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CK 2006/014630/23 **VAT NO.: 4360226270**

PROJECT REFERENCE NUMBER: KOR-WON 12.10.03

**A REPORT ON A PHASE I HERITAGE ASSESSMENT FOR A PROPOSED
PIPELINE (TWO OPTIONS), ON THE WONDERFONTEIN-CAROLINA ROAD
NEAR WONDERFONTEIN, MPUMALANGA PROVINCE**

For:

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SUMMARY

APelser Archaeological Consulting was appointed by Shangoni Management Services (Pty) Ltd to conduct a Phase I Heritage Impact Assessment for the development of a pipeline near Carolina in the Mpumalanga Province. Two alternative routes (Option 1A & Option 2) for the line had to be assessed.

The proposed pipeline routes run across farming sections (following existing servitudes), next to the main road between Wonderfontein and Carolina and within mining areas (Shanduka's Strathrae Plant and Ferret Minings' Klippan area). Farms include Blesbokspruit and Klippan. The area has been extensively disturbed in the recent past as a result of farming activities (crop growing, ploughing), mining and other infrastructure developments such as roads and powerlines. If any sites of heritage origin did exist here in the past it would have been extensively disturbed or completely destroyed as a result. Various sources (including previous survey reports done for the larger geographical area within which the development is located) were consulted to determine if any possible sites could and did exist here previously.

If the recommendations put forward at the end of this document are implemented, then, from a Cultural Heritage point of view, there would be no objection to the continuation of the proposed development.

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1. INTRODUCTION

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The client indicated the position and location of the two alternative pipeline routes, and the assessment was limited to this area.

2. TERMS OF REFERENCE

The Terms of Reference for the study were to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located in the areas where the proposed Pipeline development will be located (Option 1 & 2);
2. Assess the significance of any possible cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the above-mentioned 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 SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned 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 this 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 palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological 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 South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from 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 of 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 (Act 65 of 1983 as amended)**.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

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.

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 development area in an archaeological and historical context. The sources consulted in this regard are indicated in the bibliography. This includes previous Heritage surveys conducted in the larger geographical area.

4.2 Field survey

The assessment was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural heritage (archaeological and historical) significance in the area of the proposed development. The location/position of all sites, features and objects was determined by means of a Global Positioning System (GPS) where possible, while photographs were also taken where needed.

The assessment was undertaken partially on foot, although large sections were traversed by vehicle as the pipeline routes follow existing servitudes and is located next to main roads. Two alternatives for the pipeline route had to be assessed.

4.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4 Documentation

All sites, objects, features and structures identified are documented according to the general minimum standards accepted by the archaeological profession. 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 proposed pipeline routes (Option 1 and 2) are located on and next to the road running from Wonderfontein to Carolina, around 30 kilometers north of Carolina in Mpumalanga. Option 1 is around 10km in length, and runs across open grass veld (close to Goedehoop Stene), over Shanduka Coal's Strathrae operation, next to the tar road (in the reserve), past the starting point of Option 2 (near Klippan farm – Alzu – Ernst van den Berg), over agricultural fields following an existing servitude and past Ferret Mining's Klippan operation haul road. Option 2 is a stretch from the Klippan farm, across fields and running on an existing servitude, following a section of the haul road back to the tar road. At Klippan farm (starting point of Option 2 it links up with Option 1).

The topography of the area is very flat, with rolling grass veld in sections. Large portions have been disturbed through agricultural activities (ploughing and crop growing), as well as mining development, powerlines and road infrastructure. Visibility in the area was fairly good, although dense grass cover in crops restricted visibility to some extent. If any sites, features or material of cultural heritage (archaeological & historical) did exist here in the past, it would have been disturbed or destroyed to a very large degree.

The farms over which the pipeline routes will run include portions of for instance Blesbokspruit, Leeupan and Klippan. There are a number of pans in the area including Grootpan, Leeupan, Klippan, Blinkpan, Rietpan, Otterpan and various others. The possibility of cultural material in the form of Stone Age tools found close to these water sources cannot be excluded, although it is envisaged that the pipeline development will not run close to or impact on the pans.

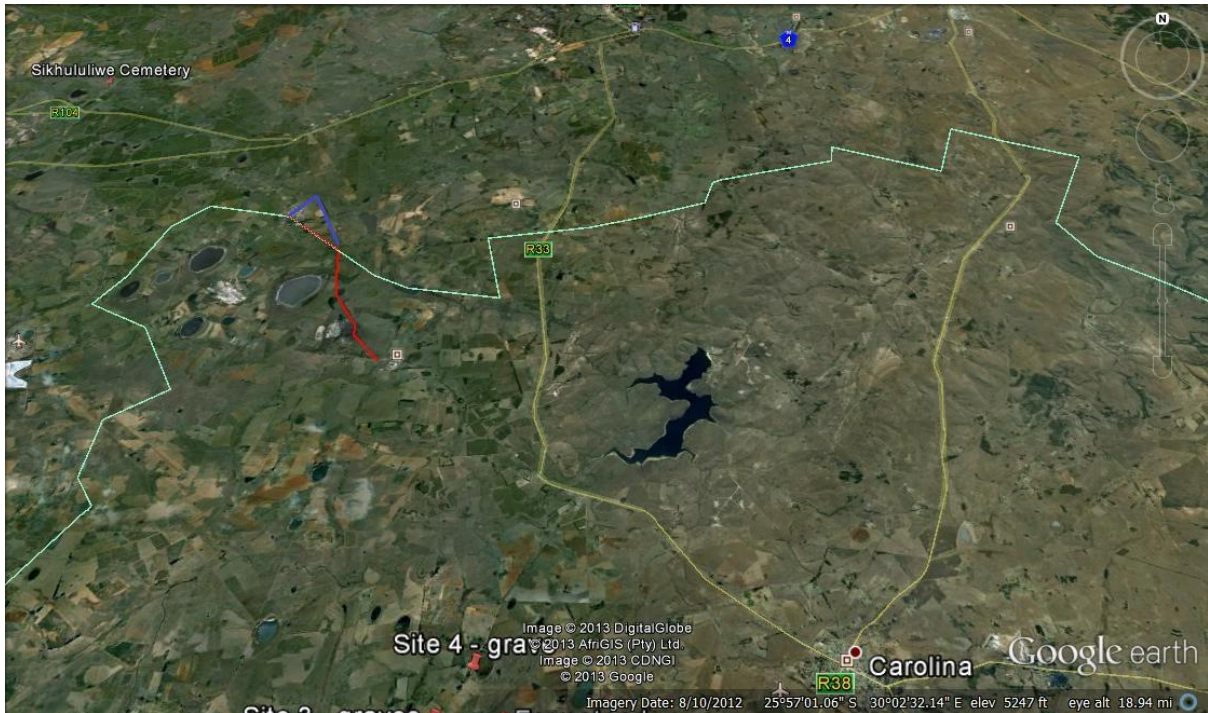


Figure 1: Aerial view of pipeline routes location (Google Earth 2013 – Image date 8/10/2012). Red is Option 1 and blue Option 2.



Figure 2: Pipeline route 1. Provided by client. Note open fields and grass veld, as well as mining operations.



Figure 3: Option 2. Provided by client. Note the open fields and crops. The blue line follows the existing road and a mining haulroad.



Figure 4: The typical landscape close to the starting point of Option 1. The line runs across this section close to the road.



Figure 5: Another view of the Option 1 area just before Shanduka's Strathrae section.



Figure 6: Shanduka's Strathrae operation. The pipeline runs behind the mining structures and dump seen here over the mining land.



Figure 7: The starting point for Option 2. From here it runs next to and across ploughed fields, on existing servitudes and next to the road.



Figure 8: The line runs past farm labour structures. Graves could be located close by and should be kept in mind.



Figure 9: View on section of Option 2 route running on an existing servitude. Note the ploughed fields.

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 be divided basically 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).

According to Bergh (1999: 4 – 5) there are no known Stone Age sites in the area, although there are some in the larger Mpumalanga province. The fact that there are no known Stone Age sites in the area might be indicative of the lack of Stone Age research, although recent agricultural and mining activities might have destroyed any evidence of it. No Stone Age sites or artifacts were found during the heritage impact assessment. This does not however mean that scatters of stone tools might not be found near rivers or streams, or at the many pans that does occur in the area. It is therefore recommended that watercourses and bodies of water (such as the pans) are avoided (from an archaeological perspective) by the pipeline routes.

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts. In South Africa it can be divided in two separate phases according to (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 Iron Age sites are known to exist in the area, although there are a fairly large number of Late Iron Age stone walled sites in the bigger geographical area that includes Lydenburg, Dullstroom, Machadodorp, Badplaas and Belfast (Bergh 1999: 6-7). Some of the sites might be related to the so-called Marateng facies of the Urewe pottery tradition of the LIA, dating to between AD1650 and 1840 (Huffman 2007: 207).

The expansion of early farmers, who, among other things, cultivated crops, raised livestock, mined ore and smelted metals, occurred in this area between AD 400 and AD 1100. Dates from Early Iron Age sites indicated that by the beginning of the 5th century AD Bantu-speaking farmers had migrated down the eastern lowlands and settled in the Mpumalanga lowveld. Subsequently, farmers continued to move into and between the lowveld and Highveld of Mpumalanga until the 12th century. These Early Iron Age sites tend to be found in similar locations. Sites were found within 100m of water, either on a riverbank or at the confluence of streams. The close proximity to streams meant that the sites were often located on alluvial fans. The nutrient rich alluvial soils would have been favoured for agriculture. The availability of floodplains and naturally wetter soils would have been important for the practice of dry land farming. This may have been particularly so during the Early Iron Age when climate reconstruction for the interior of South Africa suggests decreased rainfall between AD 900 and AD 1100 and again after AD 1450. Burned dagha and plaster with pole impressions found at these early lowveld sites indicated that early farmers lived in fairly permanent agricultural villages.

Grindstones and an imprint of millet or domestic *Pennisetum* in a piece of pottery from an AD 400 site on the northern border of Mpumalanga provided the first evidence of the cultivation of millet in South Africa. Remains of iron tools indicated that metalworking was also practised. Iron was an important commodity, and ores in the form of haematite and magnetite were either picked up off the surface or mined from shafts dug into the ground. Large cattle byres with pits were also significant features of EIA Highveld sites dating from AD 600. While there is some evidence that the EIA continued into the 15th century in the lowveld, on the escarpment it had ended by AD1100. The Highveld, particularly around Lydenburg, Badfontein, Sekhukhuneland, Roosenekal, and Steelpoort, became active again from the 15th century onwards. This later phase, termed the Late Iron Age (LIA), was accompanied by extensive stonewalled settlements. Trade no doubt played an important role in the economy of these early societies. Goods were traded both locally and further afield. Control of resources such as metal provided a solid economic base that was fairly impervious to changes in the environment. Traditional sources of wealth were easily bolstered as metals were used in place of cattle to encourage key marriage alliances, and at the same time used to purchase livestock and other trade items from outside the country. Local trade consisted of

metal, salt, thatch, poles, cattle and grain. Salt was produced from alkaline springs. This valuable commodity could be obtained by paying a tithe to the chief on whose land the salt was located. However, there were examples of mass production where salt was 'balled' for transport and sold for huge profit in salt scarce areas.

By the 1700s, with growing trade wealth, economically driven centres of control began to emerge and, following the establishment of Portuguese trade posts, the Mpumalanga landscape became an important thoroughfare for both local and foreign traders. Mpumalanga was populated by multiple and ethnically diverse but interrelated communities. It was inhabited by the San (Hunter-Gatherer, Basarwa or Bathwa) groupings prior to the settlement of various Late Iron Age (LIA) farming communities, the ancestors of modern Sotho-Tswana and Nguni societies. The north-western and southern portions of the region came to be broadly occupied by the Kgatla (Bakgatla), Rolong (Barolong), Ntwane (Bantwane), Koni (Bakone), Kopa (Bakopa) and Southern Ndebele mixed farming communities. Despite their general association with LSA and their assumed disappearance, it is clear that San groups continued to interact with farmers in the Eastern Transvaal, as was the case elsewhere, and the evidence of a range of forms of coexistence warns us against drawing rigid distinctions between the two cultures. Material assemblages from excavated sites, San rock paintings and engravings and cultural and linguistic evidence point to some forms of peaceful contacts between these diverse communities.

According to other recorded oral traditions ancestors of Bakone groupings occupied parts of the low country (Phalaborwa and Bokgaga near Leydsdorp) at an uncertain date. The main body of the Bakone appears to have been under the Matlala ruling lineage at the time of their fragmentation into a multiplicity of groups and subsequent chiefdoms around the 15th to 16th centuries. While some groups remained in the low country others ventured further west and southwards and Koni groups came to settle in the areas later called Ohrigstad, Lydenburg and Middelburg. Either before or at the start of the 17th century an early Nguni-speaking community entered the orbit of the Sotho-Tswana communities in the Transvaal and in particular the north-eastern Highveld. The Sotho-Tswana people commonly called this early Nguni offshoot Matebele, denoting Pursuers. According to P. Lekgoathi these Nguni groups accepted the appellation Matebele but pronounced it as Amandebele. Anthropologists and historians later rendered both Sotho-Tswana and Nguni terms as Ndebele.

In due course relations between other royal contenders degenerated into open confrontation. The Manala (Mabena) and Mhwaduba sections remained independently in and around Pretoria areas while the Ndzundza and Mthombeni groups moved north-eastward into the environs of the Steelpoort (Tubatse) River valley and the slopes of Bothasberg in Middelburg. There is evidence that Mzilikazi's Ndebele invaded the south-eastern and central Transvaal areas. Accounts of the Southern Ndebele, the Koni, the Kgatla, the Rolong and the Ntwane attest to Mzilikazi's sporadic plunder and their own counter raids of Mzilikazi's frequent raids. The Koni, Kopa and some Eastern Sotho fortified settlements in the Middelburg, Nelspruit (Waterval Boven, Sudwala Caves) and Lydenburg areas were attacked by intruding armies.

The above section comes from De Jong 2009: pp.24-26 (See References)

In 1845 the establishment of a Boer settlement at Ohrigstad marked the beginning of a new phase in the history of the Eastern Transvaal. The first Trekkers to settle in the area were the

followers of A. H. Potgieter, who moved from Mooi River in the south-western Transvaal. Trekkers from Natal led by J. J. Burger joined them. Tensions between the two groups soon surfaced and the difficulties facing the community were compounded by malaria, which decimated the population, and stock disease, which ravaged their herds. In 1848, partly to escape this disease and conflict-ridden community, Potgieter and his followers moved north and founded the town of Schoemansdal. Most of those who remained behind moved to higher-lying lands to the south. The town of Lydenburg became the new center of the community and white settlers slowly established themselves in the wider region. The Trekkers' political fractiousness did not, however, diminish. In 1856 the Lydenburg community seceded from the Zuid Afrikaansche Republiek (ZAR) – a development that was symptomatic of the fragility of the wider state. Political instability and racial exclusivity – blacks were infamously denied any equality in church or state – however, co-existed with strong traditions of popular democracy. It was not until 1864 that political unity was achieved among the main Trekker communities in the Transvaal and even thereafter the state remained both rudimentary and cash strapped.

Once the Trekkers had established what they saw as their right to the land they set about distributing it among themselves. The land was demarcated into large farms and title deeds were issued. The initial policy was that all burghers (citizens) were entitled to two farms of 3 000 morgen each (about 6 330 acres or 2 564 hectares) from the state. White newcomers to the Transvaal were quickly granted citizenship and the land that went with it. Farms, which were not distributed, remained government property and the ZAR, which battled to raise revenue, increasingly fell back on its principal asset – land. This profligate distribution of land could not be sustained. From 1860 land grants to burghers were reduced to one 3 000 morgen farm each. After 1866 newcomers no longer received any grant of land and from 1871 this prohibition applied even to the sons of burghers. The most consistent supply of labour for those farmers able to enforce their claim to ownership of the land came from African families living on their property. The practice that developed in the area was that five families of a group were expected to render unpaid labour service to the landowner but were then spared from further demands on their labour or their produce by officials or neighbouring farmers. Elements of a patriarchal pact underpinned these arrangements as male elders within African communities used their authority over both women and youths to meet the farmers' appetite for workers. Over the subsequent decades the amount of labour that could be extracted from resident workers would be a source of recurring strife. Communities settled on land owned by absentee landlords were often able to secure their tenure through payments of rent in cash or kind, to the considerable irritation of their white neighbours, who believed they should be forced to work for them.

White settlement of the Belfast area started from the direction of Lydenburg in 1847 when farmers were looking for healthier environments. At first the farms were uninhabited and used to graze cattle. At first, roads were irregular and informal. In 1878-1894 a stage-coach route was operated between Pretoria and the Lowveld and the present N 4 broadly follows this route between Wonderfontein and Belfast. The Pretoria-Maputo railway line became operational in 1894. The British established a Boer concentration camp at Belfast and erected a series of blockhouses along the railway line.

The above section comes from De Jong 2009: pp.24-26 (See References).

Historical sites recorded during previous (various) heritage surveys in the larger geographical area include farmsteads, historical graves and graveyards, sites associated with the Anglo-Boer War and others (Pelser 2012).

Results of fieldwork

No sites, features or objects of any cultural heritage (archaeological or historical) origin or significance were identified and recorded during the fieldwork. The areas where the pipeline routes will run has been largely and extensively disturbed during the recent past. The disturbances include road development, mining, farming activities and powerlines. The area is flat, mainly open grass veld in the small sections that has been undisturbed and it is not likely that prehistoric settlements existed here. The possibility of single, scattered, stone tools in the area cannot be excluded, but if located here would be out of context. The pans in the larger area could deliver such, but these areas will be avoided by the pipeline development. There is also always the possibility of the presence of unknown, unmarked or low stone packed graves in the area. The Eastern Highveld is known for the many graveyards found and this aspect should be taken into consideration. Although all effort is made to identify such sites in a development area, it is always possible that graves could have been missed. Should any be identified during the subsequent development activities these should be handled accordingly.

With the pipeline routes also mainly following existing road reserves and servitudes, the impact of the pipelines will be minimal as well. It is therefore recommended that both the pipeline route options can be utilized.

7. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it is possible to say that the Phase I HIA for the proposed pipeline routes have been conducted successfully. The areas where the two routes will run has been largely and extensively disturbed during recent years through agricultural, mining and other infrastructural activities. If any sites, features or material of cultural heritage (archaeological or historical) nature and significance did exist here in the past it would have been extensively disturbed or destroyed as a result.

With the routes following existing roads and servitudes, and crossing open, ploughed fields and mining areas, the impact on the area will be minimal from a Heritage perspective. The proposed development can therefore continue and any or both of the routes can be utilized.

However, the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility and this aspect needs to be kept in mind at all times. This could include unknown and unmarked burials. If during any development activities, if any sites, features and objects of a cultural heritage (archaeological or historical) nature, are exposed, an expert should be called in to investigate and suitable mitigation measures are implemented. All development in these areas should be halted until the situation had been satisfactorily resolved.

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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.