iron Age (300-1880AD) when metal workers used charcoal, iron and copper ores and fluxes (quartzite, bone) to smelt iron and copper in clay furnaces. Colonists are said to have discovered coal in the French Hoek Valley near Stellenbosch in the Cape Province in 1699. The first reported discovery of coal in the interior of South Africa was in the mid-1830 when coal was mined in Natal/Kwa Zulu.

The first exploitation for coal was probably in Kwa Zulu/Natal as documentary evidence refers to a wagon load of coal brought to Pietermaritzburg to be sold in 1842. In 1860 the coal trade started in Dundee when a certain Pieter Smith charged ten shillings for a load of coal dug by the buyer from a coal outcrop in a stream. In 1864 a coal mine was opened in Molteno. The explorer, Thomas Baines mentioned that farmers worked coal deposits in the neighbourhood of Bethal (Transvaal) in 1868. Until the discovery of diamonds in 1867 and gold on the Witwatersrand in 1886, coal mining only satisfied a very small domestic demand. With the discovery of gold in the Southern Transvaal and the development of the gold mining industry around Johannesburg came the exploitation of the Boksburg-Spring coal fields, which is now largely worked out. By 1899, at least four colliers were operating in the Middelburg-Witbank district, also supplying the gold mining industry (p.20)'

Many of the cultural heritage sites present in the GGV area were identified and recorded during Pistorius' 2004 HIA. The types and ranges of infrastructure and heritage resources that he recorded at the time included (Pistorius 2004: 22-23):

1. Villages or residential areas that are composed of a varying number of residences. The majority of these villages are relatively young although several historical homes were observed in some of these residential areas. At least one of these villages has been classified as a 'Historical Village' as the majority of structures in this village are older than sixty years and therefore have historical significance.
2. Several Farm Complexes (farm homesteads) consisting of farm homes and associated outbuildings and other infrastructure are scattered over the project area. Some of these farm complexes contain historical houses while others are modern as they date from the recent past. Several of these farm complexes are associated with graveyards some of which are historical.
3. At least three Squatter Camps were observed in the project area. It is possible that isolated squatter huts may be more common in the project area.

4. Other Structures and Features that are not part of the Villages or the Farm Complexes and that occur as isolated phenomena in the project area. These structures and features are not many. At least two possible historical structures were observed.
5. Numerous graves and graveyards (formal and informal) were observed in the project area. Several of these graveyards occur on the southern and western borders of the project area and therefore may fall within the perimeters of the Goedgevonden Expansion Project area (the critical area) or in the peripheral area (outside the project area).

It is clear from this and the other HIA work conducted in the Goedgevonden Colliery (GGV) area that there is a range of Cultural Heritage Resources in the study area. Although it is uncertain if any of historical structures and buildings identified in the study area has ever been the subject of further studies or if any had been mitigated through Phase 2 work and had been demolished, it is known that many of the Burial Grounds & Graves have been formally investigated, exhumed and relocated over the years.

Results of the February 2022 Heritage Assessment

The Heritage Specialist and Glencore/GGV Representative visited the areas for the proposed new Incline Shafts (Numbered as 1 to 4 by APAC cc) as well as the new road alignment (P53-1). Photographs of the areas were taken and if any sites or features of cultural heritage origin or significance were to be identified here they were to be documented photographically, recorded with a GPS coordinate and described in detail.

Incline Shaft Area 1 & new Road Alignment

The Incline Shaft Area 1 is located in an area that has been extensively disturbed by past and ongoing mining-related activities at the GGV Mining Complex. The same applies to the new road alignment. Over and above the mining activities, past agricultural actions would also have impacted on the natural and historical landscape and if any sites did exist here it would have been extensively disturbed or destroyed as a result. Dense vegetation in and around the area made visibility difficult, but based on the extensive mining activities it is highly unlikely that any heritage sites or features are situated here.

There are no known and existing heritage sites located close to Incline Shaft 1, with the closest one located in proximity to the new road alignment being Site GY16.



Figure 5: Closer view of the area where Incline Shaft 1 and the new road alignment is located. Note the extensive impact of mining in the areas. The location of known heritage sites is shown as well, with Grave Site G16 being the closest to the road alignment (Google Earth 2022).



Figure 6: View of the mining haul road at and close to Incline Shaft 1.



Figure 7: Another general view of the Incline Shaft 1 area.



Figure 8: The dense vegetation cover is evident here.



Figure 9: Another view of the area.



Figure 10: General view of the area showing the extensive impact of mining.



Figure 11: General view of the area where the new road alignment runs. The area has been extensively mined and impacted as a result.



Figure 12: Another view of the area.

Incline Shaft Area 2

The proposed Incline Shaft 2 area has been less impacted by mining but has been fairly extensively impacted by agricultural related activities such as ploughing and crop growing.

No known heritage sites (found during previous assessments) are located close to the Incline Shaft area. The remains of some recent farming-related structures were identified in the area during the recent assessment, but these are deemed of low significance as they are less than 60 years of age and nearly completely demolished already. No mitigation measures are required.

GPS Coordinates for Site: **S26 03 55.70 E29 05 25.40.**



Figure 13: Closer view of the Incline Shaft 2 area location. Note the extensive agricultural impacts on the area. The position of the recent ruins are shown (Google Earth 2022).



Figure 14: A general view of the Incline Shaft 2 area.



Figure 15: Another general view.



Figure 16: Existing maize fields in the Incline Shaft 2 area.



Figure 17: The recent structural remains found in the area.

Incline Shaft Area 3

The proposed Incline Shaft 3 is located in an area that has been extensively impacted by past and ongoing mining activities. As a result if any cultural heritage sites did exist here in the past it would have been disturbed or destroyed as a result. The only known site located in relative close proximity to the proposed Incline Shaft is site MHC031 (an informal cemetery). The site will not be directly impacted by the proposed development. The status quo of the site is not known currently but if it still exists and have not been exhumed and relocated previously it should be left in situ and not be disturbed by future mining operations.



Figure 18: Closer view of the Incline Shaft 3 area location. Site MHC031 is the closest known heritage site to the area (Google Earth 20220).



Figure 19: General view of the Incline Shaft 3 area.



Figure 20: Another general view of the area showing the extensive impact of mining activities.



Figure 21: Another view of the location of Incline Shaft 3.



Figure 22: The area has been extensively impacted by mining.

Incline Shaft 4

As with the other areas assessed the Incline 4 Shaft area has been extensively impacted by past and current mining developments, as well as agricultural activities. It is therefore highly unlikely that any sites, features or material of cultural heritage origin or significance exists here. No previously identified and known sites occur in close proximity to the area.



Figure 23: Closer view of the Incline Shaft 4 area (Google Earth 2022).



Figure 24: A general view of the area from one of the discard dumps.



Figure 25: Another general view.



Figure 26: The extensive impact of mining and past agricultural activities on the area is visible here.



Figure 27: Further evidence of mining impact in the area of Incline Shaft 4.

7. CONCLUSIONS & RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Jacana Environmentals cc to undertake a Phase 1 Heritage Impact Assessment for 4 new Incline Shaft Areas, as well as the new P53-1 Road Alignment at the Goedgevonden (GGV) Colliery near Ogies in Mpumalanga. A physical assessment was undertaken in February 2022. The aim was to see if any heritage sites (previously unknown & known ones) exist close to these areas and if there will be any negative impacts on these sites.

A number of known cultural heritage (archaeological and historical) sites exist in the larger geographical area within which the study area falls while a number of site of cultural heritage (archaeological and/or historical) origin or significance is known for the GGV Mining area. These were identified during various previous assessments of the area. One new site was identified during the assessment close to Incline Shaft 2. These were the remains of some recent farming-related structures, but are deemed of low significance as they are less than 60 years of age and nearly completely demolished already. No further mitigation measures are therefore required. The closest known site located in proximity to the new P53-1 Road Alignment is Grave Site GY16. Although the site will not be directly impacted, care should be taken that there is no accidental damage to or any other negative impacts to the site and graves located there.

It should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of vegetation cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also 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.

Finally, based on the February 2022 assessment it is recommended that the development of the proposed new Incline Shafts and new P53-1 Road Alignment should be allowed to continue from a Cultural Heritage perspective taking into consideration the recommendations given above.

8. REFERENCES

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APPENDIX A: DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C: SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D: PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.