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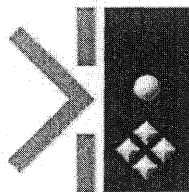
**ARCHAEOLOGICAL IMPACT ASSESSMENT STUDY
FOR THE PROPOSED CONSTRUCTION OF
ELECTRICITY DISTRIBUTION POWERLINES WITHIN,
LIMPOPO PROVINCE**

**PHASE 1 CULTURAL AND ARCHAEOLOGICAL HERITAGE
ASSESSMENT SPECIALIST STUDY**

NOVEMBER 2006, POLOKWANE

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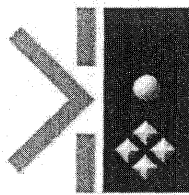
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REPORT DETAILS

PROJECT:	Development of Proposed Distribution Powerlines in Limpopo Province (Eskom Northern Region areas)
REPORT TITLE:	ARCHAEOLOGICAL IMPACT ASSESSMENT AND CULTURAL HERITAGE ASSESSMENT SPECIALIST STUDY
AUTHOR:	Dr McEdward Murimbika
REFERENCE NO.:	AIA/Eskom/11
STATUS OF REPORT:	Final
FINAL ISSUE:	Date: November 2006
STUDY LEADER	Dr. McEdward Murimbika <i>Qualifications:</i> (PhD, [Archaeology], Univ. of Witwatersrand, M.Phil. [Archaeology] 1999, Univ. Of Bergen, Norway; Graduate International Certificate in African Archaeology, 1998, Univ. of Brussels, Belgium; BA Hons. & BA Gen. [Archaeology] 1995 & 1994, UZ). <i>Contacts:</i> Mobile Phone: 083 6136530
FIELD STUDY TEAM	Principal Investigator: Dr. McEdward Murimbika Field Archaeologist: Moses Mabuda (BA & BA Hons, 2001 & 2002, Univ. of Venda)
PROFESSIONAL SERVICE PROVIDER (PSP)	Nzumbululo Heritage Solutions (South Africa) cc.

PROJECT LIST FOR POWERLINE COVER IN THIS SYUDY

Project No	Property Name	Customer
THT 42273692	Locatie van de Knopneuzen 230 LT	Mbedzi Grinding Mill
THT4044319	Chibase 213 MT	Galanzzhele Primary School
05MNMK 67338	Laastehoop 1054 LS	Rapotu Professional Land Surveyors
06MNMK 75108	Mabuis 986 LS	Selepe
Matlala Electrification	Matlala Village	Morwa-Motsho
06DDN71373	Kirkland 34 L.S	P.J.J. Du Plessis
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New Glen Alpine Feeder	Dilaeneng and Ga-Marais Villages	Eskom
06DDN71376	Kirkland 34 LS	P.J.J Du Plessis
THT001905	Reubander 21 LT	Infraburo Civil Engineer
05LEB66277	Zwartkoppies 413 KS	Lesaliane Hazel
EID OMU Link	Rietfontein 743 LS, PTNS 19,20, & 15	Eskom (Polokwane TSC)
05DDN 71473	Welgelegen 395 -LR	M.F Namethe
14827	Kraalhoek 869 L.S	N.G Matimolane
Overdyk Electrification		Bochum

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MANAGEMENT SUMMARY

BACKGROUND

ESKOM Distribution (Northern Region) in Polokwane, Limpopo Province, commissioned the study. The Archaeological Impact Assessment (AIA) and Cultural Heritage Impact Assessment (HIA) studies were conducted as part of the Environmental Impact Assessment (EIA) for proposed construction of 13 electricity distribution powerlines to residential, commercial and agricultural properties in different districts of Limpopo Province. This heritage specialist phase 1 study focus to potential impacts on archaeological, cultural, and historical heritage resources associated the proposed powerlines development's receiving environments.

SUMMARY RESULTS

The field site surveys were conducted by two HeSSA heritage specialists 9Dr Murimbika (PI) and Mabuda (Field Archaeologist). No archaeological, physical cultural remains or materials were identified on any of the 13 separate routes covered. The powerlines are designed to distribute electricity to already developed and built up areas. They largely traverse through residential properties and local oad and streets, or open agricultural land. With the level of disturbances observed, the chances of identifying archaeological materials *in situ* were very slim in all cases covered in this report.

SUMMARY RECOMMENDATIONS

- No archaeological or cultural heritage materials were identified on all 13 of the proposed powerline routes.
- The areas affected are already developed by existing residential, agricultural and other associated infrastructures, and as such it is not necessary to implement any monitoring procedures since the affected areas are unlikely to yield archaeological or other physical cultural resources of significance *in situ*.
- By nature, the powerline developments are unlikely to have any impact on chance archaeological or cultural heritage resources in the areas earmarked for the development.
- With these considerations, this study did not identify archaeological or cultural heritage barriers to the proposed powerline developments. As such we recommend to the heritage authorities that all 13 distribution lines be approved for development as planned.

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ABBREVIATIONS

AIA	Archaeological Impact Assessment
HIA	Heritage Impact Assessment
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HeSSA	Nzumbululo Heritage Solutions (South Africa)
SAHRA	South African Heritage Resources Agency

ABBREVIATIONS

AIA	Archaeological Impact Assessment
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DEFINITIONS

Archaeological Material remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

Chance Finds Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Cultural Heritage Resources Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and palaeontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or graves and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

Grave A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery.

Historic Material remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

In Situ material Material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Material culture Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

Site A distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

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ARCHAEOLOGICAL IMPACT ASSESSMENT STUDY FOR THE PROPOSED CONSTRUCTION OF ELECTRICITY DISTRIBUTION POWERLINES WITHIN, LIMPOPO PROVINCE

1 INTRODUCTION

This Archaeological Impact Assessment (AIA) incorporating the Cultural Heritage Impact Assessment (HIA) study was conducted in line with Section 38 of the National Heritage Resources Act (Act No 25 of 1999). The study was conducted with the view to determine whether there is any impact or potential impact on archaeological and other heritage resources that may be situated on the areas affected by the proposed development of 13 electricity distribution lines in districts of Limpopo Province. This AIA and HIA study forms part of the Environment Impact Assessment (EIA) program.

Table 1: Terms of Reference for the AIA and HIA Study associated with the proposed Eskom Powerlines developments.

PURPOSE	ACTIVITIES
<ul style="list-style-type: none"> <input type="checkbox"/> To fulfil requirements of the National Heritage Resources Act, Act No. 25 of 1999, Section 38. In so doing - <input type="checkbox"/> Identify and describe (in terms of their conservation and / or preservation importance) sites of cultural and archaeological importance that may be affected by the development of distribution powerlines. This study should include the identification of gravesites. <input type="checkbox"/> Identify and describe impacts on archaeological and cultural heritage resources associated with the proposed development within the affected areas. 	<ul style="list-style-type: none"> <input type="checkbox"/> Identify, describe and map sites of archaeological, historical or cultural interest affected by the powerline projects. <input type="checkbox"/> Identify, where possible, the gravesites affected by the development. <input type="checkbox"/> Describe the importance or significance of these sites and whether these sites need to be conserved, protected or relocated. <input type="checkbox"/> Describe the procedures for mitigation or relocation of sites and provide an indication of time required for these management measures to be implemented. <input type="checkbox"/> Document findings and recommendations.

2 BRIEF BACKGROUND

The proposed 13 powerline covered in this study forms part of a larger region wide ESKOM Distribution projects to deliver electricity to the local communities, business commercial farmers and other users. These distribution powerlines are designed to

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ESKOM Distribution has an extensive mandate to deliver electricity to the local communities, business commercial farmers and other users. As part of this mandate, Eskom is developing a network of electricity distribution lines across the Limpopo region. These powerlines are designed to traverse of distances of between 300m and 6000m. By nature, the proposed developments have the potential of affecting archaeological sites that may be on the routes of the powerlines.

From a culture history perspective, all districts of Limpopo within which the lines are developed, in general, has long culture history. Today different Northern Sotho-Tswana, Venda, XITsonga occupy the areas and Afrikaner speaking communities occupy most of the commercial farming areas (see Hammond-Tooke, 1993 for overview of Limpopo communities). As such, there are possibilities of encountering archaeological and historical sites in the areas where the lines would be developed.

3 METHODS

We begun the AIA study with a desktop surveys of archaeological databases and inventories in search of available data on the heritage of the study areas. We then proceeded to a field reconnaissance studies of the general areas affected. In the third segment, we conducted archaeological and cultural heritage field surveys of each powerline route. Subsequently we conducted an assessment and produced this report.

We conducted reconnaissance study to collect geographical and topographical background information within the affected areas. During the site surface survey we sought to identify archaeological sites and physical cultural resources signatures as well as other cultural heritage sites such as graves or burial grounds, and religious or sacred sites associated with the proposed powerline routes

Identification of archaeological sites during surveying depends on visibility and accessibility. The proposed development areas are all easily accessible and are associated with existing developments such as residential properties, farm land and business establishments. The existing developments and associated infrastructure are the recipients of the electricity to be distributed through the proposed powerlines.

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4 RESULTS

The surveys investigated individual powerlines using already established survey routes and marked electricity powerline pole positions. The results of the surveys and the associated recommendations were tabulated for individual lines (see Appendix 1).

Projects Location Details

Province: Limpopo

Name of Properties: see Table 2

Proposed development: Linear development and erection of electricity distribution lines in 24 localities (appendix 1).

1:50 000 map name: (see attached Maps –Appendix 1)

GPS Co-ordinates: see attached records.

Current land use of the site: All powerlines traverse above land characterised by residential properties, commercial agricultural land, business infrastructures and open grazing lands (see attached records and maps for each of the 13 powerline route covered in this study – Appendix 1).

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Archaeological and Cultural Sites

No archaeological sites or other categories of physical cultural heritage properties or materials were identified on the affected areas on all 13 localities surveyed. It is not possible at this stage to measure frequency or probability of occurrence of impacts on unidentified heritage resources in these circumstances. However, we note that there is always a probability of discovering archaeological sites during subsurface earth moving activities such as those associate with infrastructures foundations construction work

Historic Monuments

No historical sites or features of significance were identified along or near all 13 powerline routes covered in this report. (see record for each site attached)

Cemeteries and burial sites

No burial grounds or graves were identified on direct route of any of the powerline routes.

5 STATEMENT OF OVERALL IMPACTS

Should previously unidentified archaeological or any other physical cultural materials be discovered on any of the powerline route sites during the powerline development, the impact will be permanent in nature; extent and duration (also see Bickford and Sullivan,

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6 RECOMMENDATIONS

No further predevelopment study or mitigation is necessary for the archaeological and physical cultural heritage resources with regards to the proposed development of electricity distribution on 13 localities covered in this study. However, should any archaeological materials be discovered in the course of the development, we recommend that the contractors notify the heritage authorities who will recommend an alternative position for the affect powerline pole.

7 CONCLUDING REMARKS

If our recommendations are taken into consideration, from a heritage perspective, the proposed ESKOM Distribution Powerline developments on 13 localities covered by this report are unlikely to impact upon archaeological or physical cultural heritage resources of significance. As such there are no identified archaeological or cultural heritage barriers to the proposed developments. We recommend that the Heritage Authorities approve the powerline development projects to proceed as planned.

8 REFERENCES

- Bickford, A and Sullivan, S. 1977. "Assessing the research significance of historic sites" in S Sullivan and s. Bowdler (eds), *Site Surveys and Significance assessment in Australian Archaeology*. Canberra: ANU.
- Hammond-Tooke, D.1993. *The roots of Black South Africa*. Johannesburg: Jonathan Ball Publishers
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If our recommendations are taken into consideration, from a heritage perspective, the proposed ESKOM Distribution Powerline developments on 13 localities covered by this report are unlikely to impact upon archaeological or physical cultural heritage resources of significance. As such there are no identified archaeological or cultural heritage barriers to the proposed developments. We recommend that the Heritage Authorities approve the powerline development projects to proceed as planned.

8 REFERENCES

- Bickford, A and Sullivan, S. 1977. "Assessing the research significance of historic sites" in S Sullivan and s. Bowdler (eds), *Site Surveys and Significance assessment in Australian Archaeology*. Canberra: ANU.
- Hammond-Tooke, D. 1993. *The roots of Black South Africa*. Johannesburg: Jonathan Ball Publishers
- National Heritage Resources Act (Act No 25 of 1999).

APPENDIX 1:

**DETAILED RESULTS FORMS AND MAPS FOR 24 LOCALITIES FOR Eskom
DISTRIBUTION POWERLINE DEVELOPMENT IN LIMPOPO PROVINCE**

APPENDIX 1:

**DETAILED RESULTS FORMS AND MAPS FOR 24 LOCALITIES FOR Eskom
DISTRIBUTION POWERLINE DEVELOPMENT IN LIMPOPO PROVINCE**

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

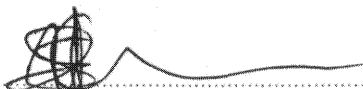
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: DE PUT 11kv	CUSTOMER: N.G MATIMOLANE
PROJECT NO: 14827	PROPERTY: KRAALHOEK 869 L.S
LENGTH OF LINE: 348.99m	MAP REFERENCE: 2329 DB (S) SCALE: 1: 2500
CO-ORDINATES:	T-OFF:- 81899.522 (Y) 2625008.546 (X) 1323.532(Z) TERMINAL:-85182.132 (Y) 2623010.534 (X) 1288.179(Z)

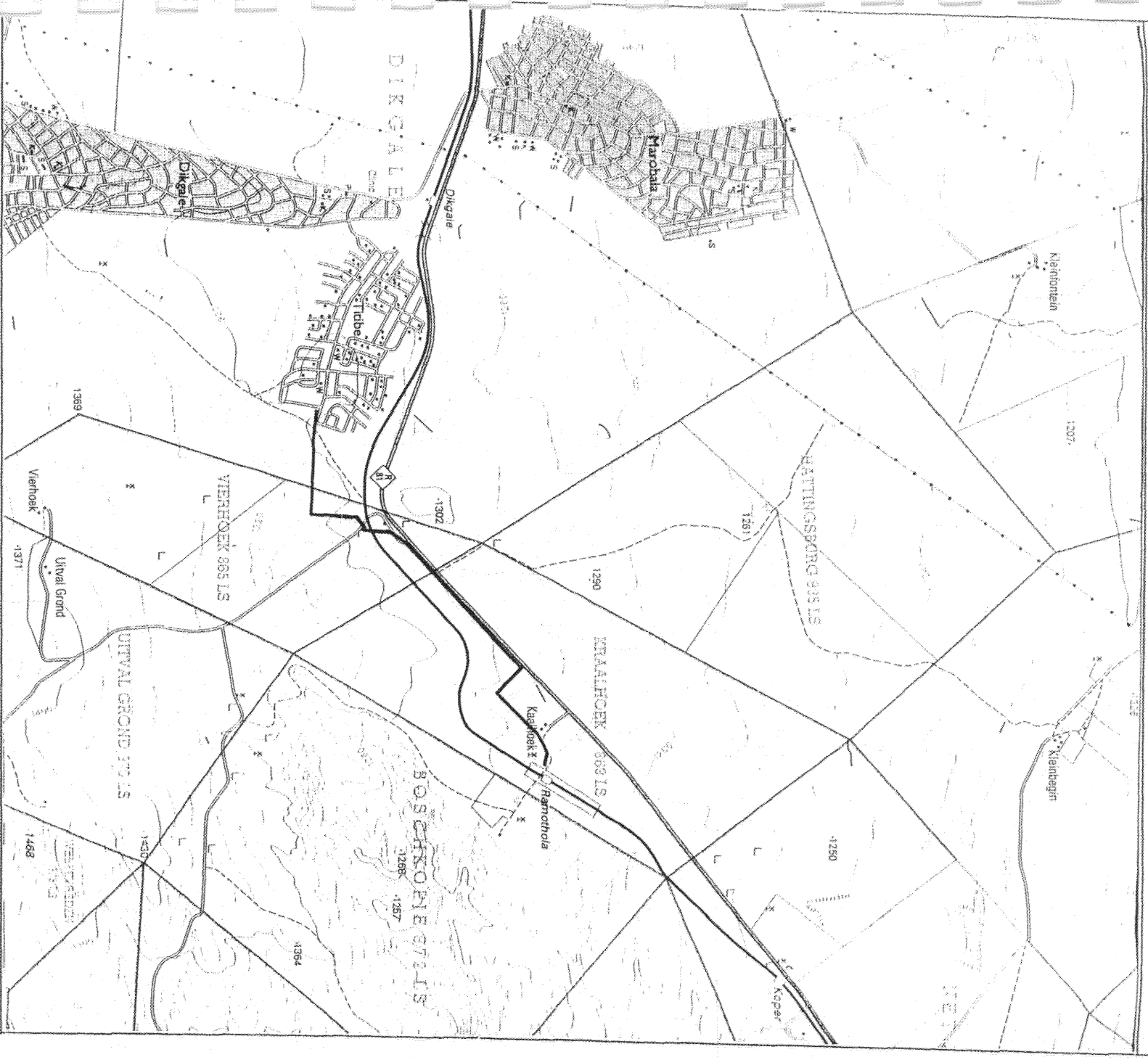
SENSITIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses from Kaalhoek, at Ramothola rail station substation to the east and run along the R81 road southwestwards and branches of to Titibe Village. The goes follows roadside sections.
HISTORICAL SITES:	None identified, line will traverses along the main road and local village roads.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line route.
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL: No Monuments are in affected area NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None identified
SIGNIFICANCE:	No archaeological or cultural heritage resources of significance within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed.
RECOMMENDATIONS	No further mitigation study necessary for heritage resources
HERITAGE MONITORING	Not necessary- area already developed in portions


Dr McEdward Murimbika (PhD)

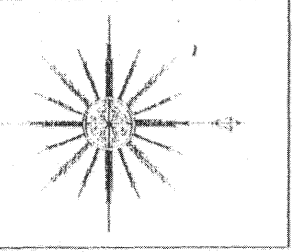
Principal Investigator

RED LINE INDICATES POWERLINE ROUTE



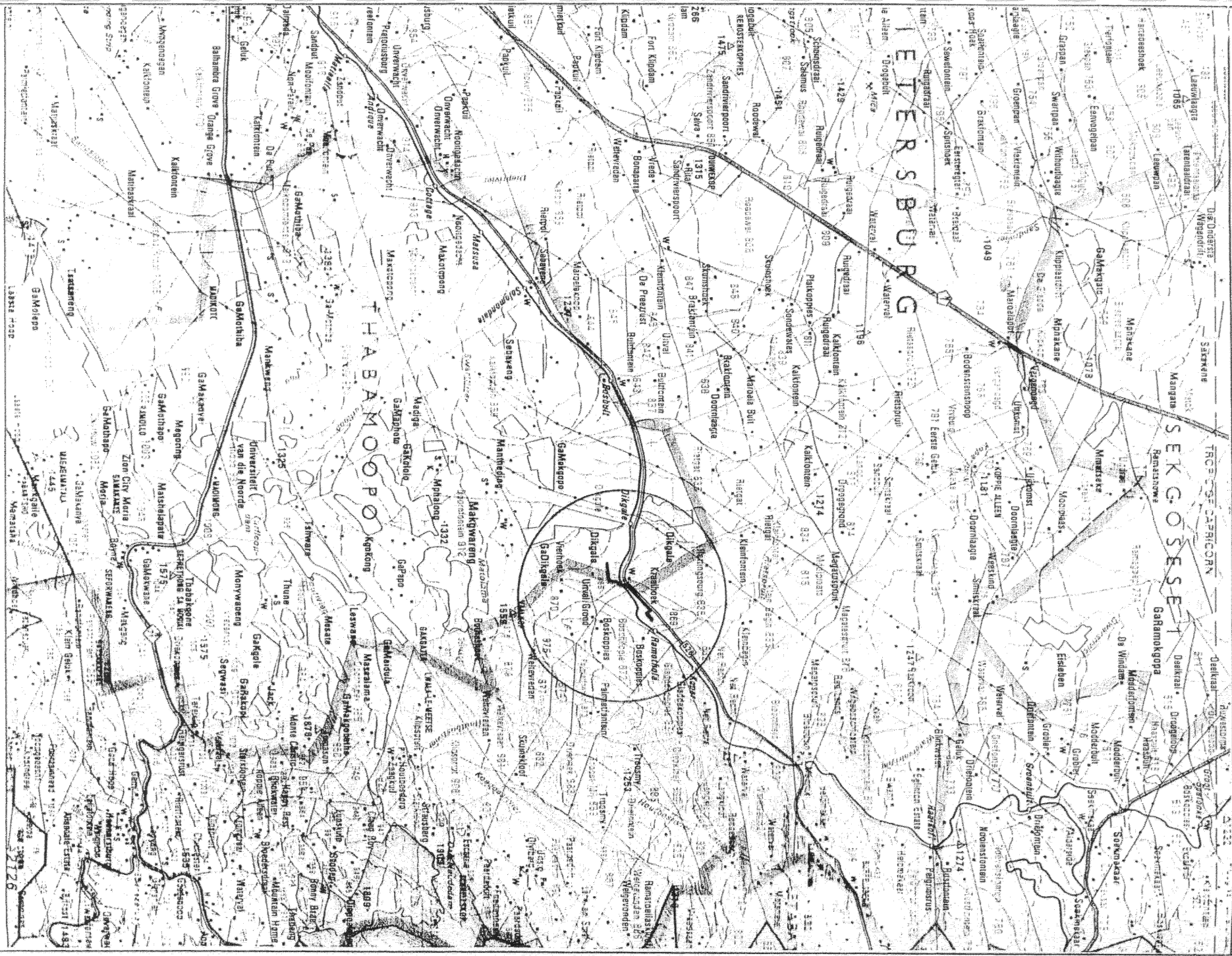
Route plan Northern region

Feeder : DE PUT 11KV	Portion of map no :
Customer : N.G. MATIMOLANE	2329 DB (S)
Project no : LU827	Scale : 1: 50 000
Area : POLOKWANE	



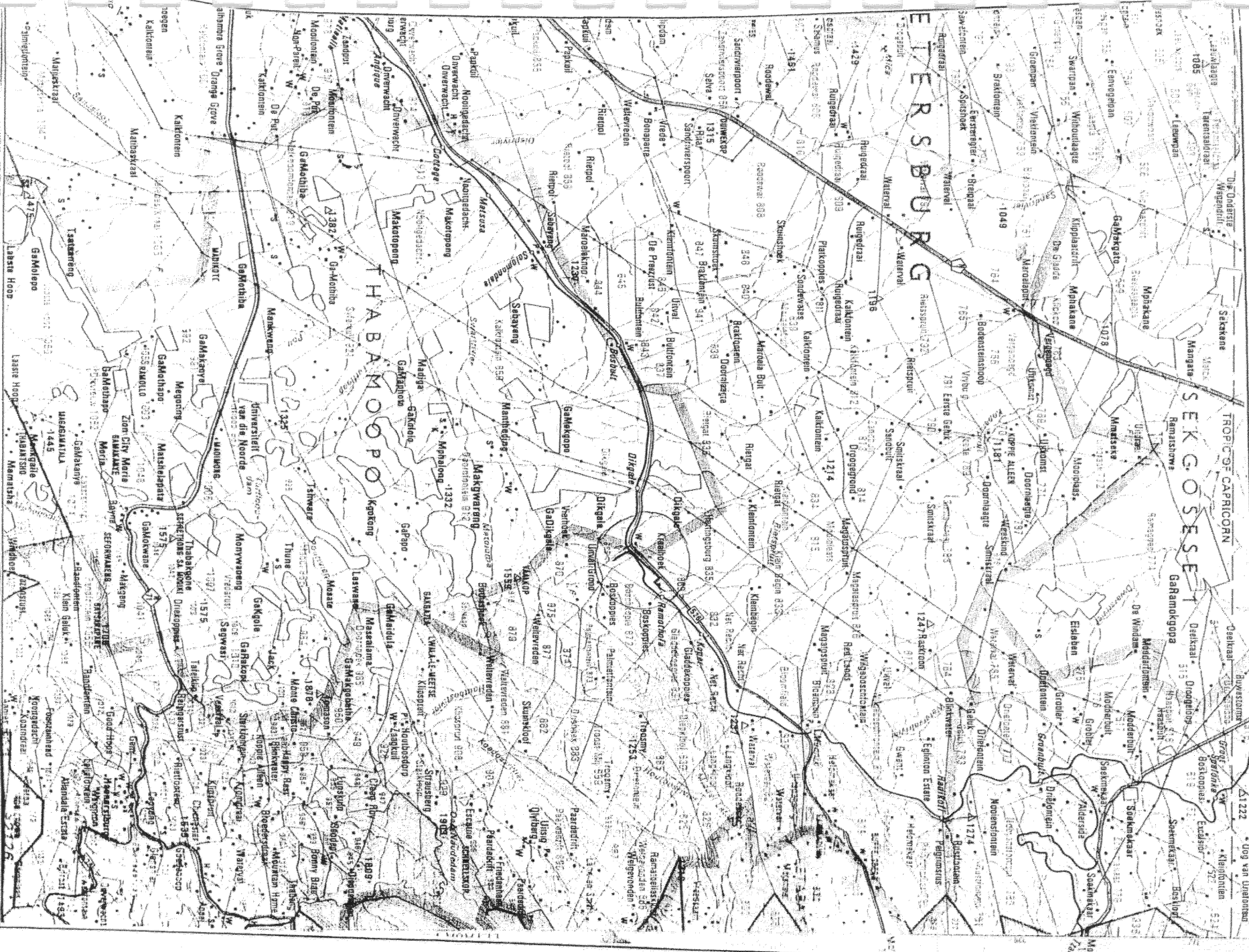
LOCALITY.

PROJECT NO : 14827
PORTION OF MAP NO : 2328
SCALE : 1:250 000



LOCALITY

PROJECT NO : 14827
PORTION OF MAP NO : 232E
SCALE : 1 : 250 000



01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

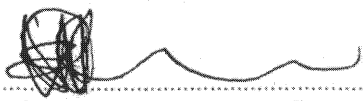
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

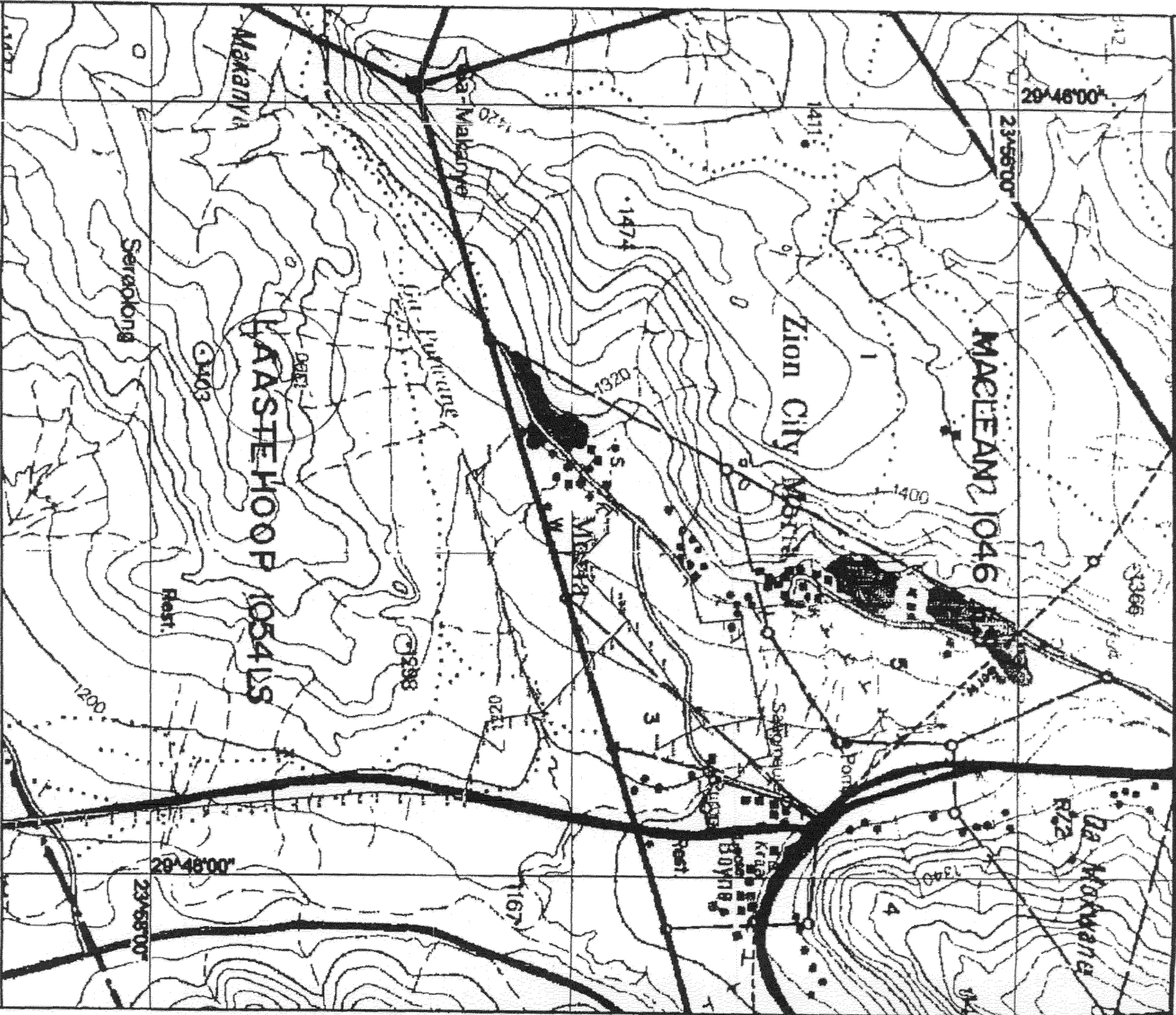
FEEDER: MOLEPO 11Kv	CUSTOMER: Molepo Rosa
PROJECT NO: 05Mnk67338	PROPERTY: Laastehoop 1054 LS
LENGTH OF LINE: 0,472 Km	MAP REFERENCE: 2329DD-S 1:2500:
CO-ORDINATES:	T-OFF: -79619.32 (Y) 2650830.08(X) TERMINAL: -79559.5 (Y) 2651132 (X)

SENSETIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line traverse through densely built up village areas of Laastehoop (Mankweng) just south of Zion City Moria. The area is mountainous.
HISTORICAL SITES:	None identified, line will traverse through village.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified on route.
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL: No Monuments are in affected area NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None
SIGNIFICANCE:	No archaeological resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated
RECOMMENDATIONS	No further mitigation study necessary for archaeological heritage resources
HERITAGE MONITORING	Not necessary, area has low potential for archaeological resources <i>in situ</i> .


Principal Investigator
 Dr McEdward Murimbika (PhD)

DASHED RED LINE INDICATES POWERLINE ROUTE



**Route plan
Northern Region**

Feeder: MOLEPO 11kV

Customer: MOLEPO ROSA

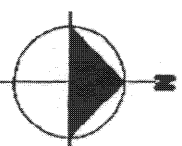
Project No: 05MINK67338

FSA / TSA / Area: POLOKWANE / MANKWENG

2329 DD S

Portion of map no:

Scale: 1:25 000



CLARKE 1880

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01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

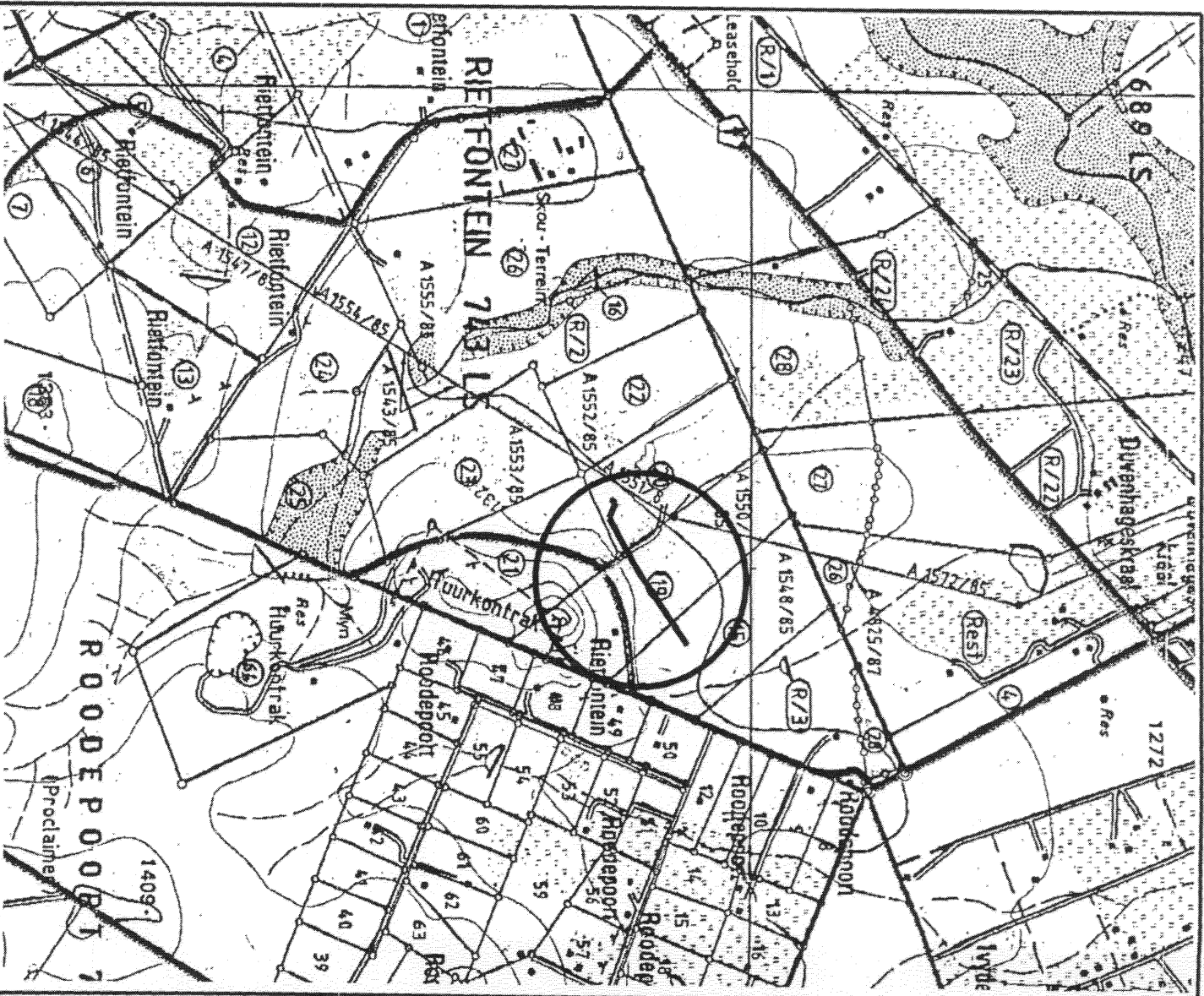
FEEDER: Ivydale 11kv/ Museum 11 kv	CUSTOMER: Eskom (Polokwane TSC)
PROJECT NO: EID_OMU_LINK	PROPERTY: Rietfontein 743 LS
LENGTH OF LINE: 0,812 M	MAP REFERENCE: 2329CD-S 1:5000:
CO-ORDINATES:	T-OFF: -41904.01 (Y) 2650952.98 (X) TERMINAL: -41619.64 (Y) 2651427.89 (X)

SENSITIVE AREAS


DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses through portion of Rietfontein farm. The area is grassland with scattered thorn bushes. Major developments in the vicinity include the R101 road and Meropa Casino complex.
HISTORICAL SITES:	None identified,
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line route. The area previously used for agricultural purposes. Therefore, surface disturbed and covered with limiting visibility.
BURIAL GROUND/ GRAVES	None
MONUMENTS	PROVINCIAL: No Monuments are in affected area. NATIONAL: No Monuments are in affected area.
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected.
LANDMARKS	None identified.
SIGNIFICANCE:	No cultural heritage resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed by agricultural activities.
RECOMMENDATIONS	No further mitigation study necessary for heritage resources.
HERITAGE MONITORING	Not necessary- area disturbed by previous land use.

Dr McEdward Murimbika (PhD)

Principal Investigator



ROUTEPLAN

		PLAN NO.		FEEDERS: Iydlie 11KV/ Museum 11KV
		2329		CLIENT: ESKOM - POLOKWANE TSC
CD - S		PROJECT NO: EID, OUM LINK		SCALE: 1 : 25 000
		AREA: POLOKWANE		

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

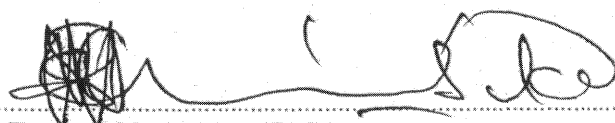
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

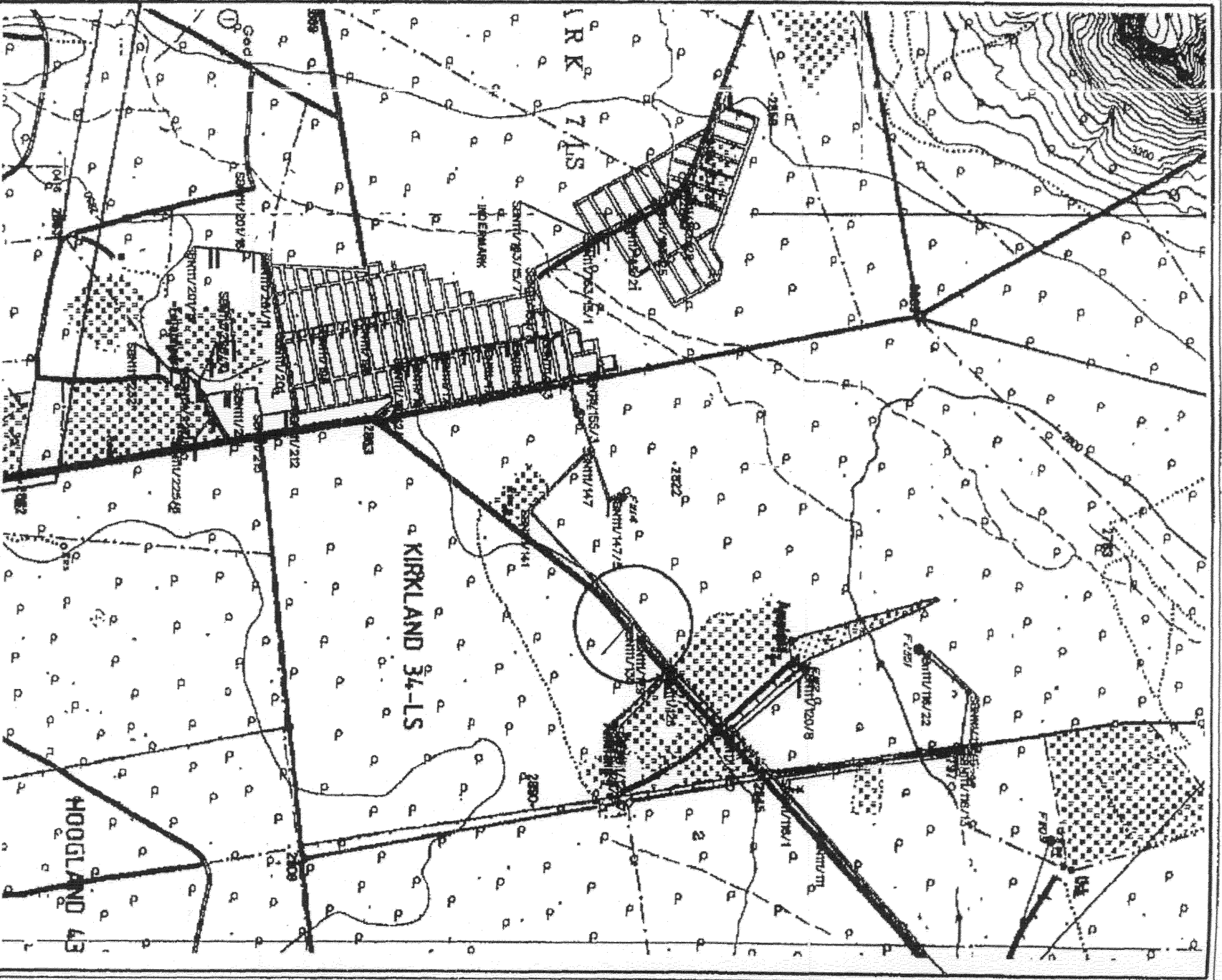
PROJECT DETAILS:

FEEDER: BOCHUM NORTH 22KV	CUSTOMER: P.J.J DU PLESSIS
PROJECT NO: 06DDN71373	PROPERTY: KIRKLAND 34 LS
LENGTH OF LINE: 0,300 Km	MAP REFERENCE: 2329AA (N) 1:2500:
CO-ORDINATES:	T-OFF: -23 03 50.0679 (LAT) 29 07 40.2846 (LONG) TERMINAL: -23 04 06.9398 (LAT) 29 07 35.8494 (LONG)

SENSITIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses over agricultural land on portion of Kirkland Farm
HISTORICAL SITES:	None identified,
ARCHAEOLOGICAL REMAINS:	None identified, area disturbed by farming activities.
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL/NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None identified
SIGNIFICANCE:	No cultural heritage resources within the affected farmland.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed by long term agricultural activities.
RECOMMENDATIONS	No further mitigation study necessary for heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by previous developments.


Principal Investigator
 Dr McEdward Murimbika (PhD)



ROUTE PLAN

DISTRIBUTION ENGINEERING (NORTHERN REGION)

P.O. BOX 3499
PIETERSBURG, 0700
TEL: (015) 299 0525
FAX: (015) 295 7550

PROJECT FILE NUMBER
PLAN NO.
2329AAH

SCHEDULE 2 BOCHUM NORTH
CLIENT: PJ DU PLESSIS
PROJECT NO: 06DDN71373
SCALE: 1:25 000
AREA: ALL DAYS



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01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: BOCHUM NORTH 22KV	CUSTOMER: P.J.J DU PLESSIS
PROJECT NO: 06DDN71376	PROPERTY: KIRKLAND 34 LS
LENGTH OF LINE: 0,906 Km	MAP REFERENCE: 2329AA (N-S) 1:2500:
CO-ORDINATES:	T-OFF: -23 03 58.6208 (LAT) 29 07 55.1345 (LONG) TERMINAL: -23 04 19.3870 (LAT) 29 08 13.1308 (LONG)

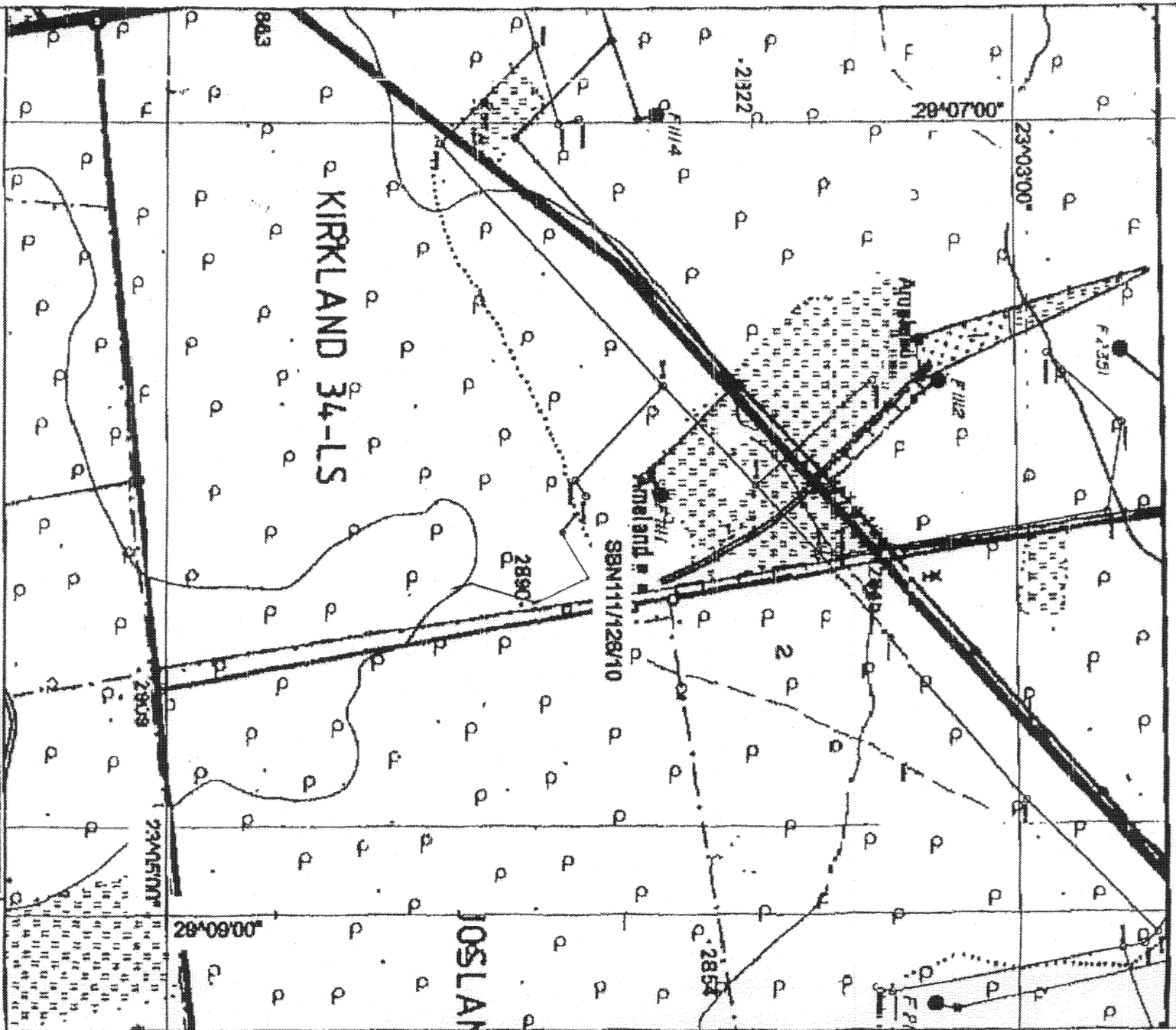
SENSETIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses portion of Kirkland Farm. The area is flat and used for irrigation purposes.
HISTORICAL SITES:	None identified, line will traverse through agricultural land
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified and the ground surface is disturbed by irrigation agricultural activities.
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL: None NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None identified
SIGNIFICANCE:	No cultural heritage resources within the affected area, its previously disturbed.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed by long term farming activities and irrigation infrastructure.
RECOMMENDATIONS	No further mitigation study necessary for Archaeological or heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by current land use activities

.....Principal Investigator

Dr McEdward Murimbika (PhD)

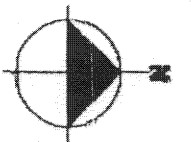
DASHED RED LINE INDICATES POWERLINE ROUTE



Route plan
Northern Region

Feeder: BOCHUM NORTH
 Customer: J.J DU PLESSIS
 Project No: 06DDDN71376
 FSV / TSA AVEC: THOHOVANDOU-MESSINA

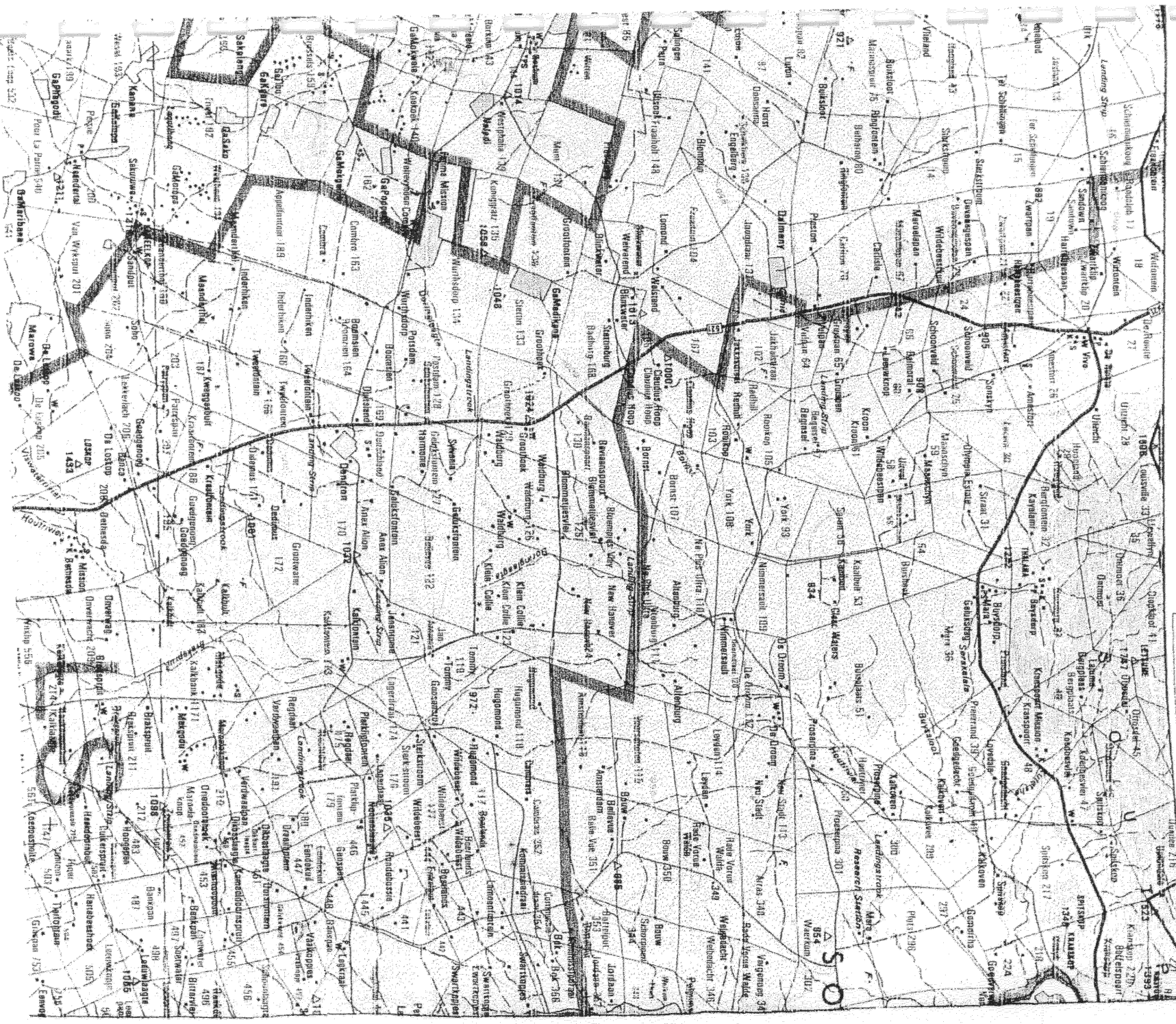
2329 AA N
 Portion of map no:
 Scale: 1:25 000



CLARKE 1880

LOCALITY

PROJECT NO : 06 DDN 7/376
PORTION OF MAP NO : 2328
SCALE : 1 : 250 000



01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: KHOMANENG	CUSTOMER: SELEPE
PROJECT NO: 06MNK75108	PROPERTY: MABULS 986 LS
LENGTH OF LINE: 516,24 M	MAP REFERENCE: 2329DD 1:1500:
CO-ORDINATES:	T-OFF: -83298.106 (Y) 2638345.673(X) 1424.697(Z) TERMINAL: -83651.543 (Y) 2638196.496 (X) 1441.219 (Z)

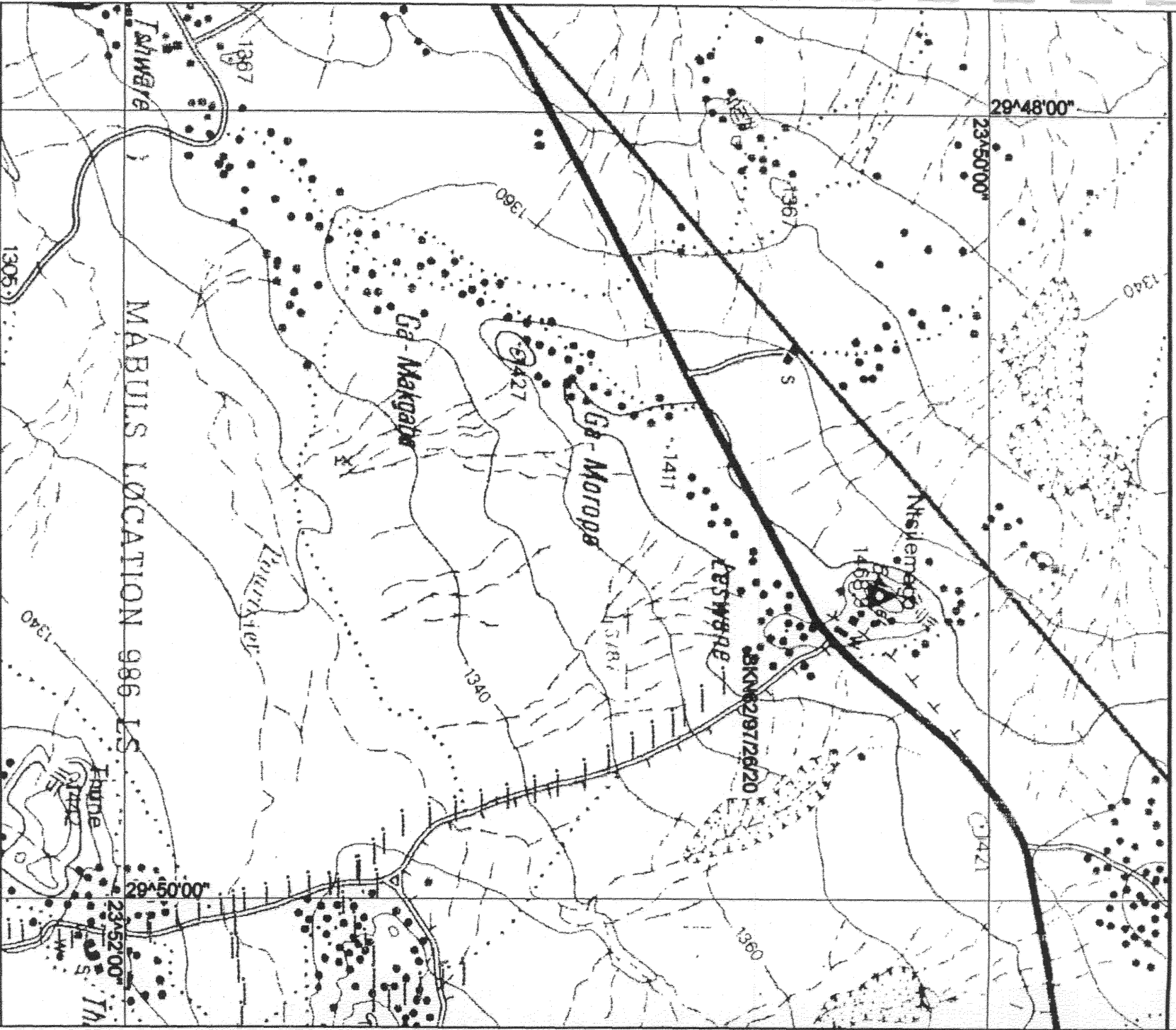
SENSITIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses through Mabuls Location, Khomaneng village area. The area is open rural settlements.
HISTORICAL SITES:	None were identified
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line route.
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL/ NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None identified
SIGNIFICANCE:	No cultural heritage resources of significance were recorded in affected area.
POTENTIAL IMPACTS	No impact anticipated on power line route
RECOMMENDATIONS	No further mitigation study necessary for archaeological or heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by previous and current land use developments.

Dr McEdward Murimbika (PhD)

Principal Investigator

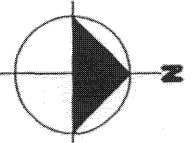
DASHED RED LINE INDICATES POWERLINE ROUTE



Distribution

**Route plan
Northern Region**

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apply:
Customer
Topographic



Feeder: **KHOMANENG 11kV**

2329 DD N

Customer: **SELEPE LEKAU JOHN**

Portion of map no:

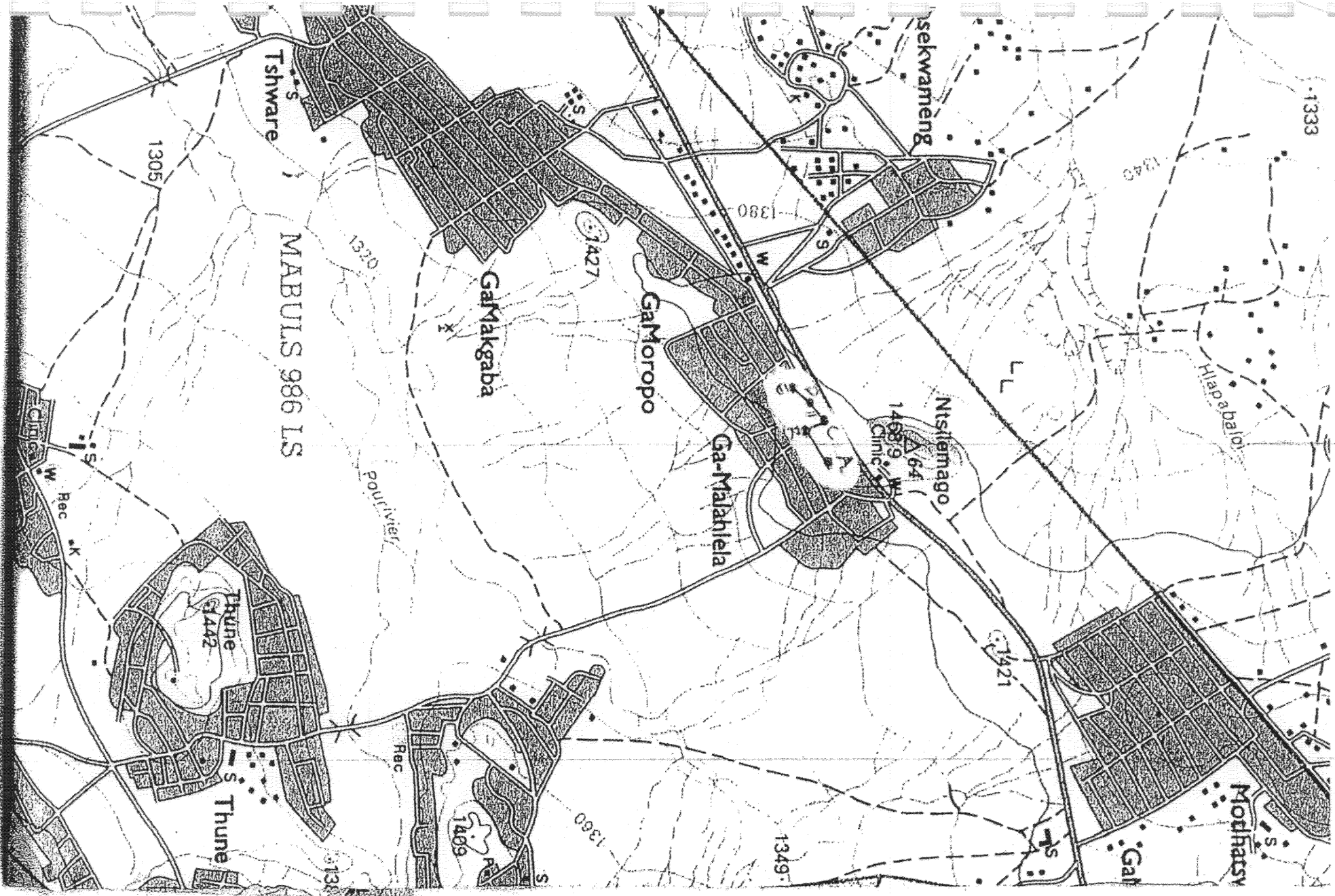
Project No: **06Mnk75108**

FSA / TSA Area: **POLOKWANE / MANKWENG**

Scale: **1:25 000**

CLARKE 1890

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01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

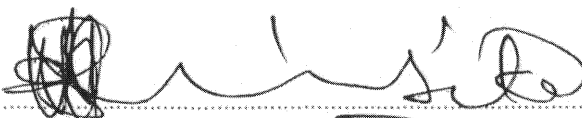
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

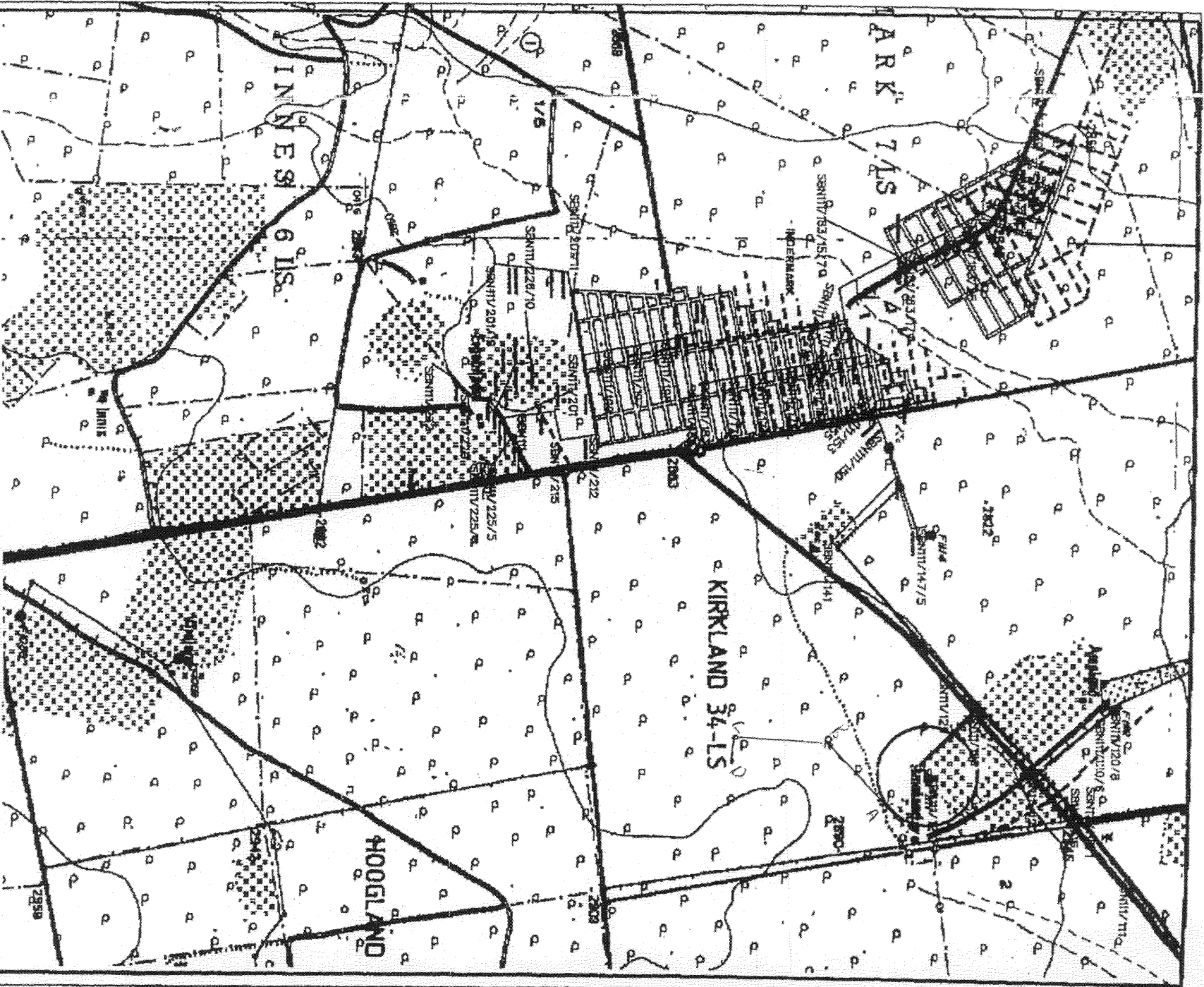
FEEDER: BOCHUM NORTH 22KV	CUSTOMER: P.J.J DU PLESSIS
PROJECT NO: 06DDN71893	PROPERTY: KIRKLAND 34 LS
LENGTH OF LINE: 1,395 Km	MAP REFERENCE: 2329AA (N-S) 1:2500:
CO-ORDINATES:	T-OFF: -23 03 58.6208 (LAT) 29 07 55.1345(LONG) TERMINAL: -23 04 43.0412 (LAT) 29 07 43.0312(LONG)

SENSETIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed power distribution line traverse through farmland portion of Kirkland Farm. The area is generally flat agricultural land with farming infrastructure in place.
HISTORICAL SITES:	None identified, line will traverses through agricultural land
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified <i>in situ</i> on affected land portion
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL/ NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None in the area
SIGNIFICANCE:	No archaeological or physical cultural heritage resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated
<u>RECOMMENDATIONS</u>	No further mitigation study necessary for archaeological resources
HERITAGE MONITORING	Not necessary- area disturbed by previous developments.


Dr McEdward Murimbika (PhD)

Principal Investigator



ROUTEPLAN

**DISTRIBUTION
ENGINEERING (NORTHERN REGION)**

P.O. BOX 3499
PIETERSBURG, 0700
TEL: (015) 299 0525
FAX: (015) 295 7350



Approved from Drawing
PLAN NO.

2329AAN/S

CLIENT: BOCHUM NORTH
PUJ DU PLESSIS

PROJECT NO: 06DDN71893

SCALE: 1:25 000

AREA: ALDAYS

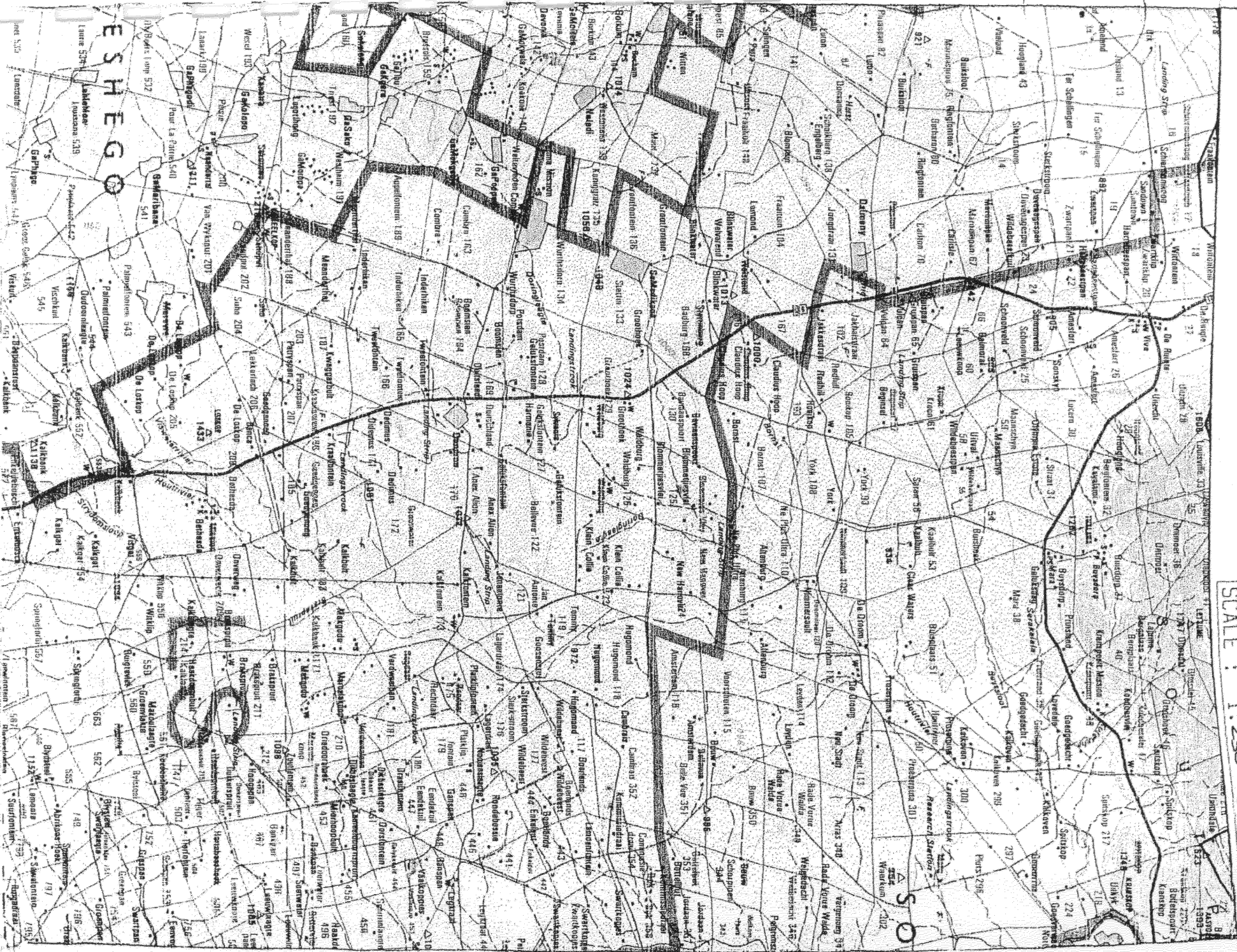
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REPRODUCTION FROM OFFICIAL MAPS REPRODUCED UNDER GOVERNMENT PROTECTION WITHOUT AUTHORITY NO. 438 OF 20/08/1998

LOCALITY

PROJECT NO : 060DN 71893
PORTION OF MAP NO : 2328

SCALE : 1:250 000



ESHEGO

SO

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: GLEN ALPINE	CUSTOMER: ESKOM
PROJECT NO: New Glen Alpine Feeder	PROPERTY: Dilaeneng and Ga-Marais Villages
LENGTH OF LINE: 1916,59m	MAP REFERENCE: 1/300 1:7500:
CO-ORDINATES:	T-OFF: -16°41.08849"S (LAT)07°53.80027"E(LONG) TERMINAL: -16°2.29897"S (LAT) 08°23.34803"E(LONG)

SENSETIVE AREAS

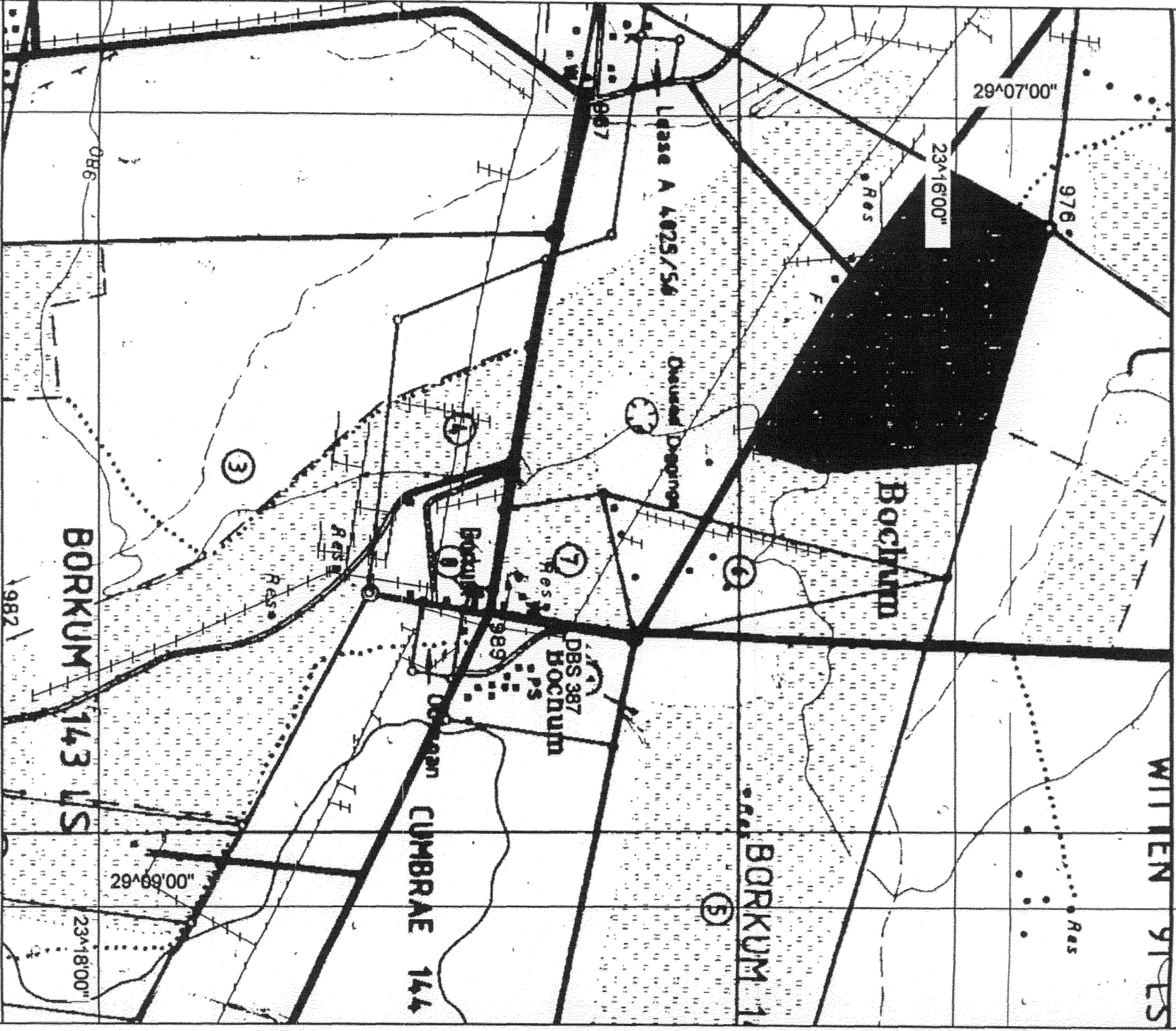
DESCRIPTION OF POWER LINE ROUTE	The proposed line traverses built-up village residential properties in Dilaeneng Village, Bochum. The line crosses existing roads, streets and there are other powerlines in the area.
HISTORICAL SITES:	None identified, line will traverses along the village street.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line route. Area is already built up.
BURIAL GROUND/ GRAVES	None were identified as affected
MONUMENTS	PROVINCIAL: No Monuments are in affected area NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected
LANDMARKS	None identified
SIGNIFICANCE:	No cultural heritage resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed.
RECOMMENDATIONS	No further mitigation study necessary for heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by existing developments.


Dr McEdward Murimbika (PhD)

Principal Investigator

DASHED RED LINE INDICATES POWERLINE ROUTE

WITTEN 9125



Route plan
Northern Region

Geographic Mapping Footnotes
This map is a reproduction of a map
in the public domain. It is not a
survey. The following additional
information is provided:
Topographic

Feeder: GLEN ALPINE FEEDER 22KV

Customer: ESKOM

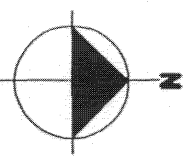
Project No: ALPINE DAM

FSA / TSA Area: PIETERBURG

2329 AC N

Portion of map no:

Scale: 1:25 000



CLARKE 1880

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

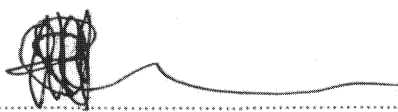
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: Bochum South	CUSTOMER: Eskom
PROJECT NO: Overdyk Electrification	PROPERTY: Overdyk, Bochum South
LENGTH OF LINE: 547.54	MAP REFERENCE: 1/300 1:50 000:2330 AC N
CO-ORDINATES:	T-OFF: -2318'19.17153 (LAT) 2906'50.77176(LONG) TERMINAL: -2318'39.82618 (LAT) 2906'16.37864(LONG)

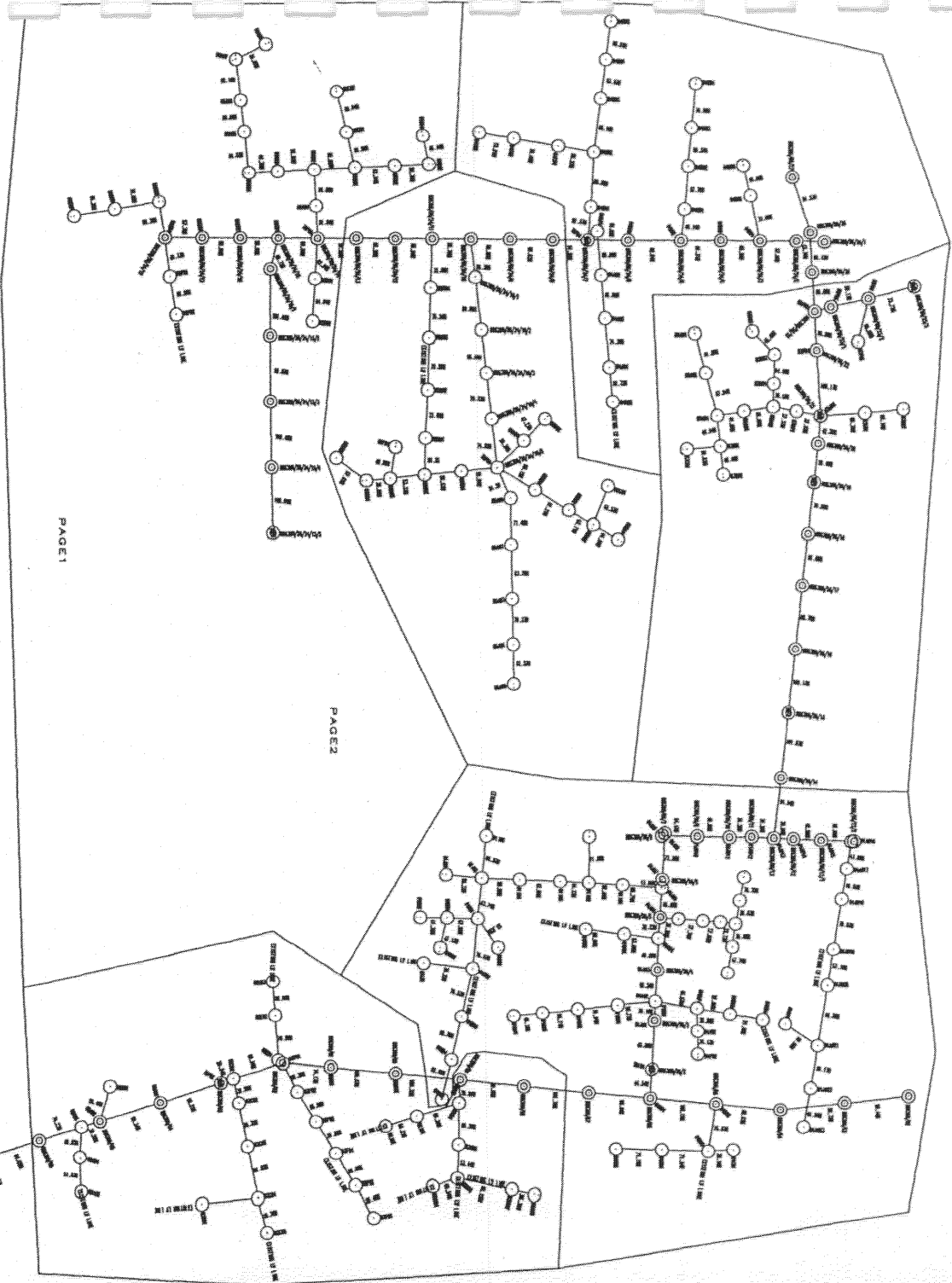
SENSITIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed power distribution lines are part of a whole village electrification project in Overdyk-Ga-Moleele Villages. The lines will traverse through villages streets and residential properties to allow linkage to individual properties across the whole villages. The area affected is thus already built up.
HISTORICAL SITES:	None identified, lines will traverses through village streets and residential properties.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line routes.
BURIAL GROUND/ GRAVES	None are affected by line routes
MONUMENTS	PROVINCIAL /NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No Archaeological, natural or cultural resources are affected. Powerlines will traverses through village streets and residential properties.
LANDMARKS	None identified
SIGNIFICANCE:	No cultural heritage resources within the affected area.
POTENTIAL IMPACTS	<u>No impact anticipated since area is previously disturbed.</u>
RECOMMENDATIONS	No further mitigation study necessary for heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by previous developments.


.....
Dr McEdward Murimbika (PhD)

Principal Investigator

OVERDYK ELECTRIFICATION



SCALE 1 : 10000
CORDINATE SYSTEM: WGS84 L029

PAGE 3

			Z	LATITUDE	LONGITUDE	Date
						Survey
2578355.79	997.852	23° 18' 19.17163" S	29° 06' 50.77176" E			
2578454.65	999.418	23° 18' 22.38460" S	29° 06' 51.15251" E			
2578553.82	1000.85	23° 18' 25.60804" S	29° 06' 51.52356" E			
2578653.29	1001.56	23° 18' 28.84173" S	29° 06' 51.19085" E			
2578755.02	1002.53	23° 18' 32.14894" S	29° 06' 50.85198" E			
2578850.63	1003.11	23° 18' 35.25701" S	29° 06' 50.53495" E			
2578951.93	1004.03	23° 18' 38.55003" S	29° 06' 50.19115" E			
2579051.05	1005.14	23° 18' 41.77225" S	29° 06' 49.84870" E			
2579150.92	1006.55	23° 18' 45.01894" S	29° 06' 49.51830" E			
2579250.56	1008.15	23° 18' 48.25793" S	29° 06' 49.19125" E			
2579324.8	1009.55	23° 18' 50.67155" S	29° 06' 48.94292" E			
2579420.9	1011.09	23° 18' 53.79442" S	29° 06' 50.01767" E			
2579515.34	1012.65	23° 18' 56.86375" S	29° 06' 51.09361" E			
2579609.99	1013.66	23° 18' 59.93952" S	29° 06' 52.15985" E			
2579706.05	1013.75	23° 19' 3.06126" S	29° 06' 53.23921" E			
2579786.13	1013.31	23° 19' 5.66364" S	29° 06' 54.13660" E			
2579884.21	1013.69	23° 19' 8.85188" S	29° 06' 54.13606" E			
2579986.69	1014.6	23° 19' 12.18310" S	29° 06' 54.11081" E			
2580086.41	1019.23	23° 19' 15.42465" S	29° 06' 54.07186" E			
2580186.07	1016.55	23° 19' 18.66420" S	29° 06' 54.07797" E			
2580285.72	1017.9	23° 19' 21.90336" S	29° 06' 54.06256" E			
2580386.33	1019.31	23° 19' 25.17389" S	29° 06' 54.04270" E			
2580485.79	1020.17	23° 19' 28.40680" S	29° 06' 54.05978" E			
2580587.52	1021.12	23° 19' 31.71373" S	29° 06' 54.01859" E			
2580655.76	1021.97	23° 19' 33.93193" S	29° 06' 54.00498" E			
2580730.84	1023.58	23° 19' 36.37246" S	29° 06' 53.99232" E			
2578752.99	1002.5	23° 18' 32.08396" S	29° 06' 49.28635" E			
2578748.59	1002.1	23° 18' 31.94301" S	29° 06' 46.61962" E			
2578744.13	1001.53	23° 18' 31.79984" S	29° 06' 43.82878" E			
2578739.59	1000.93	23° 18' 31.65425" S	29° 06' 40.97298" E			
2578735.78	1001.19	23° 18' 31.53182" S	29° 06' 38.88170" E			
2578731.76	1000.54	23° 18' 31.40323" S	29° 06' 36.34140" E			
2578736.08	1000.56	23° 18' 31.54333" S	29° 06' 36.47042" E			
2578681.61	1000.72	23° 18' 29.77275" S	29° 06' 36.51314" E			

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: MAPUVE 22kv	CUSTOMER: MBEDZI GRILLING MILL
PROJECT NO: THT4273632	PROPERTY: LOCATIE VAN DEN KNOPEUZEN 230 LT
LENGTH OF LINE: 348.99m	MAP REFERENCE: 2330 BA 1: 4 000
CO-ORDINATES:	T-OFF: -155767.9 (Y) 2571596.89 (X) TERMINAL: -155564.18 (Y) 2571296.78(X)

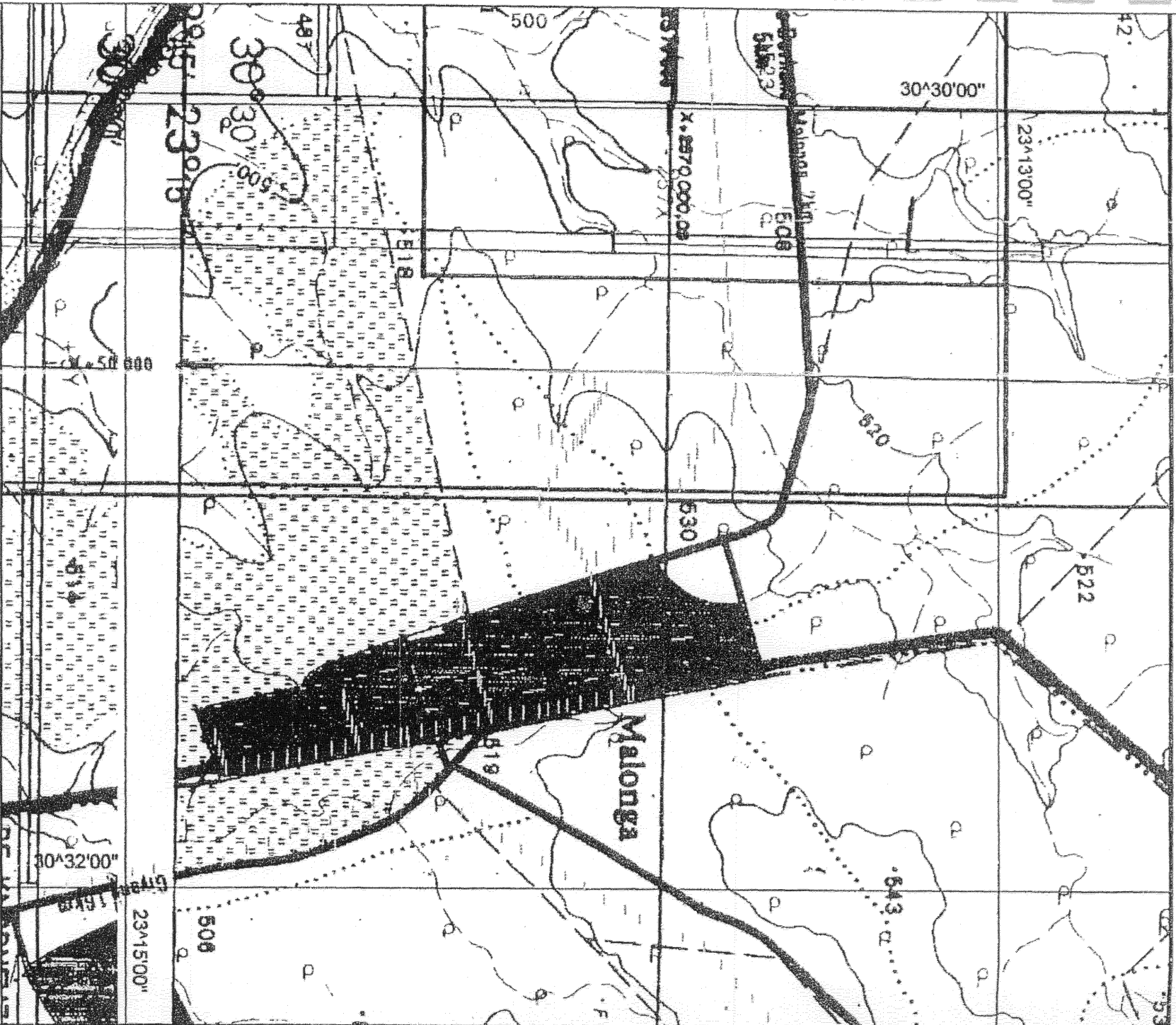
SENSETIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The proposed line extends for about 350m through Malonga-Makhuvha Village.
HISTORICAL SITES:	None identified, line will traverses along the village street.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed powerline route.
BURIAL GROUND/ GRAVES	None were identified, line runs through village streets
MONUMENTS	PROVINCIAL/ NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	None are affected
LANDMARKS	None identified
SIGNIFICANCE:	No archaeological or cultural heritage resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed.
RECOMMENDATIONS	No further mitigation study necessary for archaeological heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by existing village settlements.


Dr McEdward Murimbika (PhD)

Principal Investigator

DASHED RED LINE INDICATES POWERLINE ROUTE

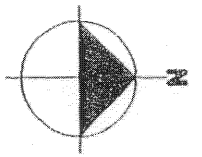


Route plan
Northern Region

Feeder: MAPUVHE 22kV
Customer: MBEDZI GRINDING MILL
Project No: TH14273632
FSA / TSA Area: THOHOYANDOU

Geographic Names and Place-names are not responsible for any errors in essential details displayed on this map. The following essential details were used:
Cartograph
Topographic

2329 AB S/ADN
2329 BA S/BCN
Portion of map no:
Scale: 1:25 000



CLARKE 1880

01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

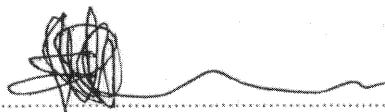
CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: MATATSHE 11kv	CUSTOMER: GALANANZHELE PRIMARY SCHOOL
PROJECT NO: THT 4044319	PROPERTY: CHIBASE 213 MT
LENGTH OF LINE: 402.76 m	MAP REFERENCE: 2230 DC 1: 4 000
CO-ORDINATES:	T-OFF: -158072.8 (Y) 2530761.09 (X) TERMINAL: -158339.32 (Y) 2530532.05 (X)

SENSITIVE AREAS

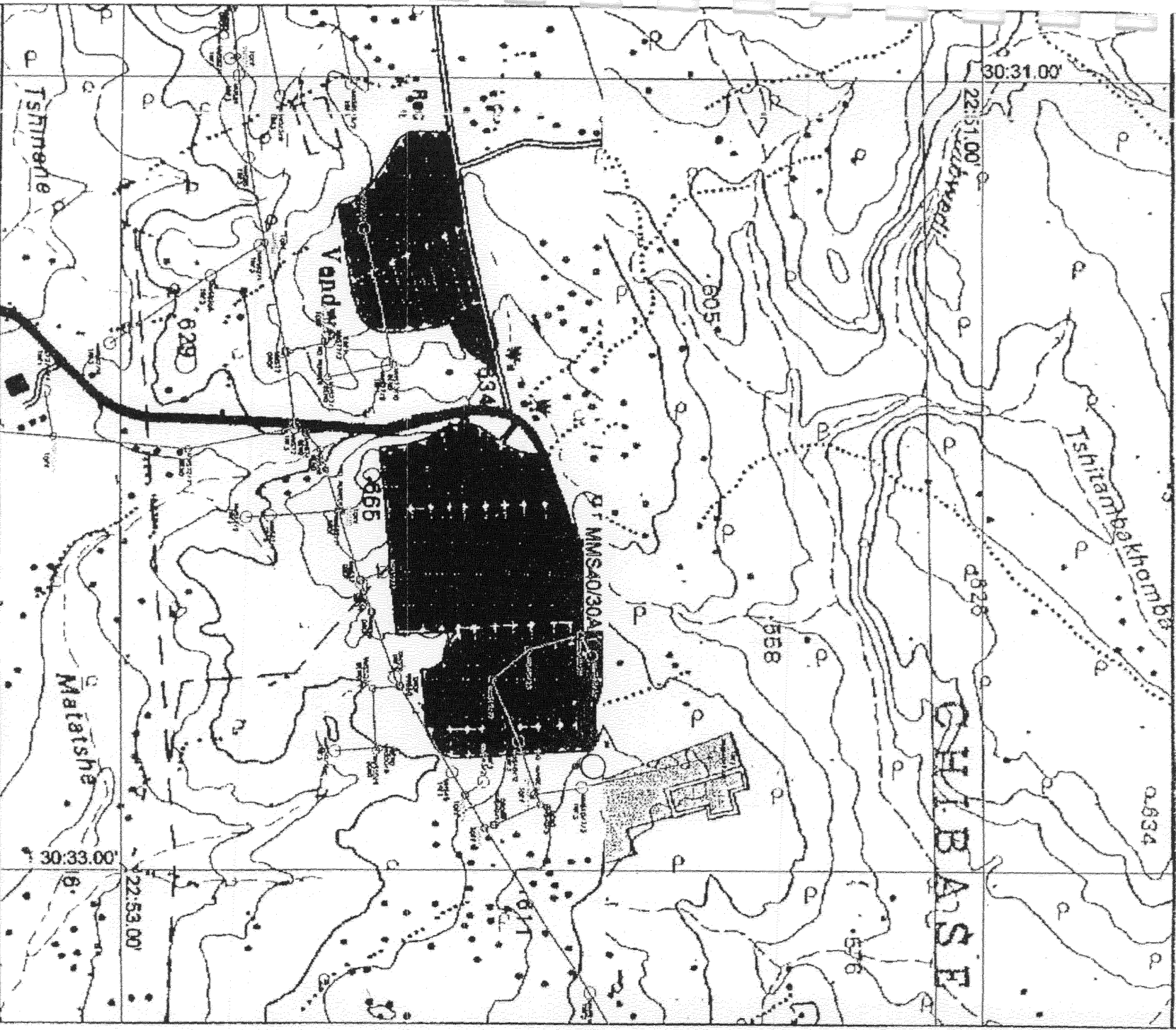
DESCRIPTION OF POWER LINE ROUTE	The proposed line will start from an existing powerline in Tshidimbini Village and traverse for about 400m to Galananzhele Primary School.
HISTORICAL SITES:	None identified,
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified along the proposed electricity line route. Area is built up with existing roads, fence lines and residential properties
BURIAL GROUND/ GRAVES	None
MONUMENTS	PROVINCIAL: No Monuments are in affected area NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural or cultural resources are affected, area is built up with existing roads, fence lines and residential properties
LANDMARKS	None identified
SIGNIFICANCE:	No archaeological or cultural heritage resources were identified within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is previously disturbed.
RECOMMENDATIONS	No further mitigation study necessary for heritage resources
HERITAGE MONITORING	Not necessary- area disturbed by previous developments.



Dr McEdward Murimbika (PhD)

Principal Investigator

DASHED RED LINE INDICATES POWERLINE ROUTE



Distribution

Route plan
Northern Region

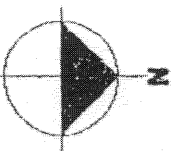
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Feeder: MATATSHE 11KV
 CUSTOMER: GALANANZHELE PRIMARY SCHOOL

Project No: TH14044319

FSA / TESA Area: THOHAYANDOU

2230 DC N/S
 Portion of map no:
 Scale: 1:25 000



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01 November 2006

**SCOPING REPORT
HERITAGE RESOURCE IMPACT ASSESSMENT**

CLIENT: ESKOM NORTHERN REGION ENGINEERING/DISTRIBUTION DIVISION (POLOKWANE)

PROJECT DETAILS:

FEEDER: TSHAKHUMA 22 kv	CUSTOMER: INFRABURO CIVILE ENGINEERS
PROJECT NO: THT 001905	PROPERTY: REUBANDER 21 LT
LENGTH OF LINE: 1 438.25m	MAP REFERENCE: 2330 BA 1: 4 000
CO-ORDINATES:	T-OFF: -139883.47 (Y) 2551754.72 (X) TERMINAL: -139870.4 (Y) 2551931.611 (X)

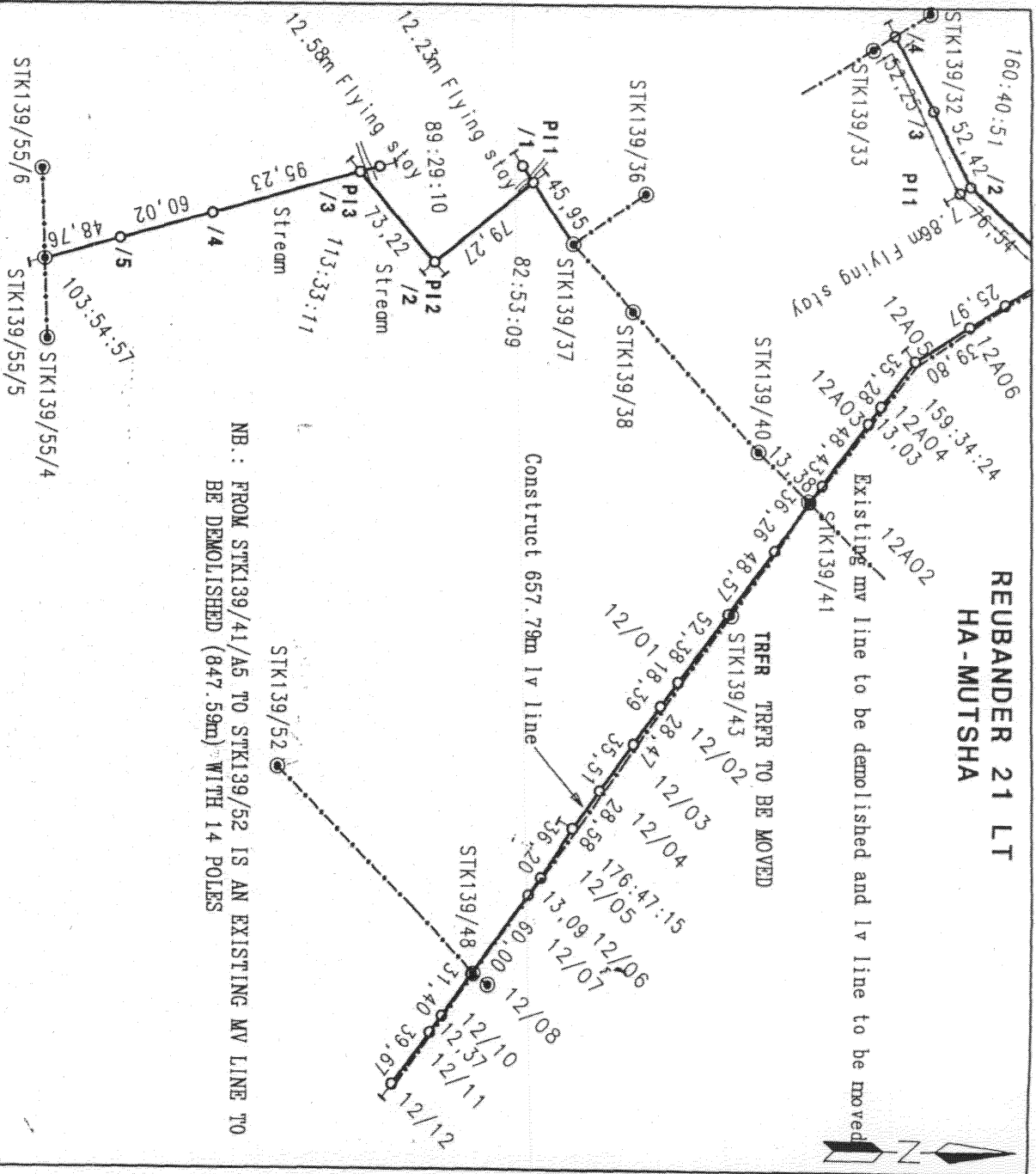
SENSETIVE AREAS

DESCRIPTION OF POWER LINE ROUTE	The 1.4km powerline traverses through built-up village area of Hamuntsha just south of the Makhado to Thohoyandou road
HISTORICAL SITES:	None identified, line will traverses along the village streets.
ARCHAEOLOGICAL REMAINS:	No archaeological remains were identified
BURIAL GROUND/ GRAVES	None were identified
MONUMENTS	PROVINCIAL: No Monuments are in affected area NATIONAL: No Monuments are in affected area
NATURAL/CULTURAL HERITAGE MONUMENTS	No natural, archaeological or cultural resources are affected in Hamuntsha area
LANDMARKS	None identified / none on record
SIGNIFICANCE:	No cultural heritage resources within the affected area.
POTENTIAL IMPACTS	No impact anticipated since area is already built-up.
RECOMMENDATIONS	No further mitigation study necessary
HERITAGE MONITORING	Not necessary


Dr McEdward Murimbika (PhD)

Principal Investigator

**REUBANDER 21 LT
HA-MUTSHA**



NB: FROM STK139/41/A5 TO STK139/52 IS AN EXISTING MV LINE TO BE DEMOLISHED (847.59m) WITH 14 POLES

DISTRIBUTION
NORTHERN ENGINEERING DIVISION
 NORTHERN AREA
 LAND SURVEY

P.O. BOX 3499
 POLOKWANE 0700
 TEL. (015) 299 0000
 FAX. (015) 295 7550

FEEDER: TSHAKHUMA 22kV	CUSTOMER: INFRABURO CIVIL ENGINEERS
PROJECT No.: TH1001905	PROPERTY: REUBANDER 21 LT
CONDUCTOR:	DATE: MARCH 2006
LENGTH OF LINE: 1 438.25m	COMPILATION: 2330 AB
SURVEYOR: N P MATIBE	SCALE: 1: 4 000
DRAUGHTSPERSON: L NEDZINGAHE	PAGE: 1 OF 2

Annexure D2:SPREADSHEET FORMAT EXAMPLE

Datum / System	LO	ProjectNo	Customer	Feeder Code	Surveyor	Pole No	Description	Structure Type	Equipment	Y	X	Z	Survey Date	Lat d.m.s	Long d.m.s
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28	Existing	T-Off	None	-170.26	2594411.61		05-01-06	23:27:01.22	29:00:05.99
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28/2	Existing	OLT	TRF	-351.95	2594389.19		05-01-06	23:27:00.50	29:00:12.40
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28/4	Proposed	Bend	None	-448.91	2594376.45		05-01-06	23:27:00.08	29:00:15.81
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28/5	Proposed	Bend	None	-494.48	2594318.96		05-01-06	23:26:58.21	29:00:17.42
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28/9	Proposed	Bend	None	-831.65	2594307.75		05-01-06	23:26:57.85	29:00:29.30
WGS84	29	05DDN71473	M.F. Namethe	DBS	J.H. Vorster	DBS380/56/99/100/13/42/28/10	Proposed	OLT	TRF	-830.78	2594259.40		05-01-06	23:26:56.28	29:00:29.26