

9-2-281-0016-20010901-~~ACHMC~~ 9/2/281/16
ACHMC

Boekenhoutfontein Naboomspruit powerlines

TO:
ESKOM
PIETERSBURG

A PHASE I ARCHAEOLOGICAL SURVEY FOR THE
PROPOSED NEW 132 KV TRANSMISSION LINE BETWEEN
THE BOEKENHOUTFONTEIN SUBSTATION AND THE
NABOOMSPRUIT SUBSTATION IN THE NORTHERN
PROVINCE OF SOUTH AFRICA

Dr Julius CC Pistorius
Archaeologist and Cultural Heritage Management Consultant
352 Rosemary Street
LYNNWOOD 0081
Pretoria
Telephone/Fax (012) 348 5668
September 2001

CONTENTS

INTRODUCTION

ARCHAEOLOGICAL REMAINS AND LEGISLATION

The Environment Conservation Act (Act No 73 of 1989)

The Minerals Act (Act No 50 of 1991)

The National Heritage Resources Act (Act No 25 of 1999)

THE AIM OF THIS REPORT

THE STUDY AREA

METHODOLOGY

Part AB

Part BC

Part CD

Part DE

Part EF

CONCLUSION

BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE ON THE
NORTHERN PROVINCE AND ON THE MPUMALANGA PROVINCE

BIBLIOGRAPHY OF SCIENTIFIC ARTICLES DONE ON THE NORTHERN
PROVINCE AND ON THE MPUMALANGA PROVINCE

INTRODUCTION

This report is the result of a Phase I archaeological survey study done for Eskom near Naboomspruit in the Northern Province of South Africa. Large parts of the Northern Province, including Pietersburg, Phalaborwa, parts of the Lowveld and areas to the north and south of the Soutpansberg, have been explored for archaeological remains in the past.

These explorations have shown that the Northern Province has a rich archaeological heritage comprised of remains dating from the prehistoric and the historical past. Prehistoric and historical remains in the Northern Province reflect the cultural heritage of most groups living in South Africa today. Some of these remains include:

- lime stone caves near Potgietersrus where hominids (ape-man creatures) lived in South Africa perhaps as long as 1 million years ago;
- Stone Age sites which may be associated with the San people and which date back hundreds of thousands of years;
- rock engraving and rock painting sites which date from the last 20 000 years;
- Early Iron Age sites occupied by the first Bantu-Negroid agriculturists and possibly cattle herders which date back 1 700 years;
- Late Iron Age sites dating from the last 500 years;
- Trade routes dating back for centuries and wagon trails along which trade items were moved between the interior of the country and the East Coast;
- remains dating from the previous century when the first Immigrant Boers settled at Potgietersrus and other places from the 1840's onwards;
- block houses built by British troops on mountain ranges during the Anglo-Boer War (1899-1900);
- graves and graveyard sites dating from historical and prehistoric times; and
- numerous other formal historical features (the Potgietersrus Museum, historically reconstructed features at Leydsdorp, the Pietersburg Museum

with the Bakone Lapa as one of its satellite museums, Foskor's Museum in Phalaborwa, the Masorini and Thulamela archaeological site museums in the Kruger National Park, the Schoemansdal open air museum near Louis Trichardt, etc).

ARCHAEOLOGICAL REMAINS AND LEGISLATION

The study area is situated in the archaeologically sensitive Naboomspruit area in the Northern Province. All settlements older than a hundred years and historical houses and other infrastructure older than sixty years located in this region are protected by legislation. A synopsis of the relevant legislation is provided below. It must serve as a guideline to be considered before any development project is undertaken.

The Environment Conservation Act (Act No 73 of 1989)

The Environment Conservation Act (Act No 73 of 1989) makes provision for the drawing up of reports concerning the impact on the environment of activities identified and prohibited in terms of Sections 21 and 22 respectively. These reports must evaluate the impact that development may have on the natural and man-made environment, and this includes archaeological sites.

Local and regional authorities (Town Councils, Regional Governments and Regional Services Councils) also have regulations requiring evaluation of the possible effects that rezoning and development schemes may have on the environment, including the cultural environment. These regulations must be studied to ensure that they are implemented correctly.

The Minerals Act (Act No 50 of 1991)

The Minerals Act (Act No 50 of 1991) and the Minerals Amendment Act (Act No 103 of 1993) require plans for the conservation of the environment at or in the vicinity of any mine or works to be detailed in an environmental management programme (EMP). The EMP must indicate how the natural and the 'man-made' environment will be protected and rehabilitated during and after the mining.

The National Heritage Resources Act (Act No 25 of 1999)

The National Heritage Resources Act (Act No 25 of 1999) requires all developers (including engineers, farmers [agriculturists] and mines, previously excluded from the bill) to undertake impact assessment studies whenever any development activities are undertaken. The law also provides guidelines for impact assessment studies to be done whenever cultural resources may be destroyed by development activities. Permits have to be acquired from the South African Heritage Resources Agency (SAHRA) before a heritage site can be affected or destroyed during the course of development activities.

Archaeological impact assessment studies have therefore become a common procedure for all development activities, even if such development may be exempted in terms of the Environment Conservation Act.

The new law stipulates the types of remains which qualify as cultural resources (heritage). These cultural resources are classified as national, provincial and other cultural heritage resources. The law stipulates general principles for heritage resources management and involves all three levels of government in the management of the country's cultural heritage. The law also requires community participation in the protection of living heritage resources.

SAHRA establishes and maintains a national policy, strategy plans and standards for heritage resources management and monitors the system as a whole. Heritage authorities assist and co-operate with individuals and organisations concerned with the study, the conservation and the promotion and utilisation of national heritage resources. A newly established National Heritage Resources Fund provides financial assistance for heritage projects.

THE AIM OF THIS REPORT

Eskom intends to establish a 132 kV transmission line between the Boekenhout substation in the south and the Naboomspruit substation in the north. Eskom therefore requires knowledge of the presence and/or the significance of any cultural resources that may occur in or close to the proposed new transmission line corridor, because such remains may be affected, damaged or destroyed by the proposed development activities. Consequently, Eskom commissioned me to undertake a Phase I archaeological survey. The aim of the survey was to determine whether any significant cultural resources occur in or close to the proposed new transmission line corridor between the Boekenhout substation and the Naboomspruit substation and, if so, whether such remains will be affected during the construction of the proposed new transmission line.

THE STUDY AREA

The proposed new transmission line corridor is situated between the farms Boekenhoutfontein 526 KR in the south and Viakfontein 522 KR in the north. The study area is located to the south of the town of Naboomspruit. The nearby town of Nylstroom was established near the source of a river the Voortrekkers believed was the source of the Nile River that appeared in a drawing in their Bibles. Naboomspruit came into being in 1910 after tin was discovered in the Waterberge by the prospector Adolph Erasmus. Miners streamed into the district and canteens and trading stores sprang up along the banks of the Naboomspruit. These early activities eventually led to the development of the present town.

Eskom intends to construct a new 132 kV transmission line between the Boekenhoutfontein substation and the Naboomspruit substation. This transmission line runs across or along the borders of the following farms: Boekenhoutfontein 526 KR, Hartbeestlaagte 525 KR, Kontant 524 KR, Weltevreden 526 KR and Viakfontein 522 KR. The total length of the proposed new power line is approximately 14 km. The study area is a level stretch of land with the town of Naboomspruit to the north and the Nylsvley Nature Reserve to the south and east. The proposed new transmission line is located approximately one kilometre to the west of the Nylsvley Nature Reserve. Part of the majestic Waterberge can be seen to the west.

The study area is not a pristine piece of land any more. One half of the proposed new transmission line corridor runs along a railway line, while the second half will run along the national road leading to Naboomspruit. Cultivated lands abound on farms such as Viakfontein, Kontant and Weltevreden while farm stalls, stock pens, quarries, dam walls and part of the old tar road leading to Naboomspruit have disturbed the proposed new transmission line corridor in the northern part of the study area. Parts of the proposed new transmission line corridor were also scarred when the road leading to Naboomspruit and the new road to Nylstroom, which turns off from the Naboomspruit road, were built. Several houses and outbuildings were also built in more recent times along (or to the east) of the railway line (Option 2).

METHODOLOGY

The survey was done from the Boekenhoutfontein substation in the south to the Naboomspruit substation further to the north (1: 50 000 topographical map, 2428 DA Naboomspruit). The survey was primarily done using a vehicle. Where access to the proposed new transmission line corridors was available, spot checks were done on foot to determine the possible presence of cultural resources. The total length of the transmission corridor that was surveyed is approximately 14 km.

The proposed new power line corridor was divided into five parts (AB, BC, CD, DE and EF) using a bend or a geographical feature to establish the dividing points. This division helped with the survey and to clarify the description of the proposed new transmission line corridor. Eskom reserves two options for the construction of Part AB of the power line. Option 1 would be to build the transmission line to the west of the railway line, while Option 2 would be to build the transmission line to the east of the railway line. The survey of the five parts revealed the following:

Part AB

This part of the transmission line will run from the Boekenhoutfontein substation in the south to where the transmission line will turn to the west in order to cross the national road from Naboomspruit leading to the N1 and the road from the N1 leading to Naboomspruit. Part AB of the proposed new transmission line corridor is straight. There are two options. Part AB, Option 1, would take the transmission line over a part of Boekenhoutfontein, Hartbeestlaagte and Kontant to the west of the railway line. Part AB, Option 2, runs over a part of Boekenhoutfontein, Hartbeestlaagte and Weltevreden to the east of the railway line. Part AB (Option 1 or Option 2) of the proposed new transmission line between the Boekenhoutfontein station to where Option 1 or Option 2 will cross the two tar roads is approximately 7 km long.

Neither Option 1 nor Option 2 of Part AB is an unaffected piece of land. Only small stretches of indigenous bush still exist on both sides of the railway line. Both sides of the railway line have been particularly affected by agricultural activities in the past. The agricultural fields are more conspicuous to the east of the railway line than to the west of the railway line. A dirt road has also been built parallel and to the east of the railway line. Some of the man-made features and results of human activities along Part AB include a plantation of Bluegum

tees bisected by the railway line as well as the proposed new Option 1 and Option 2 transmission line corridors.

The last section of Option 2 (east of the railway line), before the proposed new power line corridor turns to the west in order to cross the two tar roads, contains several modern buildings such as houses and outbuildings. The ruins of houses, mostly rudimentary dwellings for labourers, also occur in this section of Option 2. These structures date from the recent past and have no historical significance.

No cultural resources of any significance were observed along either Option 1 or Option 2 of Part AB of the proposed new transmission line corridor.

Figure 2. The Boekenhoutfontein substation where Part AB (Option 1 or Option 2) will leave the substation. Note the stand of Bluegum trees in the background, bisected by the railway line. The tress occur in both Option 1 and Option 2 of the proposed new transmission line corridor.

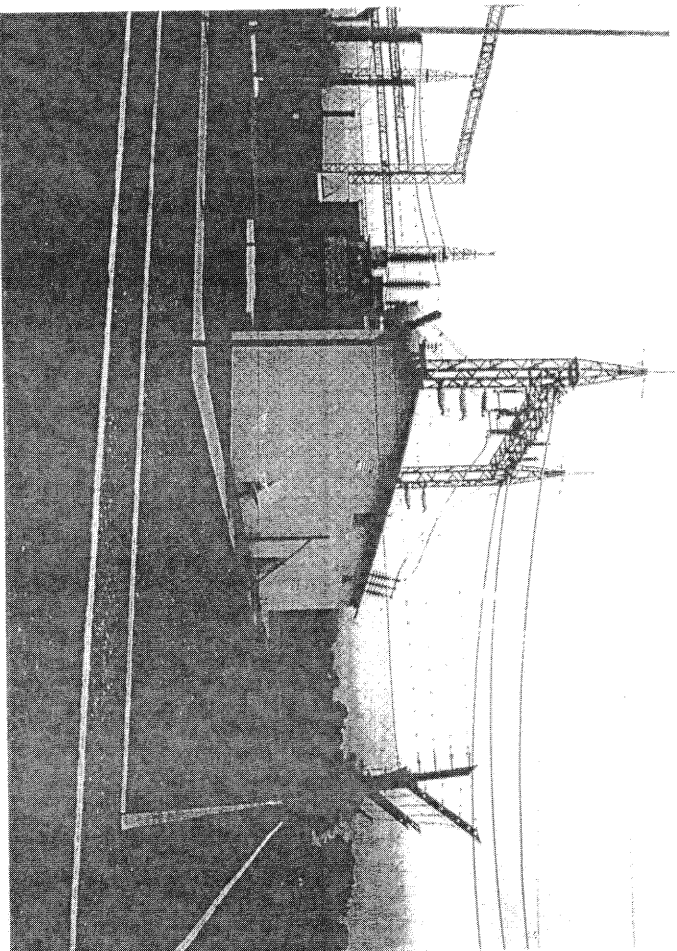


Figure 3. The stand of Bluegum trees near the Boekenhoutfontein station is bisected by both Option 1 and Option 2 of Part AB. The trees have scarred large surface areas on both sides of the railway line.

Part BC

This part of the proposed new transmission line corridor is approximately 2 kilometers long and is therefore the shortest of the parts surveyed. Part BC running either to the west (Option 1) or to the east (Option 2) of the railway line runs north-westwards in order to cross the two national roads leading from the N1 to Naboomspruit and from Naboomspruit to the N1.

Part BC of the transmission line runs close to the boundaries of Vlakfontein and Kontant which were already disturbed by agricultural activities as early as 1981, according to the 1:50 000 topographical map of Naboomspruit (2428 DA). A dirt road leading to an overhead bridge that crosses the two tar roads was also built through Part BC of the proposed new transmission line corridor.

No cultural resources of any significance were observed along Part BC of the transmission line corridor.

Figure 4. There are several houses, outbuildings and the ruins of dwellings used by labourers along the second option (Option 2) of Part AB of the proposed new transmission line corridor. Some of the structures are modern (above) while the ruins of others do not have any historical significance.

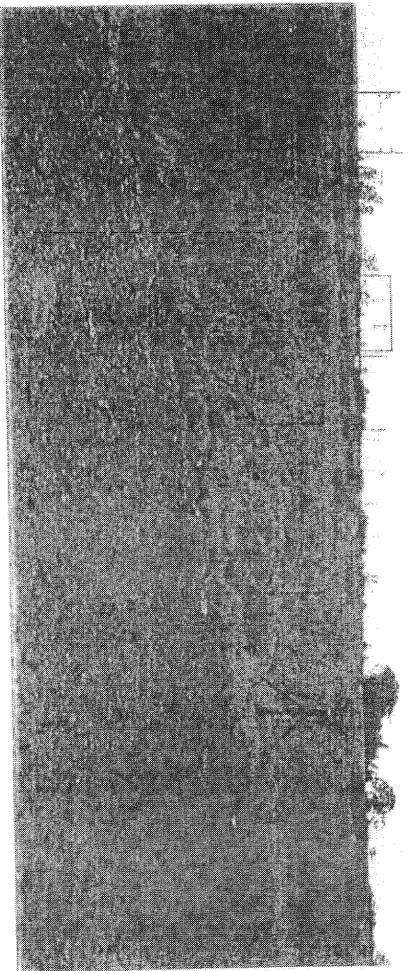


Figure 5. Part BC has been intensely disturbed by agricultural activities in the past as well as by a dirt road that was built through this part of the proposed new transmission line corridor.

Part CD

Part CD runs across Viakfontein from near the overhead bridge that crosses the national road leading from the N1 to Naboomspruit and from Naboomspruit to the N1 road to the Nylstrom turn-off. This part of the proposed new transmission line corridor is approximately 2 to 3 kilometres long and runs parallel and to the west of the two roads referred to above after they have converged into one road.

Part CD of the proposed new transmission line corridor was disturbed as a result of the removal of soil when the national roads to/from Naboomspruit and to/from the N1 were built. This disturbance was exacerbated when a cement dam wall and other earth walls were built next to the tar road in order to control the flow of water from the Waterberg higher up to the west. Agricultural activities also contributed to the scarring of this part of the proposed new transmission line corridor.

No cultural resources of any significance were observed along Part CD.

Figure 6. Part CD runs parallel to the national road leading to Naboomspruit. Bulldozing activities have left scars in this part of the proposed new transmission line corridor. Currently these scars are full of water and look like shallow ponds next to the tar road running to Naboomspruit. Other damages were done when the cement and soil dam walls were built.

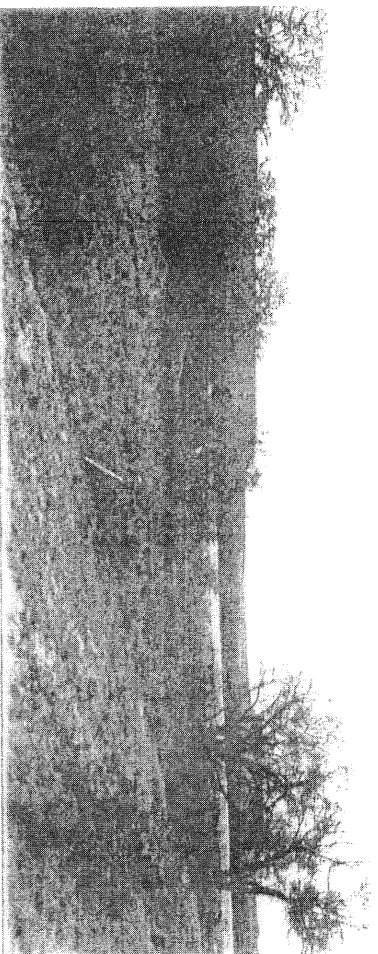
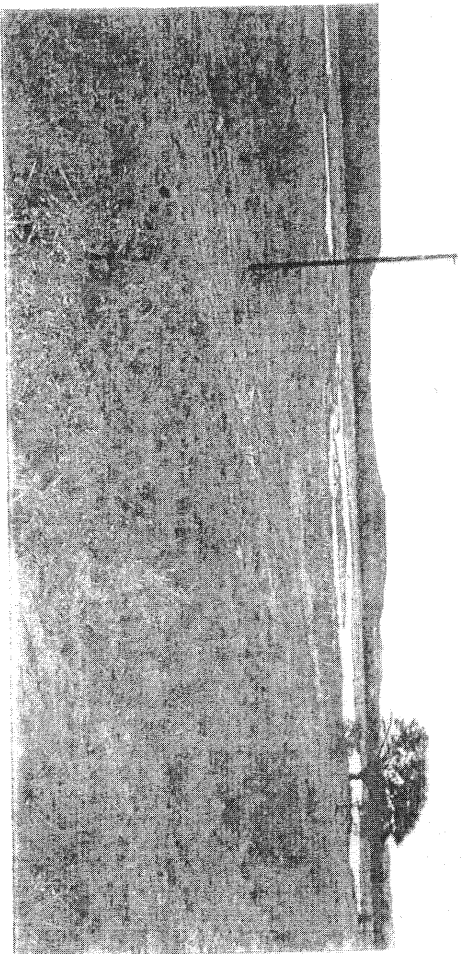


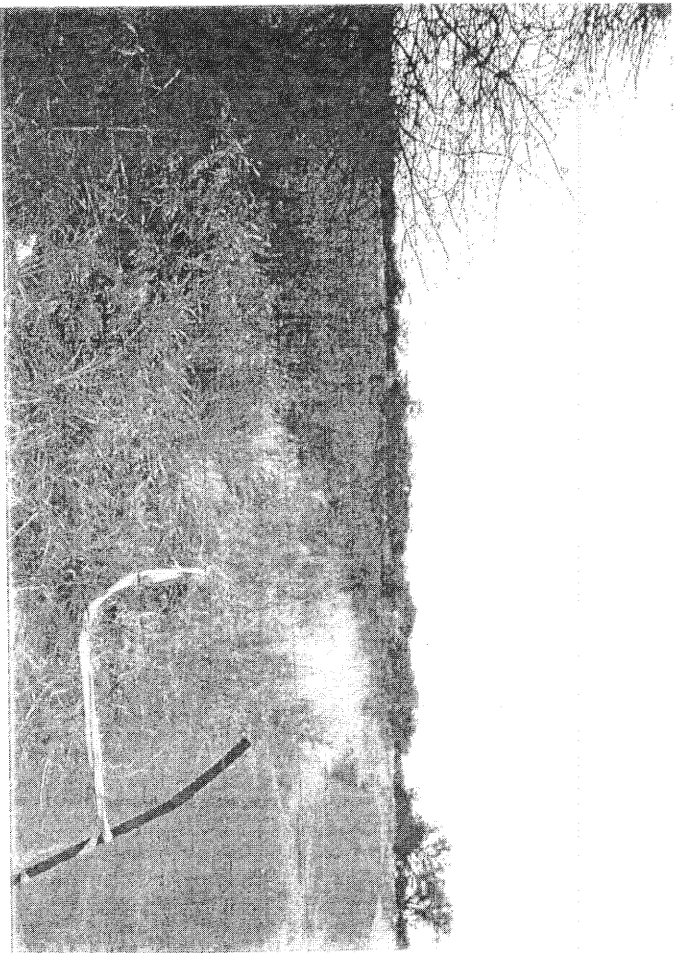
Figure 7. Several walls of earth, and one built with cement (noticeable in the foreground) were built to the west of the national road leading to Naboomspruit. Large surfaces of the proposed Part CD of the transmission line corridor was scarred when soil was moved to build these walls, which either served as dams or controlled the flow of water from higher areas further to the west.

Part DE

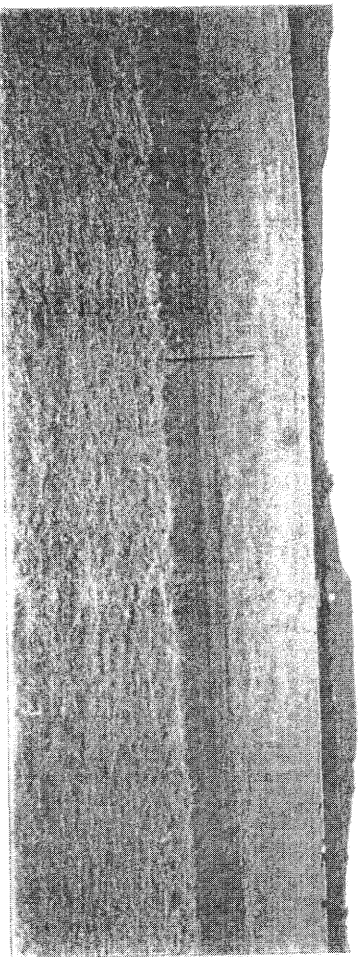
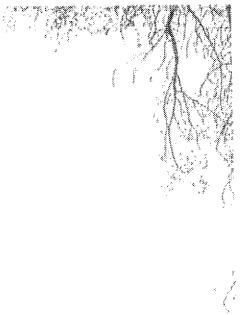
This part of the proposed new transmission line will run over the farm Vlakfontein, from the Nylstroom off-turn to the entrance of the town of Naboomspruit and is approximately 3 to 4 kilometres long. Part DE is an extension of Part CD and therefore runs parallel and to the west of the national road leading to Naboomspruit. This part of the transmission line is characterised by remains and features that reflect various types of activities that have disturbed this part of the proposed new transmission line corridor.

The most conspicuous disturbance that occurred along Part DE of the proposed new transmission line corridor was quarrying for soil, probably to build the national road. Two large quarries also occur next to the national road. Other remains include part of the old national road to Naboomspruit. Remains of this road is are still visible parallel to the present road leading into Naboomspruit. There are at least two farm stalls where vendors sell home-made products, pieces of land currently used to plant crops and a large stock pen in Part DE of the proposed corridor.

No cultural resources of any significance were observed along Part DE of the transmission line corridor.



Figures 8.8 & 9. Parts of the old national road between Nylstroom and Naboomspruit are still visible in Part DE of the proposed new transmission line corridor (above). Sections of Part DE are currently also used to plant crops. These pieces of land are devoid of any bush and any cultural resources (below).



Part EF

Part EF of the proposed new transmission line corridor turns at a ninety degree angle at the entrance of the town of Naboomspruit to the Naboomspruit substation in the west. This part of the proposed new transmission line corridor is approximately one kilometer long. Part EF runs parallel to the most southerly tar road in the town of Naboomspruit.

Part EF runs through an area (located close to the national road leading to Naboomspruit) that was used for stock pens as early as 1981 (1:50 000 topographical map 2428DA Naboomspruit). People living in informal dwellings also occupy this part of the proposed new transmission line corridor. The middle and last section of Part EF runs through natural bush where several dirt roads have been built.

No cultural resources of any significance were observed along Part EF of the proposed new transmission line corridor.

Figure 10. Stock pens and people living in informal dwellings near the Naboomspruit national road have disturbed a large section of Part EF of the proposed new transmission line corridor.

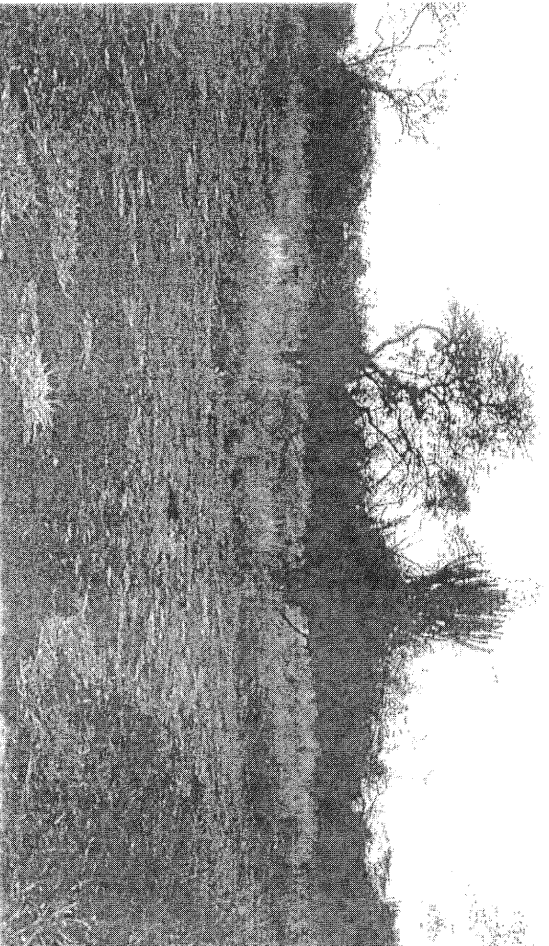
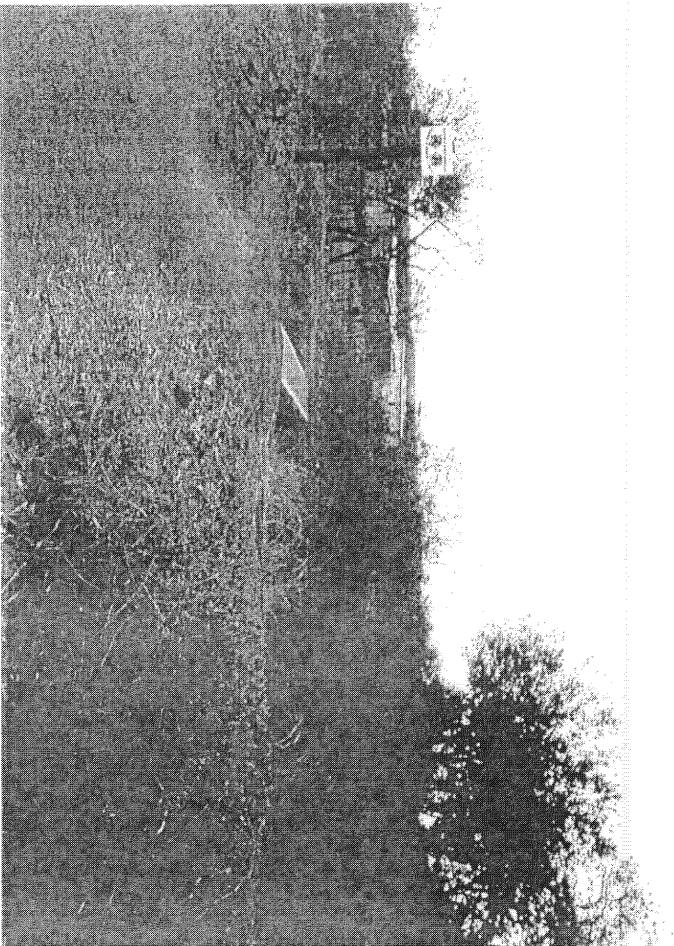


Figure 11. There are numerous dirt roads in the last section of Part EF near the Naboomspruit substation. These roads have contributed to the disturbed nature of this part of the proposed new transmission line corridor.

CONCLUSION

This Phase I survey along the proposed new transmission line corridor between the Boekenhoutfontein substation and the Naboomspruit power station did not reveal any of the types of cultural resources outlined in the introduction to this report.

It is also clear from the Phase I survey that large parts of the study area are no longer untouched. The building of houses, outbuildings and farm stalls as well as other infrastructure such as dirt and tar roads has left scars in parts of the proposed new transmission line corridor. Other human activities such as agricultural activities, the building of a railway line and the removal of soil as well as the presence of stock pens have disturbed the proposed new transmission line corridor.

It can therefore be stated that no cultural resources of any significance were observed in the five parts of the proposed new transmission line corridor where Eskom intends to build its new 132kV transmission line.



DR JULIUS CC PISTORIUS

September 2001

BIBLIOGRAPHY OF ARCHAEOLOGICAL IMPACT STUDIES DONE ON THE NORTHERN PROVINCE AND ON THE MPUMALANGA PROVINCE

- Pistorius, J.C.C. 1995. 'n Argeologiese verkenningssopname van 'n gedeelte van die Nkomatirivierbedding ten suide van die beoogde Sibangi Stuwal binne die Nkomazi Landboubesproeiingskerna. (Medewerker: Morne van der Linde). Verslag voorberei vir Du Plessis & Burger Raadgewende Siviele, Strukturele en Landbou Ingenieurs: Nelspruit. (12pp).
- Pistorius, J.C.C. 1996. 'n Verslag van 'n argeologiese verkenningssopname vir Iscor se beoogde Rooiwaterprojek in Gravelotte in die Noordelike Provinsie. Ongepubliseerde verslag vir Walmesley Environmental Consultants en Iscor. (45pp).
- Pistorius, J.C.C. 1997. Relocation of Langa Ndebele from Ga-Mapela: An assessment of the archaeological potential of the farm Sterkwater (229KKR) and proposal for a cultural heritage management programme in the former sphere of influence of the Langa-Ndebele chiefdom. Unpublished report for Steffen, Robertson and Kirsten and for Amplats. (28pp).
- Pistorius, J.C.C. 1998. Archaeological survey and assessment of Foskor's mining areas in Phalaborwa, Northern Province of South Africa. An addendum to Foskor's Environmental Management Programme. Unpublished Report for Foskor. (245pp).
- Pistorius, J.C.C. 1998. A Phase I archaeological survey for Vodacom on the farm Mooiplaats (147JT) in the highveld district of the Mpumalanga Province of South Africa. Unpublished report for Globecon Environmental and Vodacom. (21pp)
- Pistorius, J.C.C. 1998. A Phase I archaeological survey for Vodacom on the farm Goedverwacht in the Mpumalanga Province of South Africa. Unpublished report for Globecon Environmental and Vodacom. (21pp)
- Pistorius, J.C.C. 1998. Archaeological survey and assessment of Palabora Mining Company's mining areas in Phalaborwa, Northern Province of South Africa. An addendum to Palabora Mining Company's Environmental Management Programme Report. Unpublished report prepared for Palabora Mining Company. (246pp)

- Pistorius, J.C.C. 1998. Archaeological survey and assessment of Fedmis's mining areas in Phalaborwa, Northern Province of South Africa. An addendum to Fedmis's Environmental Management Programme Report. Unpublished report prepared for Steffen, Robertson and Kirsten and Fedmis. (90pp).
- Pistorius, J.C.C. 1998. Report on a preliminary survey and excavation at Modimolle, Phalaborwa. Unpublished report prepared for Foskor. (10pp).
- Pistorius, J.C.C. 1999. A Phase I archaeological survey and assessment for the proposed development of the Messina Platinum Mine near Potgietersrus in the Northern Province of South Africa. Unpublished report prepared for Steffen, Robertson and Kirsten and Messina Platinum Mine. (29pp).
- Pistorius, J.C.C. 1999. A Phase I archaeological survey and assessment for Eagle Granite's Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa. Unpublished report prepared for Eagle Granite Quarries (23pp).
- Pistorius, J.C.C. 1999. A Phase I archaeological survey and assessment for Marlin Granite's Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa. Unpublished report prepared for Eagle Granite Quarries (26pp).
- Pistorius, J.C.C. 1999. A Phase I archaeological survey and assessment for Verde Granite Mine on the farm Mapochsgronde (500JS) in the Mpumalanga Province of South Africa. Unpublished report prepared for Eagle Granite Quarries (28pp).
- Pistorius, J.C.C. 1999. A Phase I archaeological survey and assessment for Impala Imperial Quarry on Portions 500JS and 788JS of the farm Mapochsgronde in the Mpumalanga Province of South Africa. Unpublished report prepared for Eagle Granite Quarries (33pp).

**BIBLIOGRAPHY OF SCIENTIFIC ARTICLES DONE ON THE NORTHERN
PROVINCE AND ON MPUMALANGA**

- Nienaber, W.C. & Pistorius, J.C.C. 1996. Argeologiese Opleidingsopgrawings in die Hans Merensky Natuurreseervaat in die Laeveld (Noordelike Provinsie). *Suid-Afrikaanse Tydskrif vir Ethnologie*. 19(1). pp28-36.
- Pistorius, J.C.C. 1998. African metal working, metaphors and medicines. *South African Journal of Ethnology*. 21(4). pp198-202.
- Pistorius, J.C.C. & Plug, I. 1999. Animal remains from Industrial Iron Age Communities in Phalaborwa, South Africa. *African Archaeological Review*. 16 (3). pp155-184.