



Archaetnos Culture & Cultural
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**A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT RELATED TO
THE EMP FOR SIMMER DEEP GOLD MININGS RECLAIM OPERATION AT THE
EXISTING DOORKOP MINE, GAUTENG PROVINCE**

For:

**HYDROSCIENCE
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REPORT NO.: AE01329V

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SUMMARY

Archaetnos cc was requested by HydroScience to conduct a cultural heritage impact assessment (HIA) for the proposed reclaiming of the existing Doornkop Mine dump by Simmer Deep Gold Mining. This is situated on the West Rand in the Gauteng Province.

A survey of the available literature was undertaken in order to obtain background information regarding the area. This was followed by the field survey which was conducted according to generally accepted HIA practices, aimed at locating all possible objects, sites and features of cultural significance in the area of the proposed development.

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

During the survey, no sites of cultural heritage significance were located. This is mainly a result of the area being almost entirely disturbed by recent human activities. The proposed development may therefore continue.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

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1. INTRODUCTION

Archaetnos cc was requested by Hydro-Science to conduct a cultural heritage impact assessment for the proposed reclaiming of the existing Doornkop Mine dump by Simmer Deep Gold Mining. This is situated on the West Rand in the Gauteng Province, on portion 4 of the farm Vlakfontein 238 IQ (Figure 1-3).

The project includes the following tasks:

- Trenching on the dump to lay pipes & water monitoring guns
- Laying of a 3.2 km pipeline (200 mm NB steel pipe)
- Clearing of vegetation along the pipe route to create a 3m corridor
- Installing culverts to cross the Slovoville – Tshepiso informal unpaved road
- Installing pumps at the Doornkop return water dam
- Constructing the Pump station at Tshepiso Dump
- Digging, within perimeter of pump station, a slurry trench
- Installing a 2.3 km 250mmNB slurry pipeline along the monitoring water pipeline route

The client indicated the area to be surveyed. The field survey was confined to this area.

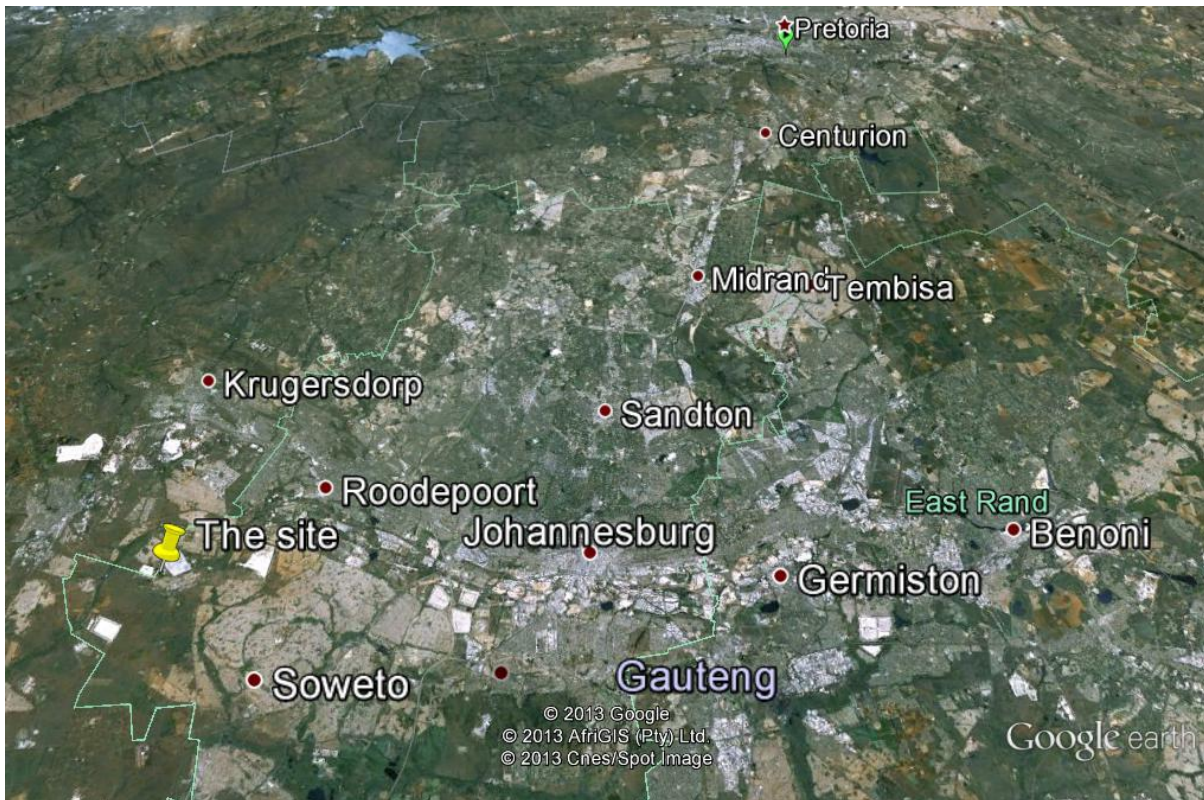


Figure 1 Location of the surveyed site in the Gauteng Province. North reference is to the top.

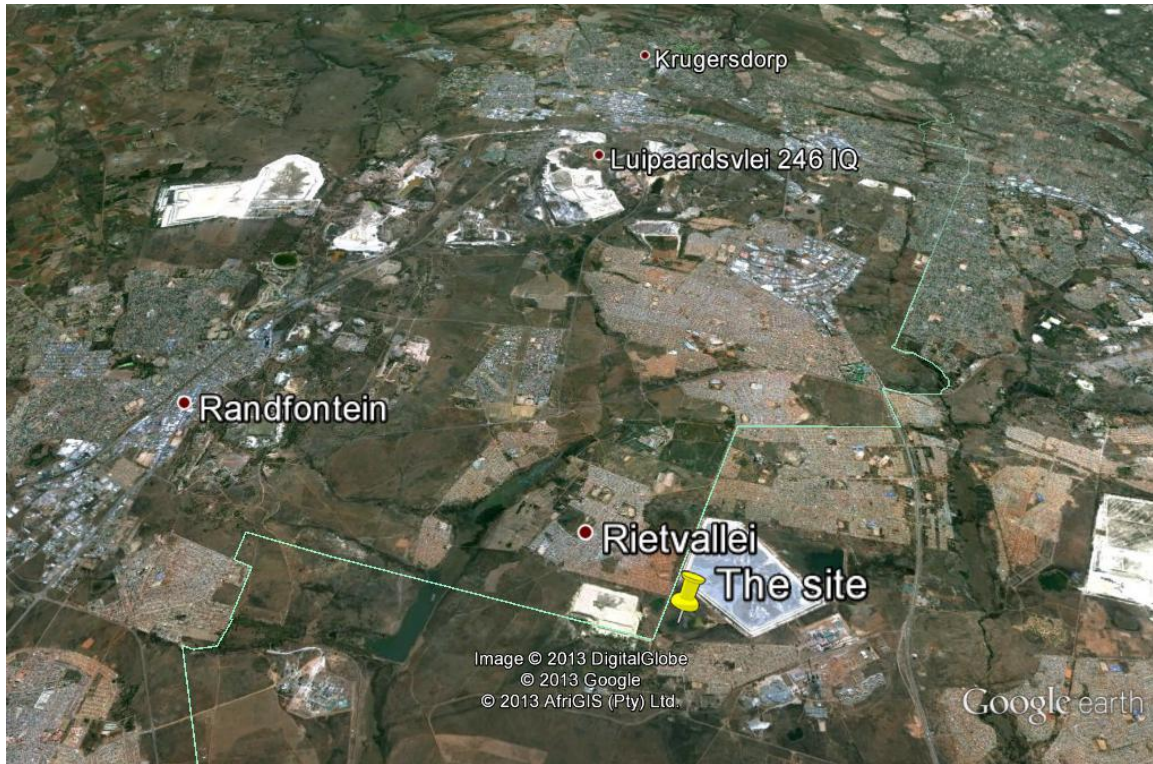


Figure 2 Location of the site in relation to Randfontein and Krugersdorp. North reference is to the top.

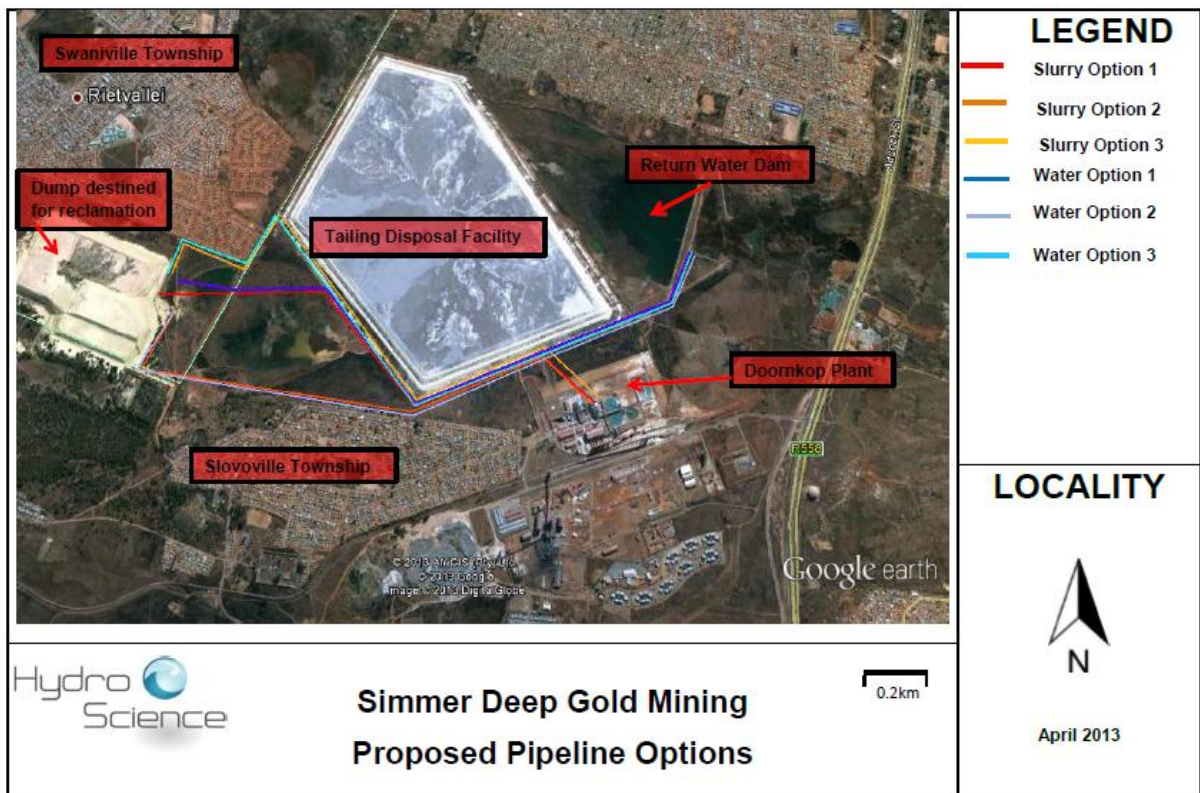


Figure 3 Google image indicating the proposed development.

2. TERMS OF REFERENCE, SCOPE AND PURPOSE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).
2. Doing a baseline and desktop assessment of the historical background of the area to be developed.
3. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).
4. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
5. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.
6. Review applicable legislative requirements.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity (Appendix A). These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see Appendix C).

4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
5. All recommendations are made with full cognizance of the relevant legislation.
6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. Developers should however note that the report should make it clear how to handle any other finds that might occur.

4. 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).

4.1 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 (see Appendix D) 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. Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, 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 only looks at archaeological resources. The different phases during the HIA process are described in Appendix E. 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 which is applicable to this project
- 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 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 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 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.

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

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) 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)**.

4.2 The National Environmental Management Act

This act (Act 107 of 1998) 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.

5 THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities.

This is done by law-abiding clients and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians). Possible chance finds, encountered during the project development, also needs to be managed by not disturbing it and by having it assessed by professionals.

Impacts on the cultural heritage should be minimized. This include the possible maintenance of such sites in situ, or when impossible, the restoration of the functionality of the cultural heritage in a different location. When cultural historical and archaeological artifacts and structures need to be removed it should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may however only be considered if there are no technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the affected communities. Again professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be conducted. This entails that such communities should be granted access to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the affected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

6 METHODOLOGY

6.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

6.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. One sometimes looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.



Figure 4 GPS track of the surveyed area. North reference is to the top.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 4). Certain factors, such as accessibility, density of vegetation, etc. may however influence the

¹ A Garmin Oregon 550 with an accuracy factor of a few meters.

coverage. The size of the area that was surveyed is approximately 500 Ha and the survey took four hours to complete.

6.3 Oral histories

People from local communities are 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.

6.4 Documentation

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

6.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and
- Potential to answer present research questions.

7 DESCRIPTION OF THE AREA

The mine dump that will be reclaimed (Figure 5) is situated on portion 4 of the farm Vlakfontein 238 IQ. The entire area has been disturbed by recent human interventions. This included the mining of the area and the associated infrastructure.

Three (3) options for the routes of the pipelines were investigated. The first of these runs through the middle of a wetland area, which have been created as a result of the former mining activities. The vegetation cover therefore consists mainly of pioneer species such as Pampas grass, black wattle and blackjacks (Figure 6). Indications of the disturbance is also found in tracks running through the area, infrastructure such as a railway line, residential areas bordering the surveyed land and signs of the dumping of building rubble.



Figure 5 The Doornkop mine dump (dump proposed to be reclaimed).



Figure 6 General view of the surveyed area (first pipeline route option).



Figure 7 View of the waste dump to the north (destination of waste).



Figure 8 View of the Doornkop plant where the pipeline routes end and through which the material will be processed.



Figure 9 View of the area where the second option will cross.



Figure 10 Route option 2 along the tailings dam.

The surveyed area is also bordered by a huge tailings dam on its northern border (Figure 7). All three proposed routes run along this dam where it overlaps and pass the existing Doornkop plant (Figure 8). The general topography of the area is fairly

even between the waste dump (destination of waste) and the one to be reclaimed (in the south).

The second option crosses the wetland area on a road that runs through it (Figure 9). Thereafter it also follows the tailings dam in a easterly and then northern direction (Figure 10).

Option 3 follows the eastern boundary of the property (Figure 11). This is adjacent to a residential area. It also includes some black wattles and other pioneer plant species (Figure 12-13).



Figure 11 View of the route for option 3.



Figure 12 Pioneer plant species along route option 3.



Figure 13 Another view of route option 3.

8 HISTORICAL CONTEXT

No sites of cultural heritage significance were located in the surveyed area. However, in order to understand possible finds that could be unearthed during

construction activities, it is necessary to give a background regarding the different phases of human history in the area.

8.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is, however, important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

ESA material was found at Aasvoëlkop some kilometers away to the west of the surveyed area. Artifacts from the MSA were identified at Melvillekoppies, Linksfield and Primrose which lies even further to the east and south of the surveyed area. LSA material was also found at Melvillekoppies (Bergh 1999: 4). Rock engravings associated with the LSA were also found more than 50 km to the south in the vicinity of Vereeniging (Bergh 1999: 5).

However, no natural shelters were seen during the survey and as a result of the disturbance, it is not possible to determine if the vegetation may have presented good grazing. This would have made it a prime spot for hunting in the past.

8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (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.

Late Iron Age sites have been identified to the south of the surveyed area (Bergh 1999: 7), but these are more than 10 km away. However no Iron Age occurrences were identified during the survey. Again the disturbance makes it impossible to determine whether the area would have been suitable for Iron Age occupation.

8.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape. It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

During the Difaquane ca. 1872, the Ndebele of Mzilikazi moved through the area (Bergh 1999: 11). They however did not settle here.

The first white people in this area were the party of the traveler William Cornwallis Harris in 1836 (Bergh 1999: 13). White farmers only settled here from 1839 and 1840. The first farms in the vicinity of Roodepoort, Krugersdorp and Johannesburg were already measured out in 1839/40 (Bergh 1999: 15). This means that it is one of the first areas where white farmers settled.

In 1857 the area formed part of the district of Pretoria as few other towns were established (Bergh 1999: 17). The town of Johannesburg was only established in 1886, the town and district of Krugersdorp 1894 and Roodepoort between 1887 and 1899 (Bergh 1999: 21, 147). The Witwatersrand became a district in 1902 and Johannesburg only became an independent district in 1909 (Bergh 1999: 22-23).

Officially it is known that gold was first discovered on the nearby farm Paardekraal in 1852, but apparently the first gold on the Witwatersrand was already found in 1834 by Karel Kruger (Liebenberg 1999: 315; Von Ketelhodt 2007: 3). After the discovery of gold at Eersteling in the Limpopo Province in 1871, many miners and prospectors came to the South African Republic (ZAR) (Tempelhoff 1999: 311). In 1886 George Harrison discovered the very rich main gold reef in the Witwatersrand on the farm Langlaagte which led to the gold mining industry of today (Tempelhoff 1999: 313; Pistorius 2007: 19; Von Ketelhodt 2007: 7).

Harrison's discovery was followed by that of the main reef on other farms such as Vogelstruisfontein, Roodepoort and Driefontein. During 1886 the following farms or portions thereof were declared public prospecting areas by the Government: Driefontein, Elandsfontein, Doornfontein, Turffontein, Randjieslaagte, Langlaagte, (Klein) Paardekraal, Vogelstruisfontein and Roodepoort. (Klein) Paardekraal was declared on 4 October 1886 (Liebenberg 1999: 316).

During 1887 more farms were added to the list, namely Klippportje, Leeuwpoort, Vogelfontein, Witpoortje, Paardeplaats/Groot Paardekraal and Luipaardsvlei. In 1888

the farm Rietvlei was also added (Liebenberg 1999: 317). The main reef extended for a distance of almost 40km from Roodepoort in the west to Germiston in the east (Pistorius 2007: 19).

The discovery of gold was followed by a gold rush of foreign gold diggers and prospectors who settled in tents and corrugated iron buildings around the Witwatersrand reef (Pistorius 2007: 20). Some of their prospecting activities can still be seen on the main reef.

The individual miners did not last long and were quickly bought out by companies who eventually became mining syndicates (Liebenberg 1999: 317). The Johannesburg Chamber of Mines was founded in 1889 to establish a unified approach in facing the problems experienced by the mines of the time (Von Ketelhodt 2007: 104).

The first mining company was the Johannesburg Pioneer Gold Mining Company Ltd which was formed in 1886. The second was the Crown Reef Gold Mining Company Ltd, established in 1888. This mine was the pioneer in adopting approved mining methods (Von Ketelhodt 2007: 12). Crown Mines eventually became part of the amalgamated Rand Mines Properties Limited in 1968 (Von Ketelhodt 2007: 26).

The mentioned methods were necessary to mine the deep less rich ore on the Witwatersrand. The need for capital to mine the relative problematic gold fields also led to some companies amalgamating leading to consolidated companies. Between 1889 and 1902 the depth of the gold deposits were established by bore holes and indicated that it were up to 729m deep (Liebenberg 1999: 317). This led to the start of deep-level mining which would be impossible without the capital from mining companies (Von Ketelhodt 2007: 104).

From 1894 these large mine houses started to control gold mining. By 1896 it was determined that the depth of the deposit was as much as 6 000 feet at certain areas. More companies now started to concentrate on deep-level mining and not only on extracting the surface gold (Liebenberg 1999: 318). The outbreak of the Anglo-Boer War in 1899, however let to the closing of many mines. After the British took over Johannesburg in June 1900 the mines were safeguarded and mining continued during 1901 (Liebenberg 1999: 319).

By 1903 another crisis loomed as the mines could not obtain enough workers. It was then decided to get migrant workers from China, of which the first ones arrived in 1904. In 1907 they were however repatriated to China. During these years mines also started using large mining machinery in order to be less dependent on workers (Liebenberg 1999: 319; Von Ketelhodt 2007:19-21). Hereafter even some more farms stretching from the east to the west Rand were proclaimed as mines (Liebenberg 1999: 320).

During the 1960's and 1970's many mines closed as it was not profitable any more. Some of the mines have now re-opened as new mining techniques were developed enabling the extraction of gold from ore previously not viable to utilize (Von Ketelhodt

2007: 139). This includes the mining of old mine dumps as well as better techniques for extracting the gold from the ore.

One may therefore expect to find remains of the mining developments through more than a hundred years in the surveyed area. Of particular note is the possibility of finding unknown graves that might be concealed under the mine dump. Examples of such were found at Paardekraal and Crown Mines during the last five years (Archaetnos database).

9 CONCLUSION AND RECOMMENDATIONS

As indicated, no sites of cultural importance were identified during the survey. The survey of the indicated area was completed successfully.

The following is recommended:

- There is no preference from a heritage perspective to any one of the three options given for the pipeline routes. Other specialist studies should therefore determine the most preferred option.
- The proposed development may continue.
- It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.
- The client should indeed note recent finds of human skeletal material concealed under mine dumps. Should something similar be found an archaeologist should immediately be contacted to assess the situation.

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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:

National Grade I significance	should be managed as part of the national estate
Provincial Grade II significance	should be managed as part of the provincial estate
Local Grade IIIA	should be included in the heritage register and not be mitigated (high significance)
Local Grade IIIB	should be included in the heritage register and may be mitigated (high/ medium significance)
General protection A (IV A)	site should be mitigated before destruction (high/ medium significance)
General protection B (IV B)	site should be recorded before destruction (medium significance)
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.