

Heritage Walkthrough

FOR THE 132 KM MEDUPI - SPITSKOP TRANSMISSION POWERLINE PROJECT, NORTHAM, LIMPOPO PROVINCE

Prepared For

PBA International

By



wits enterprise

Wits Commercial Enterprise (Pty) Limited

(Registration No: 2002/008461/07)

5th floor, Senate House, Jorissen Street, 2001 Braamfontein
Private Bag 3, 2050 Wits
South Africa

Service provider



HERITAGE
CONTRACTS UNIT

UNIVERSITY OF THE WITWATERSRAND
SCHOOL OF GEOGRAPHY, ARCHAEOLOGY AND ENVIRONMENTAL STUDIES
PRIVATE BAG 3, P O WITS 2050
TEL: +27 82 373 8491. E –MAIL JACO.HERITAGE@GMAIL.COM

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MEDUPI WALKTHROUGH

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CLIENT: PBA International

CONTACT PERSON: Tšepo Lepono
PBA International
PO Box 221; Rivonia; 2128
E-mail: tsepo@pbai.co.za

SIGNATURE: _____

LEADING CONSULTANT: Wits Heritage Contracts Unit



CONTACT PERSON: Jaco van der Walt
Wits Heritage Contracts Unit
Professional Member of the Association of Southern
African Professional Archaeologist (#159)



SIGNATURE: _____

Executive summary

Site name and location: Spitskop – Medupi 3 x 400Kv 132 km Transmission Power line Project, Limpopo Province

Provincial district: Limpopo Province.

1: 50 000 topographical maps: 2327 CB; CC; CD & DA. 2427 AA; AC; & CA. 2426 DB

Developer: Eskom

Consultant: Wits Heritage Contracts Unit. University of the Witwatersrand, School of Geography, Archaeology and Environmental Studies, Private Bag 3, P.O Wits 2050, Tel: +27 82 373 8491. E –mail jaco.heritage@gmail.com.

Date of field work: 23 November – 3 December

Date of Report: 14 December 2009

Findings of the Assessment: Ten sites of heritage significance and one find spot were identified during the walkthrough of the 132 km portion of the proposed Spitskop – Medupi transmission power line alignment. These sites are of varying significance and the impact on the sites by the pylons and the alignment also varies from site to site. Please refer to section 8 of this report for recommendations.

General

Low ground visibility is present on parts of the sites due to high vegetation growth and the possibility of the occurrence of unmarked graves and subsurface finds can not be excluded. If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

Disclaimer: *Although all possible care is taken to identify all sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the study. Wits Heritage Contracts Unit and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.*

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Heritage Contracts Unit the full price for the work as agreed, shall be entitled to use for its own benefit and for the specified project only:

- The results of the project;
- The technology described in any report
- Recommendations delivered to the Client

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1. INTRODUCTION

Wits Heritage Contracts Unit was contracted by PBA International to conduct a Heritage Walkthrough of 132 km of the proposed 3 x 400 KV Medupi to Spitskop power line alignment, focusing on the proposed pylon positions. A Heritage Impact Assessment was done for the project (Pistorius, 2007) that identified three sites of heritage significance in close proximity to the power line.

The aim of the study is to identify heritage sites, document, and assess their importance within Local, Provincial and national context that might be impacted upon by the locations of the proposed tower positions. To assess the impact of the proposed towers on non renewable heritage resources and to submit appropriate recommendations with regard to the responsible cultural resources management measures that might be required to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilized before and during the survey, which includes in Phase 1: Information collection from various sources and consultations; Phase 2: Physical surveying of the area on foot; and Phase 3: Reporting the outcome of the study.

During the walkthrough, eleven sites of heritage significance were identified. General site conditions and features on sites were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

1.2 TERMS OF REFERENCE

Conduct a walkthrough of the proposed power line to:

Consult with locals residing in the study area to gather information on oral history, local history, possible informal graves, cemeteries, and other areas of cultural significance. Systematically survey the proposed project area to locate, identify record, photograph and describe sites of archaeological, historical or cultural interest; and record GPS points of significant areas identified. Determine the levels of significance of the various types of heritage resources recorded in the project area;

Reporting

Identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project activity on the identified heritage resources for all 3 phases of the project, i.e. construction, operation and decommissioning phases. Consider alternatives should any significant sites be impacted adversely by the proposed project. Ensure that all requirements of the local South African Heritage Resources Agency (SAHRA) are met; and ensure that all

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studies and results are sufficient to comply with National legislation. To assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

1.3 Nature of the development

The project entails the construction of 3x 400 KV transmission powerlines referred to as the Medupi – Spitskop project (132 km).

1.4 Description of study area

Forming part of the Bushveld Igneous Complex, the area is generally flat open veld with stretches of more dense vegetation (*Dichrostachys* shrubs) and a number of large hills and outcrops. Some portions of the study area are extremely overgrown and have a low degree of archaeological visibility. The area is to a large degree archaeologically “unfriendly” due to the absence of any major water sources and indeed the only precance of archaeological sites were found close to the Matlabas rivers and dry calcrete pans.

2. APPROACH AND METHODOLOGY

2.1 PHYSICAL SURVEYING

Due to the nature of cultural remains, the majority that occurs below surface, a physical walk through of the study area was conducted. Wits Heritage Contract Unit was appointed to conduct a walkthrough of the proposed alignment focusing on pylon positions. The study area was walked over a period of 10 days, in the company of Mr. G Stander of Margen Industrial Services, Mr. B Orban an ecologist and associate Mr Sam Laurence.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area was studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. All sites discovered both inside and bordering the proposed development area was plotted on 1:50 000 maps and their GPS co-ordinates noted. 35mm digital photographs were taken at all the sites.

2.2 Consultation

Mr Ge Stander of Margen Industrial consulted with landowners regarding the presence of graves, historical structures and archaeological sites in close proximity to the proposed power line alignment. A summary of his consultation is found in Annexure B including some

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consultation done by the author. No one consulted indicated the known presence of any sites in close proximity to the proposed power line. In Addition to that the author consulted with Professor Tom Huffman who helped in identifying the decorated pottery and assisted with the recommendations.

3. ASSESSMENT CRITERIA

3.4.1 Evaluation of Heritage sites

This chapter describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

- 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
- Potential to answer present research questions.

3.4.2 Heritage Site Significance and Mitigation Measures

Site significance classification standards prescribed by the SAHRA (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report. The recommended mitigation needed as prescribed below should be read in conjunction with section 8 of this report.

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FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High Significance	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High Significance	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	-	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	-	Low Significance	Destruction

4. ARCHAEOLOGICAL LEGISLATION AND BEST PRACTICE

Phase 1 Archaeological Impact Assessments or Heritage Impact Assessments are a pre-requisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of a heritage specialist input is to:

- Identify any heritage resources, which may be affected;
- Assess the nature and degree of significance of such resources;
- Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- Assess the negative and positive impact of the development on these resources;
- Make recommendations for the appropriate heritage management of these impacts.

The AIA or HIA, as a specialist sub-section of the Environmental Impact Assessment [EIA] is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)., Section 38(1), Section 38(8) the National Environmental Management Act (NEMA) and the Mineral and Petroleum Resources Development Act (MPRDA).

The AIA should be submitted, as part of the EIA, BIA or Environmental Management Plan [EMP], to the PHRA if established in the province or to SAHRA. SAHRA will be ultimately responsible for the professional evaluation of Phase 1 AIA reports upon which review comments will be issued. 'Best practice' requires Phase 1 AIA reports and required additional development information, as per the EIA, BIA / EMP, to be submitted in duplicate to SAHRA after completion of the study. SAHRA accepts Phase 1 AIA reports authored by professional archaeologists, accredited with ASAPA. Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).

Minimum standards for reports, site documentation and descriptions are set by the Association of Southern African Professional Archaeologists [ASAPA] in collaboration with SAHRA. ASAPA is a legal body, based in South Africa, representing professional archaeology in the Southern African Development Community [SADC] region. ASAPA is primarily involved in the overseeing of archaeological ethical practice and standards. Membership is based on proposal and secondment by other professional members.

Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

Conservation or Phase 2 mitigation recommendations, as approved by SAHRA, are to be used as guidance in the developer's decision making process:

Phase 2 archaeological projects are primarily based on salvage / mitigation excavations preceding development destruction or impact on a site. Phase 2 excavations should be done under a permit issued by SAHRA to the appointed archaeologist. Permit conditions are

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prescribed by SAHRA and includes as minimum requirements reporting back strategies to SAHRA and deposition of excavated material at a accredited repository.

In the event of a site conservation option being preferred by the developer a site management plan, prepared by a professional archaeologist and approved by SAHRA, will suffice as minimum requirement.

After mitigation is conducted on a site, a destruction permit must be applied for from SAHRA before development may proceed.

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation. If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning, or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

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5. SITES OF SIGNIFICANCE

Ten sites of heritage significance and one find spot was identified during the heritage walk through. Below is a summary of the sites found and their coordinates (WGS 84) followed by a site description.

Site Number	Type Site	Co-ordinates
Site 1	Historic dwellings	S24 36 44.4 E26 58 57.4
Site 2	Historic dwellings	S24 28 57.0 E27 01 47.9
Site 3	M.S.A	S24 22 07.7 E27 04 14.5
Site 4	Stone Cairn	S24 21 05.3 E27 04 33.
Site 5	Lower Grinder	S24 20 00.8 E27 04 59.8
Site 6	M.S.A	S24 18 24.6 E27 05 41.2
Site 7	M.S.A	S24 00 17.2 E27 13 27.4
Site 8	I.A	S23 59 35.1 E27 13 52.3
Site 9	I.A	S24 08 04.9 E27 10 07.8
Site 10	I.A	S24 04 52.1 E27 11 28.8
Site 11	I.A	S24 03 30.7 E27 12 02.2

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5.1 Site 1

This is the location of a historical dwelling consisting of 8 rooms. The farm house is most probably one of the original farm houses on the farm Gospord 294 KQ. The house is constructed of sun dried bricks with two additional rooms added on to the original structure by later inhabitants. The house is facing north with a small veranda in front. A small ash midden is located about 10 meters in front of the veranda and according to the artefacts found, associated with a more recent period of habitation possibly by farm workers. The house got wooden window frames and cement lintels above the doors. To the south of the dwelling recent foundations of demolished structures are visible in the grass. The site is located to the east of the proposed alignment, approximately 188 meters from pylon MS 148.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 1: Ruin viewed from the south

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Figure 2: Aerial view of site 1 in relation to the proposed power line

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5.2 Site 2

This is the location of a demolished mud dwelling. The site is marked by a slight rise in the topography with wire and iron scattered around the area. The site is located underneath the proposed power line, 89 meters to the north west from pylon MSM1 213.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected C (GP.C)	-	Low Significance	Destruction



Figure 3: Slight rise indicate remains of mud dwelling

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Figure 4: Aerial view of site 2 in relation to the proposed power line

5. 3 Site 3

During the construction of a drainage line for a small dam a gravel layer containing widely scattered MSA artefacts were exposed. At this quarry site artefacts consist mostly of cores and flakes. This gravel layer is covered by a sandy loam, semi alluvial soil layer. The site is not located directly under the power line and the closest pylon is MS1 2113 that is 89 meters away.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 5: Drainage line exposing gravel layer with MSA cores and flakes

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Figure 6: Aerial view of site 3 in relation to the proposed power line

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5.4 Site 4

This site consists of an elongated stone cairn orientated east to west measuring 1.5 x 1.50 meters close to a feeding lot. At this point it is not clear if this feature is associated with the activities in constructing the cattle water point and feeding lot or if might be a single grave. The site is located approximately 31.93 meters from pylon MS2 215 and located directly under the proposed power line.

Heritage Significance if found to be a grave

<i>FIELD RATING</i>	<i>GRADE</i>	<i>SIGNIFICANCE</i>	<i>RECOMMENDED MITIGATION</i>
Generally Protected A (GP.A)	-	High Significance	Mitigation before destruction

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Figure 7: Elongated stone cairn

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Figure 8: Aerial view of site 4 in relation to the proposed power line

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5.5 Site 5

This is the location of a single broken lower grind stone found in a service road next to a game fence. Since no other features or artefacts occur in close proximity to the site, the site is classified as a find spot. It might be that the broken grind stone was used with other rocks to block ditches made by burrowing animals underneath the game fence. The closest pylon to the site is MS1 222 and is 207 meters away.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected C (GP.C)	-	Low Significance	Destruction



Figure 9: Broken Lower Grinder

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Figure 10: Aerial view of site 5 in relation to the proposed power line

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5.6 Site 6

On the banks of a small perineal stream MSA artefacts are found in abundance in the gravel layers lining the river bank. Tools consist mostly of cores and flakes. This quarry site is extensive and being eroded open. Artefacts are not in situ and show signs of weathering. The highest concentration of artefacts is located 13 meters from tower MS2 269

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 11: Aerial view and extend of site 6 in relation to the proposed powerline

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Figure 12: General Site conditions

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5.7 Site 7

This is the location of another MSA quarry on the banks of the Mathlabas river. Raw material is found in abundance in the gravel layers that are exposed by sheet erosion. Tools consist of cores, choppers and flakes with prepared striking platforms. Artefacts are found scattered over an extensive area found in lower frequencies as one move further away from the river bank. The highest concentration of artefacts is found approximately 13.87 meters from tower MS2 269 and located directly under the power line.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 13: Stone artefacts found at Site 7

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Figure 14: Areal view of extend of site 7

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5.8 Site 8

Several aardvark burrows exposed some decorated and undecorated ceramics buried underneath red Kalahari windblown sand. The extend of the site is unknown but the area is marked by grewia flava shrubs. At least 5 different vessels was identified, one being a small lip fragment with punctuates underneath the rim. Although more decorated ceramics are needed to positively identify the site, punctuates under the rim are characteristic of the Letsibogo ceramic facies. More sites can be expected in the area since a major water source is close by (Mathlabas River) and the low visibility of the sites. The site is located directly under the proposed power line with the closest tower to the site being pylon MS2 273 that is 273 meters away from the site.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 15: Ceramics found at site 8

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Figure 16: Areal view of site 8 in relation to the power line

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5.9 Site 9

A small gravel road exposed a few undecorated ceramics scattered over a wide area. The site might be buried under the sand. A Large calcrete pan is close by and Stone Age and Iron Age sites can be expected in this area. The closest tower to the site is MS1 278 that is 48 meters from the site.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction



Figure 17: Areal view of site 9 in relation to the proposed power line.

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5.10 Site 10

The construction of a water hole and the subsequent trampling of animals exposed several undecorated ceramics over a wide area. An adjacent agricultural field also have some pottery. A Large calcrete pan is close by and Stone Age and Iron Age sites can be expected in this area. The closest tower to the site is MSM 252 that is 54 meters from the site.

Heritage Significance

<i>FIELD RATING</i>	<i>GRADE</i>	<i>SIGNIFICANCE</i>	<i>RECOMMENDED MITIGATION</i>
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction

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5.11 Site 11

This is the location of a large calcrete pan and MSA tools with prepared striking platforms are found scattered in high frequencies over the area. Tools consist of cores and flakes. The site is located directly under the proposed power line and highest concentration of artefacts found is approximately 14 meters from tower MSM 258. During the survey it was raining heavily and it was not possible to take photographs.

Heritage Significance

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
Generally Protected B (GP.B)	-	Medium Significance	Recording before destruction

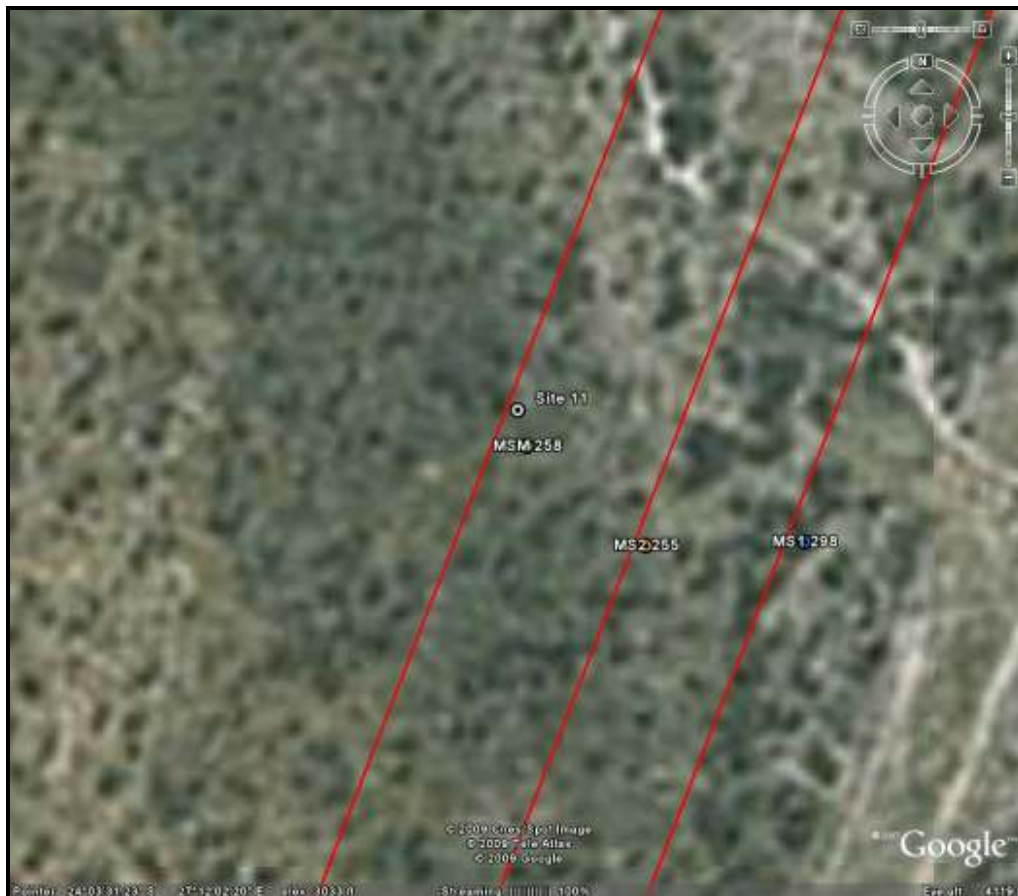


Figure 18: Aerial view of site 11 in relation to the power line

6. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Low archaeological visibility is present in some areas due to exceptional high vegetation growth and impenetrable dichurus dacherus that made it impossible to visit the precise location of some tower positions and the possibility of the occurrence of unmarked graves can not be excluded. Although Wits Heritage Contracts unit surveyed the area as thoroughly as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

7. POTENTIAL IMPACTS

Pre-Construction phase:

It is assumed that the pre-construction phase involves the removal of topsoil and vegetation as well as the establishment of road infrastructure needed for the construction phase. These activities can have a negative and irreversible impact on all of the recorded heritage sites. Impacts include destruction or partial destruction of non renewable heritage resources.

Construction Phase

During this phase the impacts and effects are similar in nature but more extensive than the pre-construction phase. These activities can have a negative and irreversible impact on all of the recorded heritage sites. Impacts include destruction or partial destruction of non renewable heritage resources.

Operation Phase:

Very little impact is envisaged for the recorded heritage resources during this phase.

8. RECOMMENDATIONS AND CONCLUSIONS

A locality map is provided in **Annexure A**

10 sites of heritage significance and one find spot were identified during the walkthrough of the proposed power line alignment. The following recommendations are applicable for the sites.

Site 1

The site is located outside of the proposed power line alignment and almost no impact is foreseen for this site. However the site is older than 60 years as indicated by archival maps and is protected by legislation. It is recommended that as part of the EMP contractors must be made aware of the site and that the site is avoided during the pre construction and construction phase. Sites like these are also associated with graves and contractors must take cognisance of the fact that they might encounter graves during the pre construction phase.

Site 2

Due to the fact that the site has been demolished and the lack of structures and features on site, the site was given a low heritage significance. The exact age of the site is unknown but based on the industrial material scattered over the site most probably not older than 60 years. The site is located directly under the proposed power line and a high impact is foreseen on the site during the pre construction phase in the form of bush clearing. No pylons are placed on the site and therefore no earthworks will occur on or close to these sites, that could expose unmarked graves that can some times be expected to be found in association with sites like these. No further action is recommended for the site.

Site 3, Site 6, Site 7 and Site 11

A Negative impact is foreseen on the sites by the proposed power line. Since these quarry sites are open air sites and very little archaeological deposit is present due to sheet erosion the sites were given a medium heritage significance rating. The footprint of the towers is so small that the sites are not in danger of being totally destroyed. It is therefore recommended that an archaeologist map and collect surface samples of the sites. After which a destruction permit will be required from SAHRA before construction of the tower positions can start.

Site 4

The purpose of the stone cairn is unknown. Although the possibility of the cairn being a grave is low a worst case scenario is possible until proven otherwise and therefore the site was given a high heritage significance rating. The site is located directly under the proposed power line and a high impact is foreseen on the site during the pre construction phase in the form of bush clearing. No pylons are placed on or close to the site and therefore no impact is

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foreseen by the placement of the tower positions. It is therefore recommended that the site is demarcated with danger tape to protect the site during the pre construction and construction phase.

Site 5

The find spot is of low significance since the artefact was carried in with other rocks from another area and used to block holes under the game fence caused by burrowing animals. No further action is necessary for this site.

Site 8, Site 9 and Site 10

The lack of a large sample of decorated ceramics from the sites hampers the positive identification of the sites but the one decorated piece found at site 8 have characteristic decoration attributed to the Letsibogo ceramic facies dating to AD 1500 – 1700. This facies belongs to the Moloko branch of the Urewe tradition and was first described in Botswana with only a few known sites south of the Limpopo giving the recorded sites a medium heritage significance.

The sites are buried underneath the red Kalahari windblown sand that hampers archaeological visibility. Although no towers are placed on where sites are found (marked by scatters of pottery) the possibility exist of founding sites closer to the tower positions covered by soil. It is therefore recommended that the wider areas around the recorded sites are visited by an archaeologist after bush clearing during the pre-construction phase. The tower positions must also be monitored by an archaeologist during construction to document and mitigate accidental finds.

General

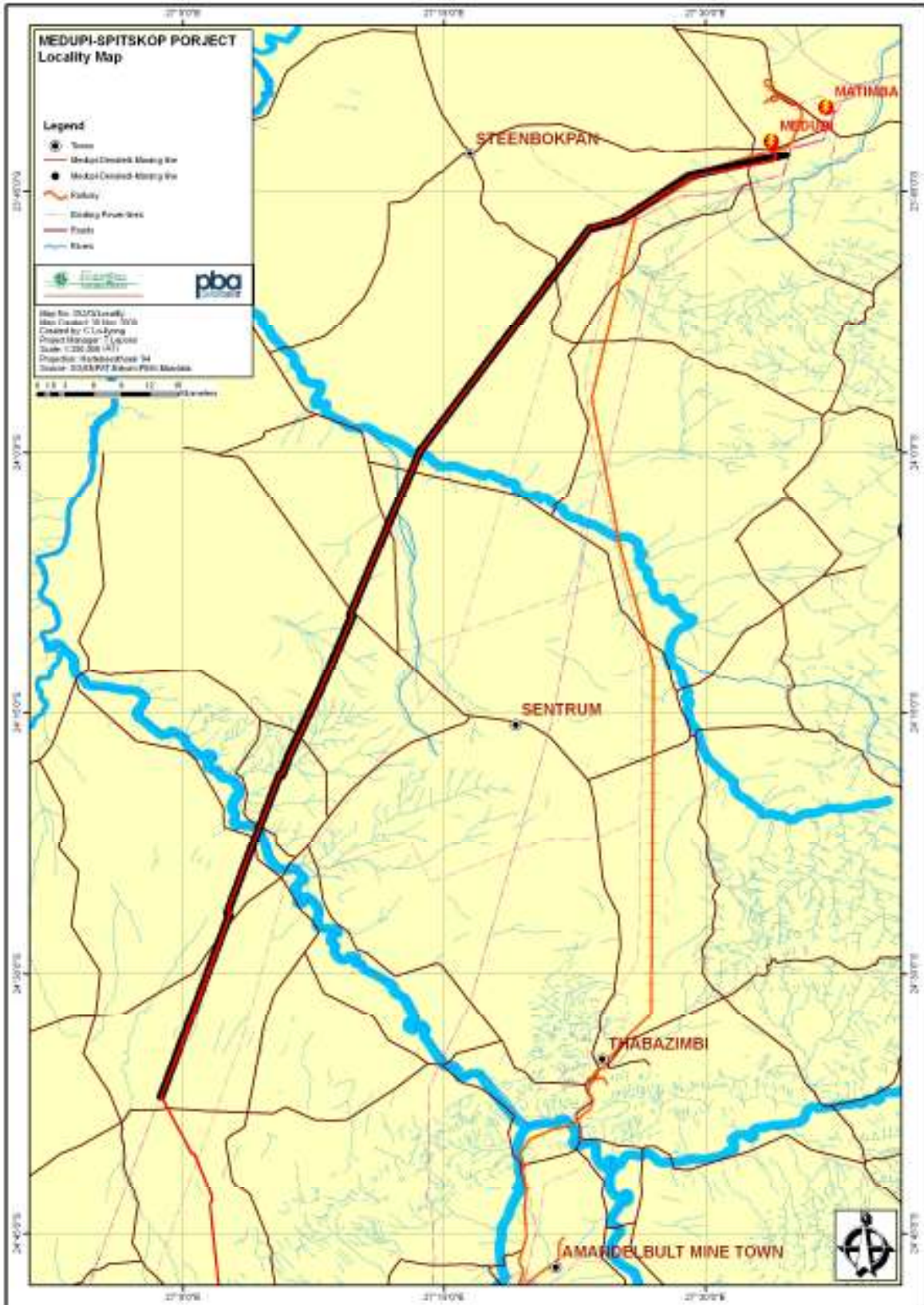
Low ground visibility is present on parts of the study area due to high vegetation growth and the possibility of the occurrence of unmarked graves and subsurface finds cannot be excluded. All construction staff must be made aware of the fact that graves might be located during bush clearing. If any graves are found all activities must be stopped in that area and an archaeologist must be contacted to assess the site and make suitable recommendations. If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.

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ANNEXURE A: Locality Map

MEDUPI WALKTHROUGH



ANNEXURE B: Consultation regarding grave sites

Courtesy of Mr. Ge Stander