



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A HERITAGE WALKDOWN STUDY FOR THE PROPOSED NEW
275KV POWERLINE BETWEEN THE GLOCKNER-KOOKFONTEIN
SUBSTATIONS VEREENIGING, GAUTENG**

For:

***BAAGI ENVIRONMENTAL CONSULTANCY CC
P.O.BOX 72847
LYNWOOD RIDGE
0040***

REPORT: AE1118

by:

***A.J. Pelsler
Accredited member of ASAPA***

February 2011

Archaetnos
P.O. Box 55
GROENKLOOF
0027
Tel: 083 291 6104/**083 459 3091**
Fax: 086 520 0673
E-mail: **antonp21@yahoo.com**

Members: AC van Vollenhoven BA, BA (Hons), DTO, NDM, MA (Archaeology) [UP], MA (Culture History) [US], DPhil (Archaeology) [UP], Man Dip [TUT], DPhil (History)[US]
AJ Pelsler BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

©Copyright

Archaetnos

The information contained in this report is the sole intellectual property of Archaetnos CC. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof.

The South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report and clients are advised not to proceed with any action before receiving these.

SUMMARY

Archaetnos cc was requested by BAAGI Environmental Consultants, on behalf of ESKOM, to conduct a Heritage Walk Down for their new 275Kv Power Line between the Glockner and Kookfontein substations on various portions of the farm Kookfontein 545 IQ near Vereeniging in Gauteng. Archaetnos cc also conducted an HIA for the same line during February 2009 (see Report AE902).

No cultural heritage (archaeological or historical) sites, features and objects of significance were identified during the Walk Down. From a Cultural Heritage point of view there would therefore be no reason why the development could not take place, taking cognizance of a number of recommendations put forward at the end of this report.

CONTENTS

	page
SUMMARY	3
CONTENTS.....	4
1. INTRODUCTION	5
2. TERMS OF REFERENCE	5
3. CONDITIONS AND ASSUMPTIONS	5
4. LEGALISLATIVE REQUIREMENTS	6
5. METHODOLOGY	9
6. DESCRIPTION OF THE AREA.....	9
7. DISCUSSION.....	15
8. CONCLUSIONS AND RECOMMENDATIONS.....	18
9. REFERENCES	19
APPENDIX A.....	20
APPENDIX B	21
APPENDIX C	22
APPENDIX D.....	23

1. INTRODUCTION

Archaeos cc was requested by BAAGI Environmental Consultants, on behalf of ESKOM, to conduct a Heritage Walk Down for their new 275Kv Power Line between the Glockner and Kookfontein substations on various portions of the farm Kookfontein 545 IQ near Vereeniging in Gauteng. Archaeos cc also conducted an HIA for the same line during February 2009 (see Report AE902).

The specialists were accompanied by the client (BAAGI), who indicated the boundaries of the area to be assessed. The work was confined to this area.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located in the area of the proposed development (see **Appendix A**).
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see **Appendix B**).
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, should this be applicable.
5. 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. These include all sites, structure 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 B).

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 be found.

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. 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) 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.

4.2 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.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was not undertaken in this case, as this was done during the 2009 HIA for the same development, although the information obtained during this study was taken into consideration in order to place the area in a historical context. The sources consulted in this regard are indicated in the bibliography.

5.2 Field survey/Walk Down

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

The survey was undertaken on foot.

5.3 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.

5.4 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.

6. DESCRIPTION OF THE AREA

The area is located on various portions of the farm Kookfontein 545 IQ in the Rothdene area near Vereeniging, Gauteng Province. The proposed Power Line runs between the Glockner and Kookfontein Substations.

The largest portion of the area has been disturbed through agricultural activities in the recent past (ploughing and crop growing), and most of the proposed Power Line runs over existing

maize fields. The Klipriviersberg Nature Reserve, incorporating an Archaeological Reserve, is situated a few kilometers to the south of the area. Dense vegetation (grass, shrubs) made visibility on the ground difficult.

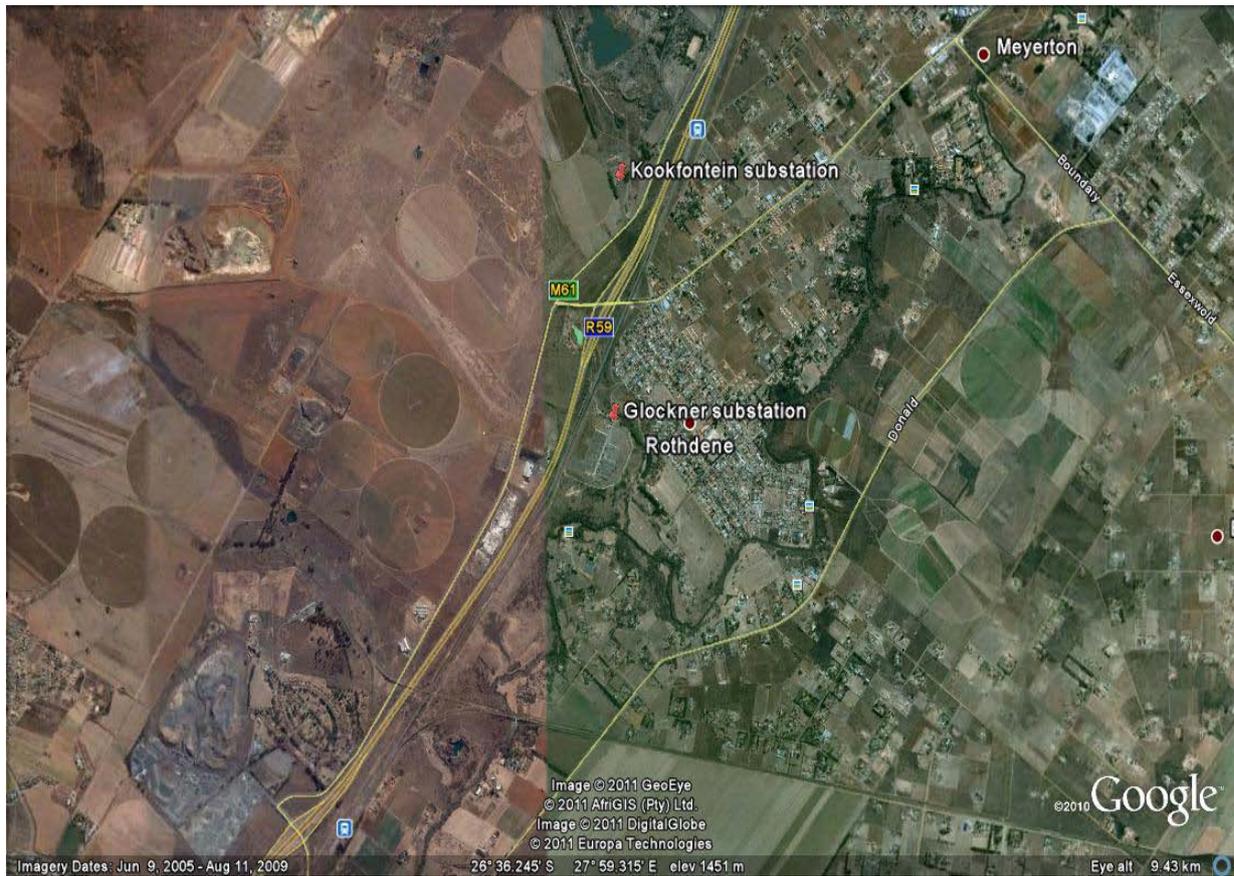


Figure 1: Aerial location of development (© Google 2010)



Figure 2: Topographic Location of development (© Map Source 2010)

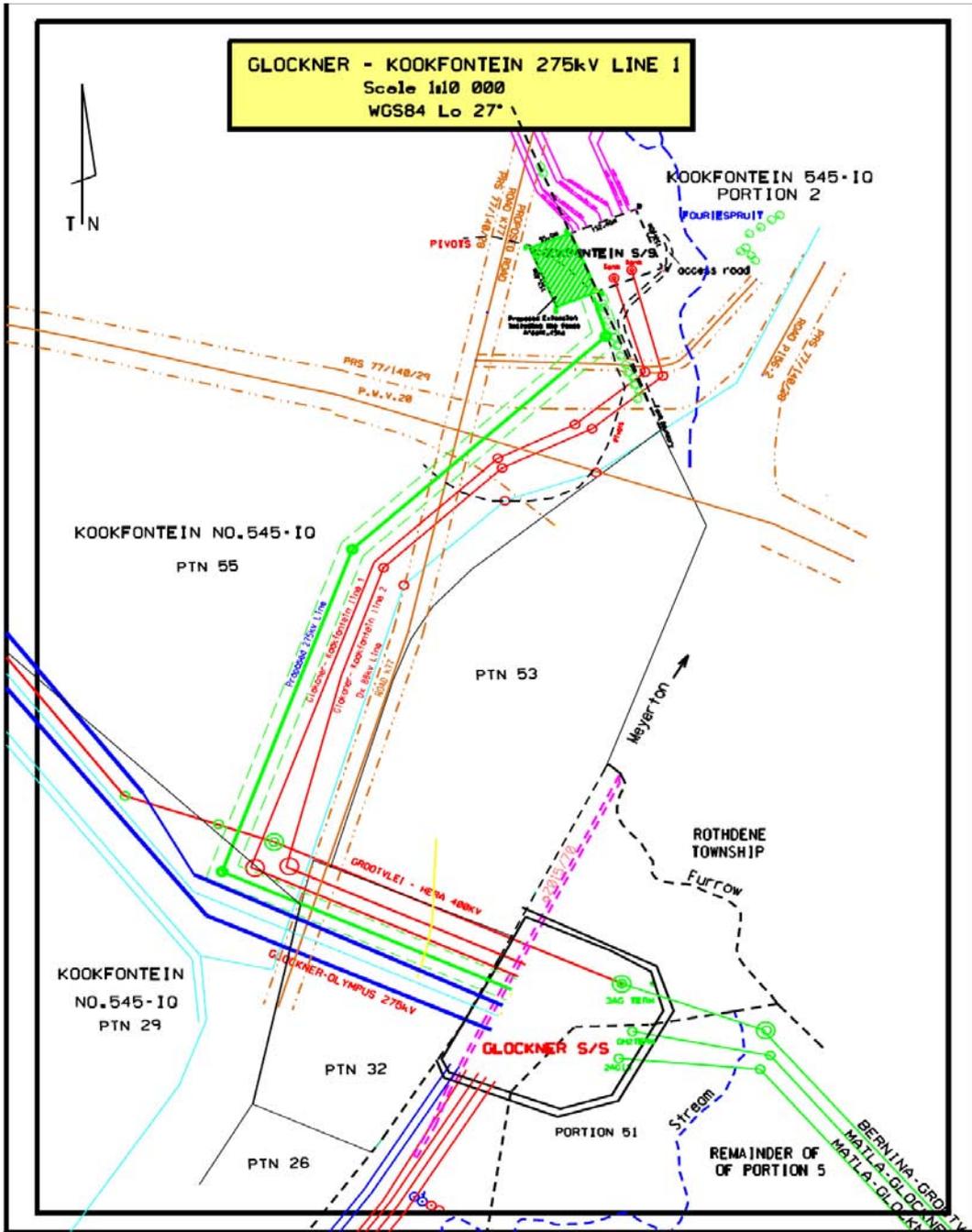


Figure 3: Map showing existing power lines and new 27Kv line (in red)
 Map courtesy ESKOM & BAAGI Environmental



Figure 4: View of line taken from close to Glockner substation



Figure 5: Another view of the line – note the dense vegetation



Figure 6: Dense grass and weeds made visibility difficult



Figure 7: Large sections of the line cross over maize fields



**Figure 8: View of Kookfontein substation.
The new line runs to the left of the picture**

7. DISCUSSION

No sites, features or objects of any significance (archaeological or historical) were found during the Walk Down, although some recent farming-related structures/ruins were identified. These, however, will not be impacted on by the new line, as they fall outside the route followed by the proposed line.

A short background to the various time periods relevant to southern African archaeology is given.

7.1 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.

The Klipriviersberg Nature & Archaeological Reserve is situated a few kilometers to the south of the area. Stone Age artefacts dating back 250 000 years have been found in the reserve, but no living sites have been found, suggesting that Stone Age peoples hunted in the reserve but didn't settle there (www.joburg.org.za)

7.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce tools and weapons (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.

Aerial photographs of the Klipriviersberg Nature & Archaeological Reserve revealed 9 stone-walled Iron Age settlements dating from about 1500. A total of 90 sites have been identified in the broader area, suggesting a large, settled pastoral community. These Tswana peoples lived on the koppies, building stone walls to surround their inner kraals and living areas, shaped rather like a sunflower. Cattle, their most important commodity, were housed in the inner circle, safe from predators. Each petal of the sunflower housed a different household, and between these enclosures were smaller enclosures housing smaller animals like calves, goats and chickens. The outer walls reached around 1.5 metres in height, but over the years those walls have crumbled.

Excavations of nearby sites reveal that these people grew sorghum, raised cattle, sheep and goats, and hunted wild animals. Two sites in the Reserve were large - 150 metres by 50 metres - and would have housed up to 100 people in a single settlement, made up of 10 households. These early settlements were vulnerable to changes in climate, and population size would have waned and revived over the years. The earlier settlements died out, and it was only in the 1700s that these groups re-established themselves in the Reserve.

These pastoralists traded with settlements at Melville Koppies, 25 kilometres to the north, who mined iron, not found down south. These peoples lived harmoniously but were overrun and wiped out in the early 1800s when ousted Zulu leader Mzilikazi moved into the area and established his kingdom (www.joburg.org.za).

7.3 Historical Age

The historical age is associated with the first European settlers moving into the area. These included travelers, missionaries and farmers. This is the time when the first historical documents were produced and oral histories recorded.

Around 1850, Sarel Marais, one of the early Voortrekkers, and his family settled just above the Bloubosspruit, in the southern part of the Klipriviersberg Reserve. He built five elements of what characterized a typical 1850s farmstead: a farmhouse, a waenhuis or wagonhouse, an orchard, an irrigation furrow and a cemetery.

The simple rectangular farmhouse had a thatched roof, but a 1943 fire destroyed the roof, and it was replaced with corrugated iron. Another fire in mid-1980 destroyed most of the farmhouse, and now only the walls remain. The orchard was established with peach, pear, fig and pomegranate trees, still visible in 1989 but now gone. The orchard was irrigated from the river by means of a weir and sluice gates. It is believed that Marais also planted a vineyard but it no longer exists.

The family cemetery still exists, some 500 metres north of the house, now overgrown and vandalised. Sarel Marais' grave is in the cemetery. He died in 1897, aged 83. Marais' son Jakob took over the farm when his father died, but since Jakob had no sons (he had 10 daughters from two marriages), he sold the farm in 1917 to the Quilliam family. They developed the farm, successfully farming dairy, with 10 000 pigs, growing lucerne, barley, and mielies. The City Council bought the farm around 1950, after most of the Quilliam family had left and grandfather Quilliam had died. His wife remained on the farm until it became unsafe for her to stay. Since she moved out in the mid-1980s, the farmhouse has burnt down and been vandalised, and all that remains are the walls (www.joburg.org.za).

No objects, sites or features of any cultural (archaeological or historical) heritage significance were found in the area of the Heritage Walk Down. If any existed these would have been disturbed or destroyed by past agricultural activities (ploughing and crop growing) and other developments such as the substations and existing Power Line and road. Archaeological visibility was also made difficult by dense vegetation and grass cover.

The two areas located during the walk down contains the remains of unidentified, but recent, farming activities in the area. The sites and features are not significant, and are located outside the route of the proposed line and will therefore not be impacted on. As mentioned dense vegetation made visibility difficult and care should be taken when the development commences. The presence of low, stone-packed graves in the area is always a possibility, and if these are found proper mitigation measures need to be implemented. Recommendations regarding possible mitigation measures are put forward at the end of the report.

The GPS locations for the two areas with recent agricultural remains are:

1. **S26.59422 E 27.98204**
2. **S26.59298 E 27.98210**



**Figure 9: Remains of recent farming-related structures.
The function of these is unknown**

8. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the Heritage Walk Down for the proposed new 275Kv Power Line between the Glockner and Kookfontein substations near Vereeniging in Gauteng was conducted successfully. No cultural heritage (archaeological and historical) sites, features and objects were identified in the area. No only features recorded are the remains of recent farming-related structures. These are not significant, and will not be impacted by the development of the new line.

Dense vegetation in the area made visibility difficult, and it is possible that sites and features, such as low, stone packed graves could have been missed. **Care should therefore be taken when the development commences, and should anything be identified suitable mitigation measures be implemented. This will include reporting the finds to an expert so that it could be investigated.** Furthermore, if any cultural heritage sites, features or objects existed here in the past these would be have been extensively disturbed or destroyed by past agricultural activities (ploughing and crop growing) and other developments such as the substations and existing Power Line and road.

Finally, it should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken during any development activities that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate.

Finally, from a Cultural Heritage point of view the development can continue, taking into consideration the recommendations put forward in the report.

9. REFERENCES

Aerial view of development location: Courtesy Google Earth

Topographic Location of development: Courtesy Map Source 2010

Map of Power Line Route: Provided by BAAGI Environmental (courtesy ESKOM)

Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie**. Pretoria: R.D. Coertze.

Knudson, S.J. 1978. **Culture in retrospect**. Chicago: Rand McNally College Publishing Company.

Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

Pelser, A.J. & A.C. van Vollenhoven. 2009. **A Report on a Heritage Impact Assessment study for the Power Line from Glockner-Kookfontein Substations Vereeniging, Gauteng**. Unpublished Report Archaetnosc cc AE902. For BAAGI Environmental Consultants.

Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (ed.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

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

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.

APPENDIX C

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

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