

**HERITAGE SURVEY OF THE NOZELELA MINERALS
SANDS (PTY) LTD 33Kv TRANSMISSION LINE**

FOR SRK CONSULTING

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By Gavin Anderson

**Umlando: Archaeological Tourism and Resource
Management**

PO Box 102532, Meerensee, 3901

Phone/fax: 035-7531785 Fax: 0865445631

Cell: 0836585362



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INTRODUCTION

Umlando cc was contracted by SRK Consulting to undertake a heritage survey of the realigned transmission line for the Nozalela Mineral Sands (Pty) Ltd mine. The 33kV transmission line was initially surveyed in 2007, but it has now been moved between 50m – 700m southwards. The transmission line is located south of the main area of eSikhaweni, KwaZulu-Natal (fig.'s 1 – 4). The servitude is 50m wide.

The transmission line begins at an existing substation and then runs beside an existing transmission line and/or a dirt road. The transmission line also runs along the outer margins of the dune system and over areas that were wetlands in the past. Much of the environment is disturbed due to low scale sugar cane farming and blue gum afforestation. Other areas have been cleared for agricultural and domestic purposes in the recent past.

Umlando has surveyed this general area in 2006 and 2007 and recorded several sites (Anderson & Anderson 2007a/b). These sites include the Early Iron Age, Late Iron Age, Historical Period and the more recent past.

The survey located four archaeological sites, of which one is of possible high significance.

The impacts on the area will be:

- Foundations for transmission line structures

KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008

1) **“33. General protection: Structures.—**

- a) No structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior written approval of the Council having been obtained on written application to the Council.

- b) Where the Council does not grant approval, the Council must consider special protection in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- 2) The Council may, by notice in the *Gazette*, exempt—
- (a) a defined geographical area; or
 - b) defined categories of sites within a defined geographical area, from the provisions of subsection where the Council is satisfied that heritage resources falling in the defined geographical area or category have been identified and are adequately protected in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
- 3) A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.
- 4) **34. General protection: Graves of victims of conflict.**—No person may damage, alter, exhume, or remove from its original position—
- (a) the grave of a victim of conflict;
 - (b) a cemetery made up of such graves; or
 - (c) any part of a cemetery containing such graves, without the prior written approval of the Council having been obtained on written application to the Council.
- 5) **35. General protection: Traditional burial places.**—
- a) No grave—
 - b) not otherwise protected by this Act; and
 - c) not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council.
- (1) The Council may only issue written approval once the Council is satisfied that—
- (a) the applicant has made a concerted effort to consult with communities and individuals who by tradition may have an interest in the grave; and
 - (b) the applicant and the relevant communities or individuals have reached agreement regarding the grave.

- (c) **36. General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites.—**
- d) No person may destroy, damage, excavate, alter, write or draw upon, or otherwise disturb any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- (1) Upon discovery of archaeological or palaeontological material or a meteorite by any person, all activity or operations in the general vicinity of such material or meteorite must cease forthwith and a person who made the discovery must submit a written report to the Council without delay.
- (2) The Council may, after consultation with an owner or controlling authority, by way of written notice served on the owner or controlling authority, prohibit any activity considered by the Council to be inappropriate within 50 metres of a rock art site.
- (3) No person may exhume, remove from its original position or otherwise disturb, damage, destroy, own or collect any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
- (4) No person may bring any equipment which assists in the detection of metals and archaeological and palaeontological objects and material, or excavation equipment onto any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, or meteorite impact site, or use similar detection or excavation equipment for the recovery of meteorites, without the prior written approval of the Council having been obtained on written application to the Council.
- (5) The ownership of any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site, on discovery, vest in the Provincial

Government and the Council is regarded as the custodian on behalf of the Provincial Government.” (KZN Heritage Act of 2008)

METHOD

The method for Heritage assessment consists of several steps. The first step forms part of the desktop assessment. Here we would consult the databases. These databases contain most of the known heritage sites in KwaZulu-Natal, and known memorials and other protected sites, battlefields and cemeteries in southern Africa. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan. All sites are grouped according to low, medium and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips and decorated sherds are sampled, while bone, stone and shell are mostly noted. Sampling usually occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

Defining significance

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. State of preservation of:

- 1.1. Organic remains:
 - 1.1.1. Faunal
 - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
 - 1.5.1. Ash Features
 - 1.5.2. Graves
 - 1.5.3. Middens
 - 1.5.4. Cattle byres
 - 1.5.5. Bedding and ash complexes

2. Spatial arrangements:

- 2.1. Internal housing arrangements
- 2.2. Intra-site settlement patterns
- 2.3. Inter-site settlement patterns

3. Features of the site:

- 3.1. Are there any unusual, unique or rare artefacts or images at the site?
- 3.2. Is it a type site?
- 3.3. Does the site have a very good example of a specific time period,

feature, or artefact?

4. Research:

- 4.1. Providing information on current research projects
- 4.2. Salvaging information for potential future research projects

5. Inter- and intra-site variability

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

6. Archaeological Experience:

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

7. Educational:

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

8. Other Heritage Significance:

8.1. Palaeontological sites

8.2. Historical buildings

8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites

8.4. Graves and/or community cemeteries

8.5. Living Heritage Sites

8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

FIG. 1 GENERAL LOCATION OF THE TRANSMISSION LINE

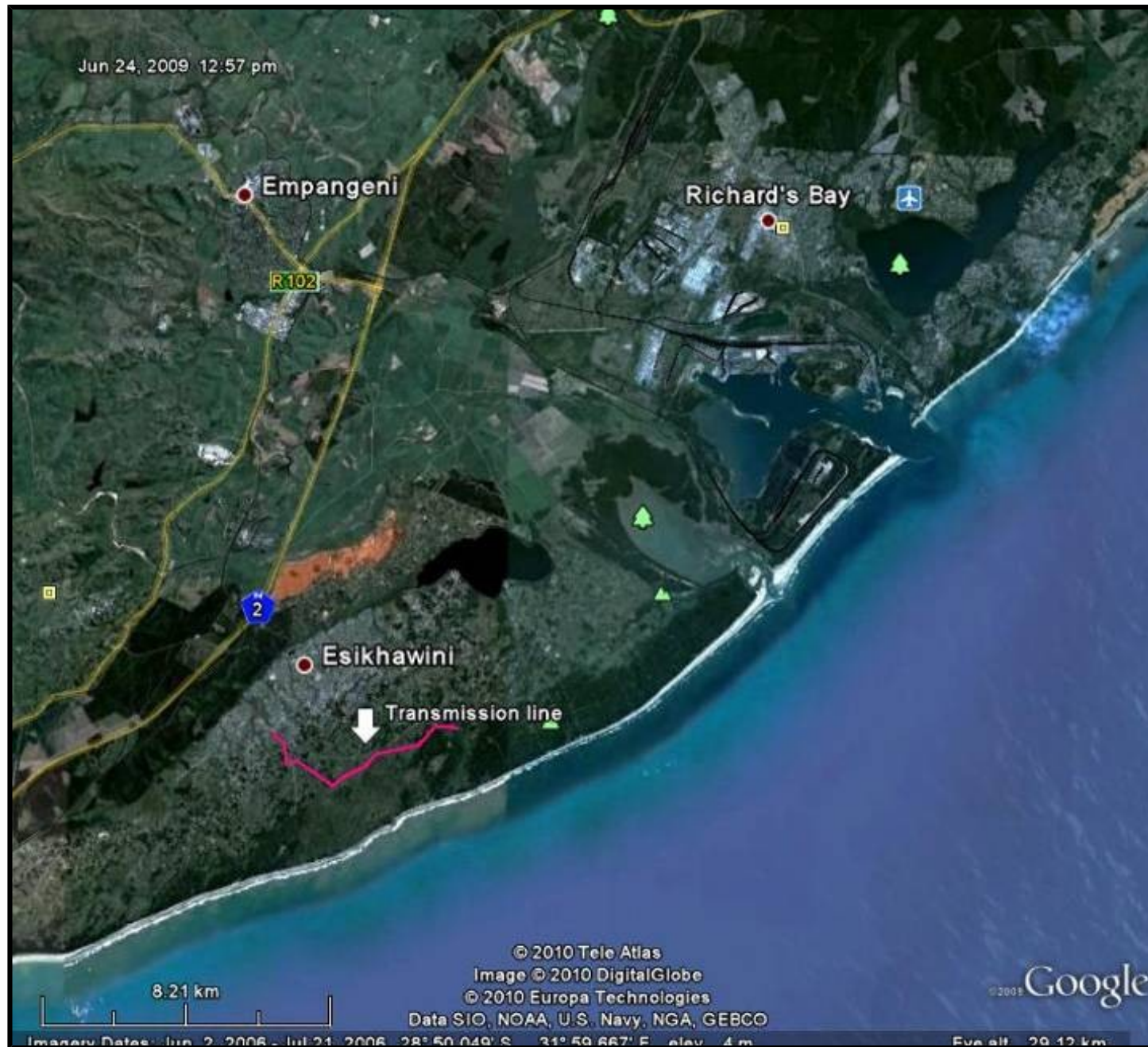


FIG. 2: 1996 TOPOGRAPHICAL MAP OF THE TRANSMISSION LINE AND SITES

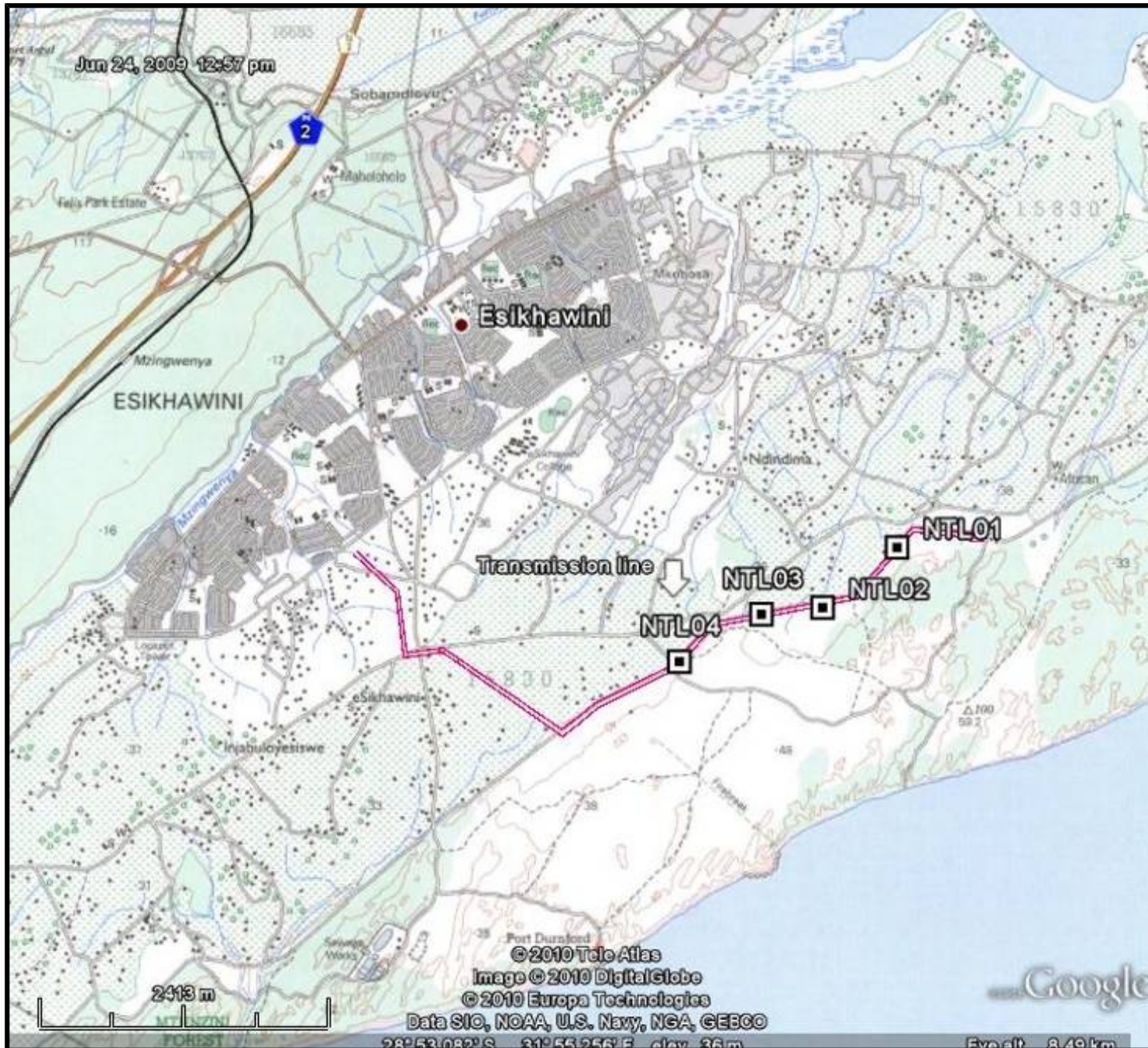


FIG. 3: 1983 TOPOGRAPHICAL MAP OF THE OF THE TRANSMISSION LINE AND SITES

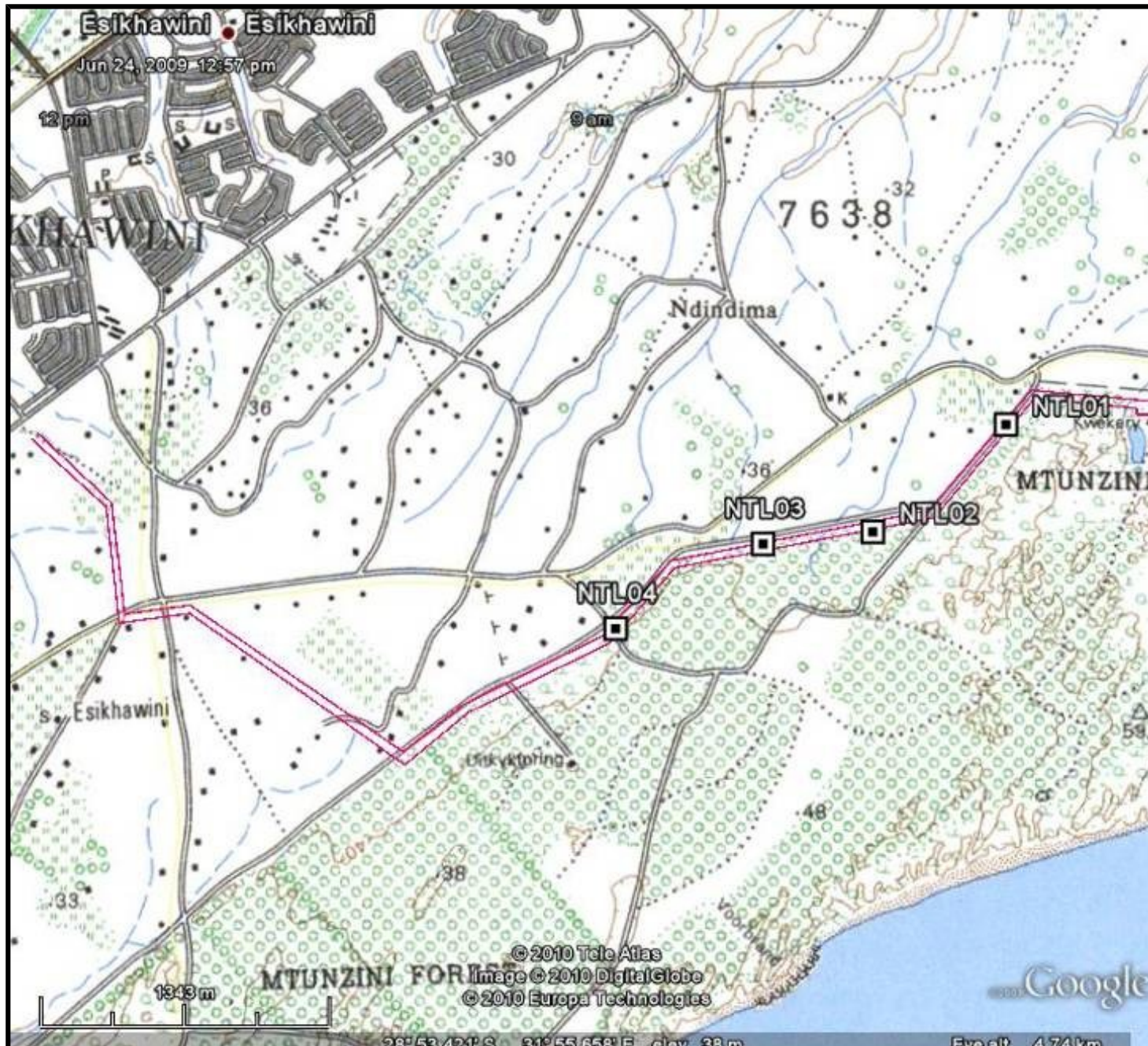


FIG. 4: LOCATION OF SITES AND TRANSMISSION LINE IN RELATION TO THE 1937 AERIAL PHOTOGRAPHS



RESULTS

The older aerial photographs showed that there were no settlements along the route in 1937. By 1983, there are more houses along the western part of this route. This suggests that if there are any human graves along the western section of the route, then they will probably not fall under the KZN Heritage Act, but under local municipal legislation. A social impact study has been undertaken for this development and would cover these more recent graves. The 1937 aerial photographs also suggest that any sites with pottery sherds may predate 1937.

The more recent graves in the area tend to be mounds of sand that have been fenced off with wooden poles. These would then become obscured after a few years as the mound flattens out and the poles decay. They would thus be invisible, except through oral history. It is for this reason that I have noted all abandoned settlements along the route, and they should be treated as being sensitive areas.

NTL01

This site is located near the eastern end of the transmission line. The area is a cleared and flattened area with some fruit trees. The site is probably the remains of a more recent settlement that has now been abandoned (fig. 5). I noted the site as it might contain human graves.

Significance: The site is currently of low significance, unless human graves occur.

Mitigation: No mitigation is required. If the pylons are placed in this area, then the construction team should be made aware of possible graves.

FIG. 5: CLEARED ARE NEAR NTL01



NTL02

The site consists of a scatter of pottery sherds over the entire hill. The hill is located above a wetland. The sherds date to the Early Iron Age (EIA) and Late Iron Age (LIA). The EIA sherds are thicker and more weathered than the LIA sherds. While there may be a deposit, the low frequency of sherds suggests that the deposit will be ephemeral.

Significance: The site is of low significance.

Mitigation: No Mitigation is required.

FIG.6: HILL WHERE NTL02 IS LOCATED



NTL03

NTL03 is located on a small hill and has been exposed by the track cutting and animal walk path. I observed a four bone fragments that could belong to a human. These included a cranial fragment and a metacarpal. A tibia fragment nearby could be either human or bovid. No artefacts were observed.

Significance: The site may be of high significance if these are human remains.

Mitigation: An archaeologist should be on site if any structures are placed on this hill. The archaeologist will need to supervise any excavations for the transmission line, and undertake the necessary excavations if human remains do occur.

NTL04

NTL04 is located in the middle of the servitude. It consists of a terraced area into the sand dune and several modern (post-1980) bottles, shoes, paper fragments. I did not observe any structures or features.

Significance: The site is of low significance, unless human remains are found.

Mitigation: The construction team should be made aware of possible human remains.

PALAEONTOLOGY

The palaeontology was not considered as the depth of the poles will not be reaching any strata below the dune system.

MANAGEMENT PLAN

Only one site has the potential to yield human remains: NTL03. This area will require on-site monitoring during the construction phase of the transmission line. The results of the social impact assessment should also be used to determine if the more recent settlements have human graves.

The development will need to apply for a destruction permit from Amafa KZN for NTL02 and NTL03. The archaeologist responsible for the monitoring should also apply for a permit.

CONCLUSION

The heritage survey for the Nozalela 33kV transmission line located four sensitive areas. Of these four areas, one is an archaeological site, and two are possible recently abandoned settlements. The final area may contain human remains. This last area will require on-site monitoring during the construction phase. None of the sites are important enough to detour the transmission line.

REFERENCES

Anderson, G and Anderson, L. 2007a The Preliminary Archaeological Survey Of The Zulti South Mining Lease. For Richards Bay Minerals.

Anderson, G and Anderson, L. 2007b. Archaeological Survey Of The Inhlansi Project For Nozelela Minerals Sands (Pty) Ltd. For: SRK Consulting.

SITE RECORD FORMS

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: NTL01

Official Name: Lot 15830

Local Name: N/A

Map Sheet: 2831DD Felixton

GPS reading: 28° 53.140'S 31° 56.880'E



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From N2, take eSikhaweni turnoff and follow Mthombothi Rd (D1597) to the intersection with the P537. Follow the transmission line that runs approx. parallel to this latter road.

SITE DESCRIPTION:

Type of Site: Recent historical housing

Merits conservation: No

Threats: Yes

What threats: transmission line

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 4/10/2010

Owner: State

Description of site and artefactual content.

This site is located near the eastern end of the transmission line. The area is a cleared and flattened area with some fruit trees. The site is probably the remains of a more recent settlement that has now been abandoned (fig. 5). I noted the site as it might contain human graves.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: NTL02

Official Name: Lot 15830

Local Name: N/A

Map Sheet: 2831DD Felixton

GPS reading: 28° 53.414'S 31° 56.490'E



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From N2, take eSikhaweni turnoff and follow Mthombothi Rd (D1597) to the intersection with the P537. Follow the transmission line that runs approx. parallel to this latter road.

SITE DESCRIPTION:

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: transmission line

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 4/10/2010

Owner: State

Description of site and artefactual content.

The site consists of a scatter of pottery sherds over the entire hill. The hill is located above a wetland. The sherds date to the Early Iron Age (EIA) and Late Iron Age (LIA). The EIA sherds are thicker and more weathered than the LIA sherds. While there may be a deposit, the low frequency of sherds suggests that the deposit will be ephemeral.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: NTL03

Official Name: Lot 15830

Local Name: N/A

Map Sheet: 2831DD Felixton

GPS reading: 28° 53.445'S 31° 56.171'E



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From N2, take eSikhaweni turnoff and follow Mthombothi Rd (D1597) to the intersection with the P537. Follow the transmission line that runs approx. parallel to this latter road.

SITE DESCRIPTION:

Type of Site: Open/burial

Merits conservation: Yes, if human remains

Threats: Yes

What threats: transmission line

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 4/10/2010

Owner: State

Description of site and artefactual content.

NTL03 is located on a small hill and has been exposed by the track cutting and animal walk path. I observed a four bone fragments that could belong to a human. These included a cranial fragment and a metacarpal. A tibia fragment nearby could be either human or bovid. No artefacts were observed.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: NTL04

Official Name: Lot 15830

Local Name: N/A

Map Sheet: 2831DD Felixton

GPS reading: 28° 53.659'S 31° 55.744'E



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From N2, take eSikhaweni turnoff and follow Mthombothi Rd (D1597) to the intersection with the P537. Follow the transmission line that runs approx. parallel to this latter road.

SITE DESCRIPTION:

Type of Site: Recent historical house

Merits conservation: No

Threats: Yes

What threats: transmission line

RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 4/10/2010

Owner: State

Description of site and artefactual content.

NTL04 is located in the middle of the servitude. It consists of a terraced area into the sand dune and several modern (post-1980) bottles, shoes, paper fragments. I did not observe any structures or features.