Archaetnos Culture & Cultural
Resource Consultants
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A REPORT ON AN ARCHAEOLOGICAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED KUDU-HALFGEWONNEN SOUTH TRACTION 88kV LILO ESKOM LINE AND KROMKLIP TEE-VAN DYKS TEE, MPUMALANGA PROVINCE

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REPORT: **AE01506V**

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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. It is the responsibility of the client to submit the report to the relevant heritage authority.

SUMMARY

Archaetnos cc was appointed by Texture Environmental Consultants to conduct a cultural heritage impact assessment for the proposed ESKOM Kudu-Halfgewonnen South Traction 88kV Lilo line. The line will run between the proposed Haasfontein Switching station on the farm Geluk to the farm Koornfontein. Another section to be investigated was the Kromklip Tee to Van Dyks Tee, consisting of a 2 x 88kV line. This is to the south of the Komati Power Station and the east of Ogies, south of Emalahleni in the Mpumalanga Province.

For Kudu-Halfgewonnen, four options for the route and two options for the switching station were investigated. The fieldwork undertaken revealed no sites of cultural heritage significance. The main reason for this is the disturbance of the area due to agricultural activities. From a heritage perspective there is therefore no specific preference for any of the proposed routes and substation positions.

For Kromklip-Van Dyks, one option was investigated. Two sites of heritage significance were identified. The necessary mitigation measures are proposed. Only after implementation of these the project may continue.

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

CONTENTS

1. INTRODUCTION

Archaetnos cc was appointed by Texture Environmental Consultants to conduct a cultural heritage impact assessment for the proposed ESKOM Kudu-Halfgewonnen South Traction 88kV Lilo line. The line will run between the proposed Haasfontein Switching station on the farm Geluk to the farm Koornfontein. Another section to be investigated was the deviation of the Kromklip Tee to Van Dyks Tee, consisting of a 2 x 88kV line. This is to the south of the Komati Power Station and the east of Ogies, south of Emalahleni in the Mpumalanga Province (Figure 1-4).

Figure 1: Location of the surveyed area for Kudu-Halfgewonnen in Mpumalanga. North reference is to the top.

Figure 2: Location of the Kudu-Halfgewonnen surveyed area in relation to Emalahleni in Mpumalanga. North reference is to the top.

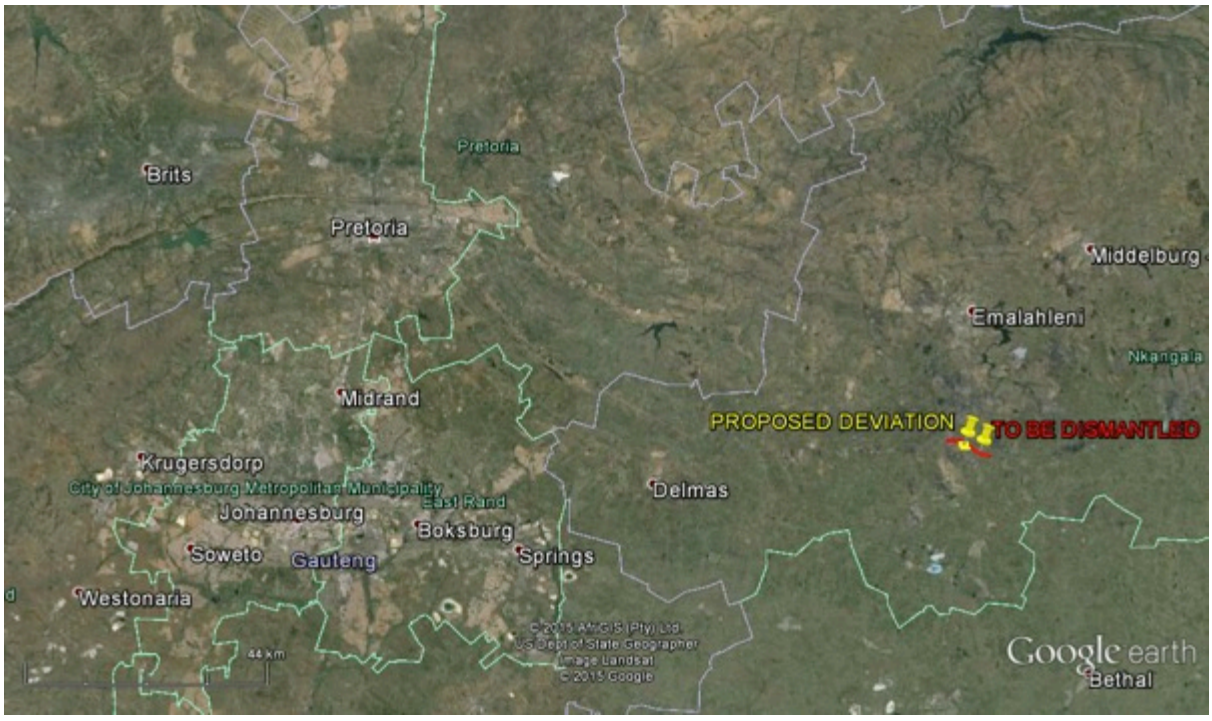

Figure 3: Location of the Kromklip-Van Dyks project in Mpunalanga. Nort reference is to the top.

Figure 4: Location of the Kromklip-Van Dyks surveyed area in relation to the town of Ogies. North reference is to the top.

The projects form part of a larger development (Figure 5) that includes the following:

1. Constructing of a Haasfontein 88kV switching station with 3x88kV feeder bays
2. Create a LILO configuration on the existing Kudu-Halfgewonnen South 88kV line
3. Construct a 2km 88kV line from the LILO on Kudu-Halfgewonnen South to the Haasfontein 88kV switching station
4. Construct a 0.5km line from Komati MTS 88kV to Kudu-Halfgewonnen South 88kV switching station
5. Build a second 2km 88kV line from LILO to the Haasfontein 88kV switching station
6. Dismantle the existing 14km line (Geluk-Van Dyks Drift Traction Tee) and build a 7km 88kv line from the new Haasfontein 88kV switching station to Van dykes drift traction Tee station
7. Dismantle the 9.5km 2x88kV lines from Kromklip Tee to Van Dyks Coll Tee station.

For Kudu-Halfgewonnen four options for the route and two options for the switching station were investigated (Figure 6-7). For the Kromklip-Van Dyks deviation only one option was investigated (Figure 8-9). The client indicated the area where the proposed development is to take place. The survey was confined to this area.

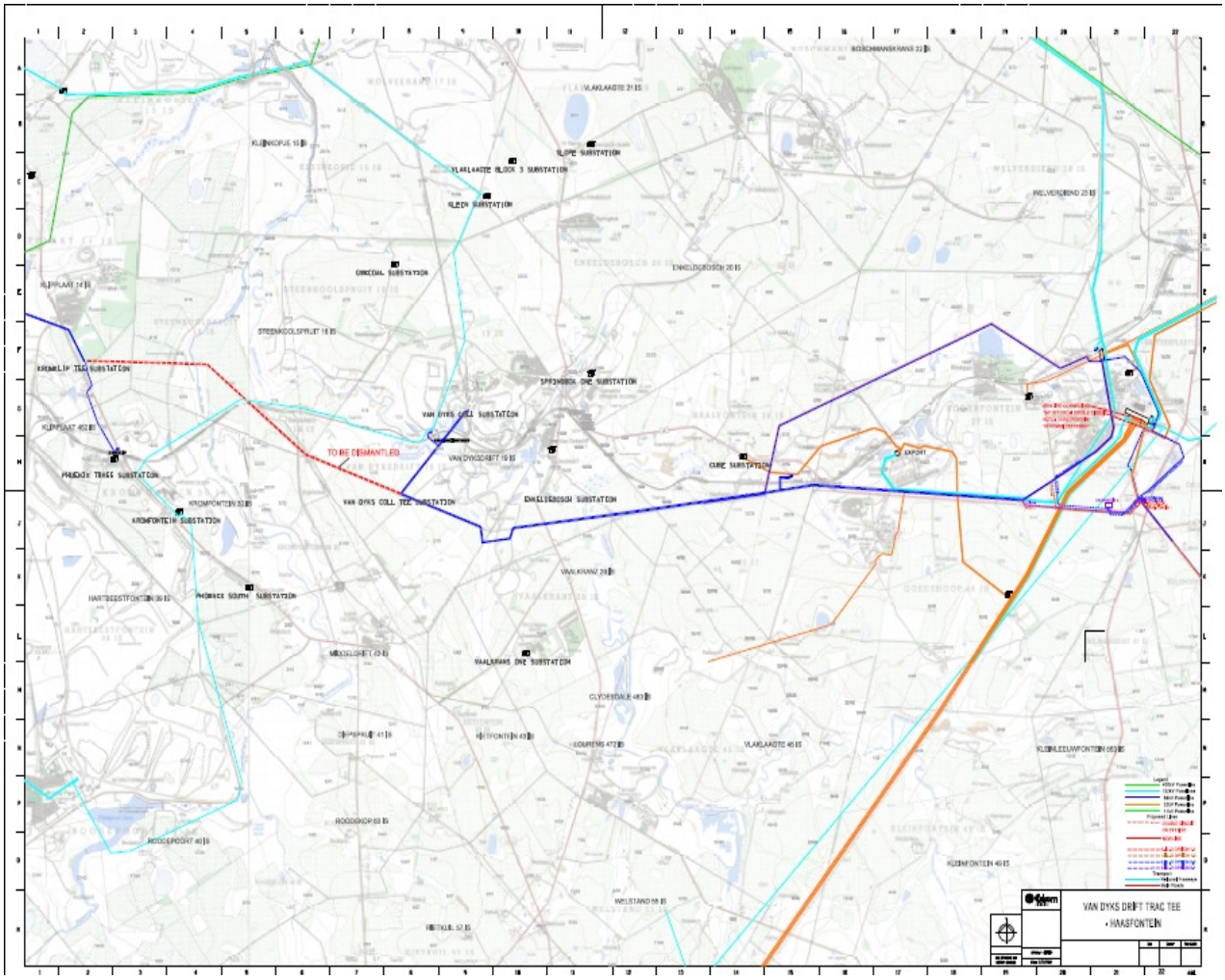

Figure 5: Map indicating the larger project specifications.

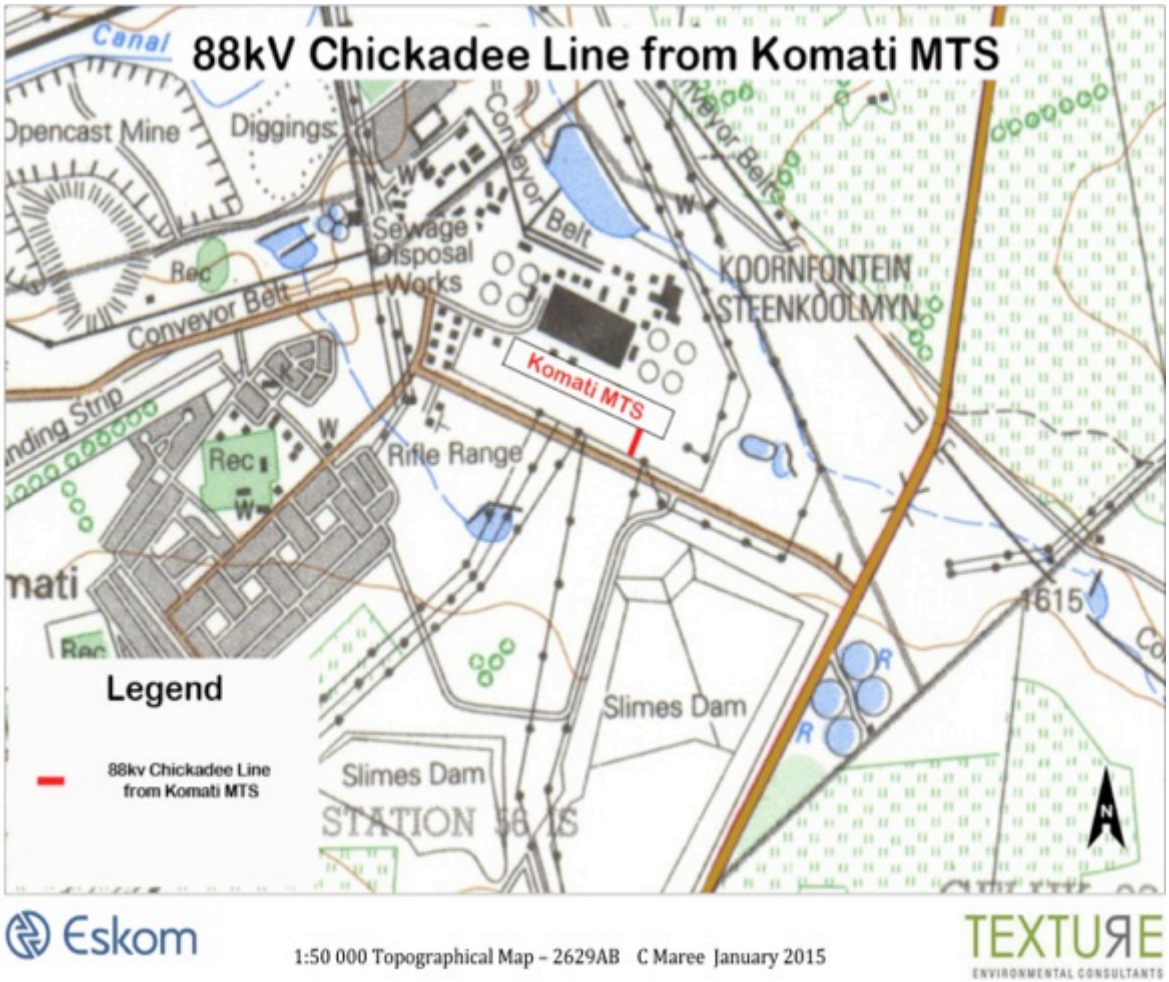

Figure 6: Map indicating proposed line between the Komati MTS and the remainder of the proposed development.

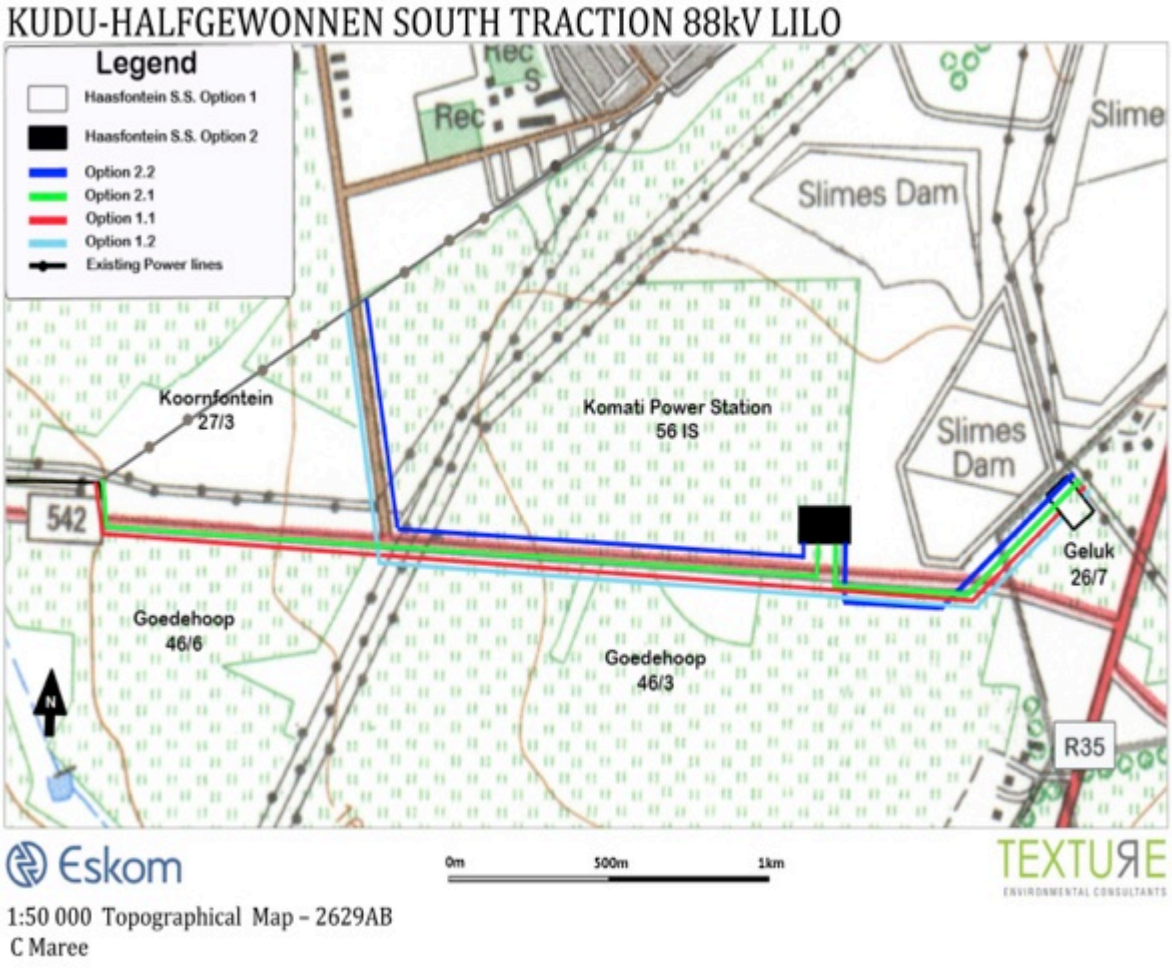

Figure 7: Map indicating the four proposed route alternatives and the two proposed substation positions.

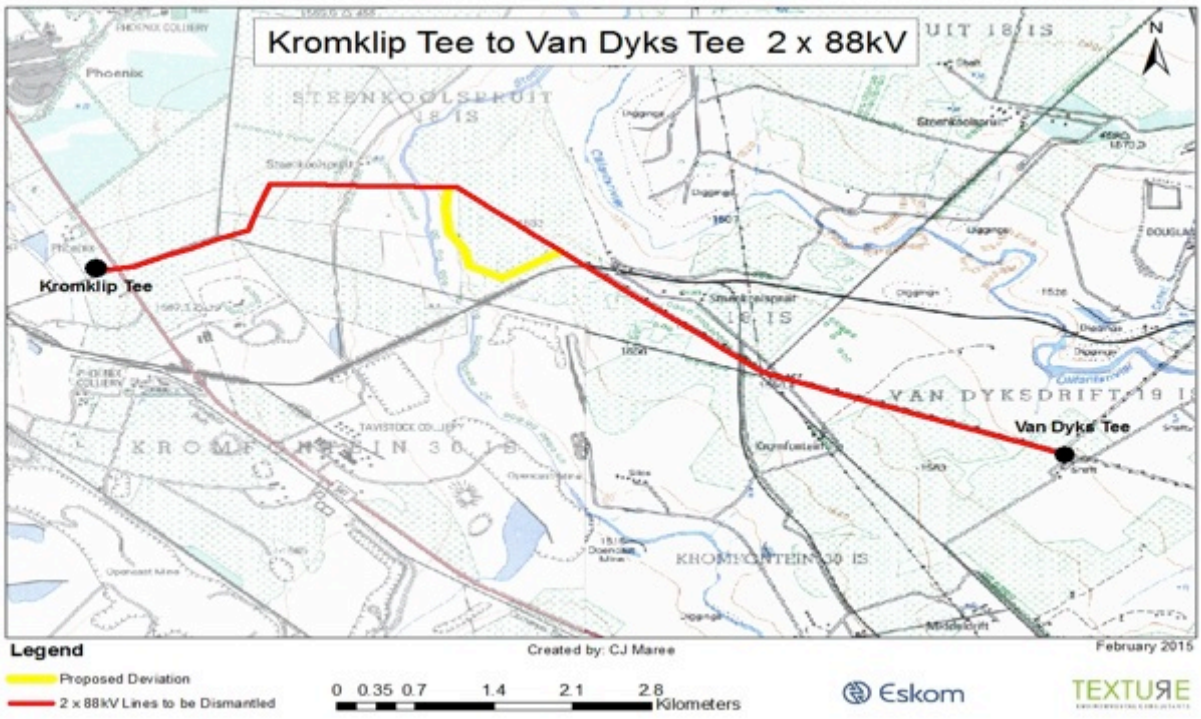

Figure 8: Map indicating the lines to be dismantled resulting in the Kromklip-Van Dyks deviation.

Figure 9: Google image indicating the Kromklip-Van Dyks deviation. North reference is to the top.

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 on the property (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.

5. Recommend suitable mitigation measures should there be any sites of significance that might be impacted upon 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, 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 occur.

7. In this particular case the grass under footing was quite dense which had a negative effect on archaeological visibility. However the vegetation was short to medium in length which made archaeological visibility better. Certain areas also consisted of agricultural fields, which were freshly ploughed and therefore had a good archaeological visibility.

8. For the Kromklip-Van Dyks line access was restricted and it was not possible to enter the mining area where the deviation line is to be placed.

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 or 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
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 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
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 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.

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 clients abiding to the law 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 is 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 effected communities. Again professionals should carry out the work and adhere to the best available techniques.

It is necessary to engage into consultation with affected communities. This entails that access to such communities should be granted 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 effected 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 regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

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 a physical survey via off-road vehicle and on foot (Figure 10-11). The length of the proposed Kudu-Halfgewonnen route is approximately 2,5 km (x 4 alternatives) and the areas for the substations about 1 Ha each. The survey took 4 hours to complete. The Kromklip-Van Dyks route is approximately 6 km long and also took 4 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.

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

Figure 10: Track route of the Kudu-Halfgewonnen surveyed routes.

Figure 11: Track route of the Kromklip-Van Dyks survey[2].

[2] Note that the track only covers the southern edge of the area as access could not be granted on mine property.

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 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 ENVIRONMENT

The specific farms influenced by the development are Geluk 26 IS, Goedehoop 46 IS, Komati Power Station 56 IS, Steenkoolspruit 18 IS and Koornfontein 27 IS. Option 1 for the proposed Haasfontein Substation is on the farm Geluk (Figure 12-13) and option 2 on the farm Komati Power Station (Figure 14).

All four route options FOR Kudu-Halfgewonnen start at Geluk (from the proposed substation position) and run towards the south-west for a short distance. It then turns west and runs to the south of the road (see Figure 12).

Option 1.1 and 1.2 continues westwards from here (Figure 15). Option 1.1 ends about 1,5 km further where it links up with existing power lines (Figure 16). Option 1.2, however turns towards the north, following another road to link up with existing power lines (Figure 17-18).

Option 2.1 and 2.2 crosses the road and ends at the proposed position option 2 of the Haasfontein Substation. From here option 2.1 also runs towards the west on the southern side of the road with option 2.2 running on the northern side of the road (Figure 19). Option 2.1 ends at the same place as option 1.1 and option 2.2 at the same place as option 1.2.

The route deviation for Kromklip-Van Dyks runs along a mine road in a south-western direction (Figure 20-21). It then follows a farm roughly in a northern direction, up to the point where it links up with the existing line.

The area has been disturbed to a large extent. This includes agricultural fields, old fields, mining infrastructure and existing power lines. Small sections of the routes have natural grass of a medium height.

The topography of the area is basically flat with some rolling hills. A few small streams also run through the area. The latter includes the Steenkoolspruit.

Figure 12: Agricultural fields and the slimes dam at the Komati Power Station, close to option 1 for the proposed Haasfontein Substation.

Figure 13: General view at option 1 for the Haasfontein Substation as well as along all four route alternatives for the line close thereto.

Figure 14: Agricultural fields at the option 2 of the proposed Haasfontein Substation.

Figure 15: Maize field along route options 1.1, 1.2 and 2.1.

Figure 16: Agricultural field at area where route option 1.1 and 2.1 ends.

Figure 17: General view of area along route option 1.2 and 2.2.

Figure 18: View of the area where option 1.2 and 2.2 ends.

Figure 19: View along route option 2.2.

Figure 20: View along the southern section of the Kromklip-Van Dyks deviation.

Figure 21: Another view along the southern section of the Kromklip-Van Dyks deviation.

8. HISTORICAL CONTEXT

During the survey no sites of cultural heritage significance were located at the Kudu-Halfgewonnen area to be developed. Two sites were however identified at the Kromklip-Van Dyks line.

Since it always is possible that more archaeological sites may become known later, the developer needs to note that such sites need to be dealt with in accordance with the legislation discussed above. Therefore in order to enable the reader to better understand possible archaeological and cultural features that may be unearthed during construction activities, it is necessary to give a background regarding the different phases of human history.

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.

This geographical area is not known as an area containing prehistoric sites. No Stone Age sites are for instance indicated on a map contained in a historical atlas of this area (Bergh 1999: 4). The closest known Stone Age occurrence is a Late Stone Age site at Groenvlei, close to Carolina and that of rock art close to the Olifants River to the south of Witbank (Bergh 1999: 4-5). This may however only indicate a lack of research in the area.

The environment is such that it does not provide much natural shelter and therefore it is possible that Stone Age people did not settle here for long periods of time. They would have however been lured to the area due to an abundance of wild life as the natural vegetation would have provided ample grazing. One may therefore find small sites or occasional stone tools.

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.

Iron Age sites have been identified to the south of the area, around Bethal which lies far to the south-east of the surveyed area (Bergh 1999: 7). These all are dated to the Late Iron Age. Sites such as these are known for extensive stone building forming settlement complexes. No indication of metal smelting was identified at any of these sites (Bergh 1999: 8).

It is also known that the early trade routes did not run through this area (Bergh 1999: 9). However one should bear in mind that many of these areas may not have been surveyed before and therefore the possibility of finding new sites is always a reality.

The type of environment around the Komati Power Station definitely is suitable for human habitation. There is ample water sources and good grazing. One would therefore expect that Iron Age people may have utilized the area. This is the same reason why white settlers later on moved into this environment.

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.

At the beginning of the 19th century the Phuthing, a South Sotho group, stayed to the east of where Komati is situated. During the Difaquane they fled to the south as Mzilikazi's impi moved in from the southeast (Bergh 1999: 10-11; 109).

The first white traveler to visit these surroundings was Robert Scoon in 1829. The first Voortrekker groups of Hans van Rensburg and Louis Tregardt also passed close to this area in 1836 (Bergh 199: 13-14). The first white farmers only settled here during the late 1850's (Bergh 1999: 18-20).

One may therefore expect to find remains of buildings as well as graves dating to this period in time. In fact, graves were identified close to the Komati Substation during previous surveys by Archaetnos (Archaetnos database) as was graves found on the surrounding farms as was various farm buildings (Fourie 2012).

9. DESCRIPTION OF HERITAGE SITES FOUND DURING THE SURVEY

As indicated before, two sites were identified close to the Kromklip-van Dyks line. However, the following needs to be indicated:

- The grave yard found was not on the deviation which was surveyed, but on the section of the line to be dismantled. It therefore was outside of the study area. Although outside of the scope of this study, it should be mentioned in order for the client to be aware thereof and handle it correctly.

- The farm yard found, was identified via Google since it was not possible to gain access to this area during the survey. Therefore information is limited.

9.1 Site 1 – Grave yard

The site identified was also identified by Fourie (2012). It consists of 141 graves (Figure 22) which will be relocated soon, due to the expansion of the mine.

GPS: 26˚06'00.2"S
29˚15'47.1"E

Graves are always regarded as having a high cultural significance. The field rating is Local Grade IIIB. It may be mitigated, and should be included in the heritage register.

Figure 22: Some of the graves at site no.1.

9.2 Site 2 – farm yard

As this is in the area that could not be accessed, Google was used to find possible sites. It therefore is not possible to determine the age and importance of the site, or whether it is associated with graves (farms yards are normally associated with graves). A map provided by the client, did indicate a grave yard in this area, but since it could not be accessed, it could not be verified.

GPS: 26˚51'14.18"S
29˚14'22.11"E

The site is approximately 100 m from the proposed line. This is enough of a buffer zone and ESKOM should just ensure that they steer clear thereof. The same goes for possible graves.

10. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the assessment of the area was conducted partially successfully. The area that could not be accessed is a concern as one site has been identified here by other means. It therefore is possible that there may be more. One other site, a grave yard, was found, however outside of the surveyed area, but close to the power line that will be dismantled. The sites identified are indicated in Figure 23.

Figure 23: Google image indicating the two sites mentioned in the report.

The final recommendations are as follows:

- The proposed development at Kudu-Halfgewonnen may continue. No further measures are needed.

- From a heritage perspective there is no preference for any of the two proposed positions for the Haasfontein Substation. Any of these may be used.

- From a heritage perspective there also is no preference for any of the four alternative routes for the power lines. Any of these may be used.

- It seems that the grave site found at the section of line that will be dismantled, will be relocated by the mine. If this happens before dismantling of the line, ESKOM may just continue with the dismantling. Should it only happen after dismantling, ESKOM will have to take care not to damage the site and individual graves.

- ESKOM will also have to steer clear from any other grave site or other heritage feature identified. A buffer zone of 20 m is proposed. This would also be the case with the possible grave site in the area that could not be accessed as well as the farm yard identified via Google.

- 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 when development work commences that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate.

- ESKOM will need a heritage protocol in place, meaning that they should stay at least 20 m from any heritage site encountered during the development, including those identified thus far.

- To assist with this, a walkdown is proposed on the Kromklip-Van Dyks deviation, once pylon positions have been finalized. This should result in information being available on possible sites which would improve planning.

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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.
Aestetic 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.