



Archaeetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**PHASE 1 SCOPING REPORT FOR THE ARIADNE-VENUS 400kV
TRANSMISSION LINE BETWEEN ESTCOURT AND PIETERMARITZBURG, KZN
PROVINCE**

For:

***BAAGI ENVIRONMENTAL CONSULTANCY cc
P.O. BOX 72847
LYNNWOOD RIDGE
0040***

REPORT: AE1162

by:

***A.J. Pelser
Accredited member of ASAPA***

June 2011

Archaeetnos
P.O. Box 55
GROENKLOOF
0027
Tel: 083 291 6104/**083 459 3091**
Fax: 086 520 0673
E-mail: **antonp21@yahoo.com**

Members: AC van Vollenhoven BA, BA (Hons), DTO, NDM, MA (Archaeology) [UP], MA (Culture History) [US], DPhil (Archaeology) [UP], Man Dip [TUT], DPhil (History)[US]
AJ Pelser BA (UNISA), BA (Hons) (Archaeology), MA (Archaeology) [WITS]

**©Copyright
Archaetnos**

The information contained in this report is the sole intellectual property of Archaetnos CC. It may only be used for the purposes it was commissioned for by the client.

DISCLAIMER:

Although all possible care is taken to identify all sites of cultural importance during the survey of study areas, the nature of archaeological and historical sites are as such that it always is possible that hidden or subterranean sites could be overlooked during the study. Archaetnos and its personnel will not be held liable for such oversights or for costs incurred as a result thereof.

The South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report and clients are advised not to proceed with any action before receiving these. In this case, with the project area situated in Kwa-Zulu Natal, Amafa, the Heritage Authority in this province, needs to provide comments

SUMMARY

Archaetnos cc was contracted by BAAGI Environmental Consultancy, on behalf of ESKOM, to conduct a Scoping of Cultural Heritage Resources for the new 400 KV Ariadne-Venus Transmission Line Project. The line stretches from Estcourt to Pietermaritzburg in the KwaZulu Natal Province. The first section of the work was done during February 2010, and included a fly-over on the proposed line in the area. The second section (limited field survey) was conducted during June 2011, and concentrated on looking at possible cultural heritage sites that could potentially be impacted on negatively by the alternative routes for the powerline.

As the area is quite large (nearly a 130km distance) it was difficult to assess all areas that could be impacted on by the alternative routes. The study therefore constituted a drive through the area, visiting museums and other sites of heritage significance, while the Natal Museum Archaeology Database was searched for information. A number of sites of cultural (archaeological and historical) heritage significance were identified in the area, dating to between the Stone Age and more recent Historical period. The report gives a short discussion of these cultural heritage resources and also gives an indication of the methodology followed. It also indicates what needs to be done during the next phases of the project (Heritage Walk Down).

Mitigation measures to minimize the possible impact of the development on the sites that were located during the assessment are put forward at the end of this report. Once these have been implemented the development, from a Cultural Heritage perspective, can continue.

CONTENTS

	page
SUMMARY	3
CONTENTS.....	4
1. INTRODUCTION	5
2. TERMS OF REFERENCE	5
3. CONDITIONS AND ASSUMPTIONS	5
4. LEGALISLATIVE REQUIREMENTS	6
5. METHODOLOGY	9
6. DESCRIPTION OF THE AREA.....	10
7. DISCUSSION.....	15
8. CONCLUSIONS AND RECOMMENDATIONS.....	23
9. REFERENCES	24
APPENDIX A.....	26
APPENDIX B	27
APPENDIX C	28
APPENDIX D.....	29
APPWNDIX E.....	30

1. INTRODUCTION

Archaeos cc was contracted by BAAGI Environmental Consultancy, on behalf of ESKOM, to conduct a Scoping of Cultural Heritage Resources for the new 400 KV Ariadne-Venus Transmission Line Project. The line stretches from Estcourt to Pietermaritzburg in the KwaZulu Natal Province. The first part of the work was done during February 2010, and included a fly-over on the proposed line in the area. A limited field survey was conducted during June 2011, and concentrated on locating possible cultural heritage sites that could potentially be impacted on by the development of the alternative routes for the Powerline.

As the area is quite large (nearly 130km distance) it was difficult to assess all areas that could be impacted on by the alternative routes. The study therefore constituted a drive through the area, visiting museums and other sites of heritage significance, while the Natal Museum Archaeology Database was searched for information. A number of sites of cultural (archaeological and historical) heritage significance were identified in the area, dating to between the Stone Age and more recent Historical period.

The client indicated the extent of the proposed development and the boundaries of the area to be surveyed, as well as the location of the alternative Powerline routes. The work was confined to this area.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) that could possibly be located in the area of the proposed development (**see Appendix A**).
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (**see Appendix B**).
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources, should this be applicable.
5. Review applicable legislative requirements.

Due to the limitations of the field survey (time constraints, large survey area) it was not possible to identify all sites and occurrences, while the significance of sites and possible impacts on these could not be determined.

3. CONDITIONS & ASSUMPTIONS

The following conditions and assumptions have a direct bearing on the survey and the resulting report:

1. Cultural Resources are all non-physical and physical man-made occurrences, as well as natural occurrences associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development. Graves and cemeteries are included in this.
2. The significance of the sites, structures and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. The various aspects are not mutually exclusive, and the evaluation of any site is done with reference to any number of these aspects.
3. Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see **Appendix B**).
4. The latitude and longitude of any archaeological or historical site or feature, is to be treated as sensitive information by the developer and should not be disclosed to members of the public.
5. All recommendations are made with full cognizance of the relevant legislation.
6. It has to be mentioned that it is almost impossible to locate all the cultural resources in a given area, as it will be very time consuming. **Developers should however note that the report should make it clear how to handle any other finds that might be found.**

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

4.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils

- i. Objects, structures and sites of scientific or technological value.

The national estate (**see Appendix D**) includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. **The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length**
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

4.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

5. METHODOLOGY

5.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the cultural heritage (archaeology and history) of the area. Sources consulted in this regard are indicated in the bibliography. The Natal Museum's Archaeological Database was also consulted for information on sites that could be located in the area. Dr.Gavin Whitelaw, Head of the Museum's Archaeology Department, provided us with the information.

5.2 Field survey

With such a vast area covered by the development area (stretching nearly 130km between Estcourt and Pietermaritzburg), it **was not possible to assess all areas that will be impacted on by the various routes**. The field survey therefore constituted a drive through the area covered by the alternative routes, visiting known museums and heritage sites to obtain information on the cultural heritage resources in the area, while information gathered during the February 2010 fly-over and site visits, together with information from the Natal Museum database, **was used to indicate the range of cultural heritage sites that could be expected on the routes**.

It is envisaged that a Heritage Walkdown will have to be conducted once the final route and individual Pylon positions has been determined. This will constitute a more thorough and detailed HIA for the area. This will determine the possible impacts of the development on any sites of cultural (historical & archaeological) heritage significance that are located in the area.

5.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all circumstances. When applicable, the information is included in the text and referred to in the bibliography.

5.4 Documentation

All sites, objects, features and structures identified are documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

6. DESCRIPTION OF THE AREA

The proposed 400 kV Powerline stretches for approximately 130km from the Venus substation near Estcourt to the Ariadne substation near Pietermaritzburg in KwaZulu Natal.

The line traverses a range of landscapes (mountainous, flat grassland, mixed bushveld, dense forest, etc). Although some portions has not been disturbed and can be described as pristine, large areas has been agriculturally changed (maize and sugarcane) and built-up (rural and urban residential), while mining and forestry areas have also changed the face of the environment in the past. Existing Powerlines and the N3 Highway has also impacted on the area. Many archaeological and historical sites that would have existed here in the past would therefore have been disturbed or destroyed to a large degree.

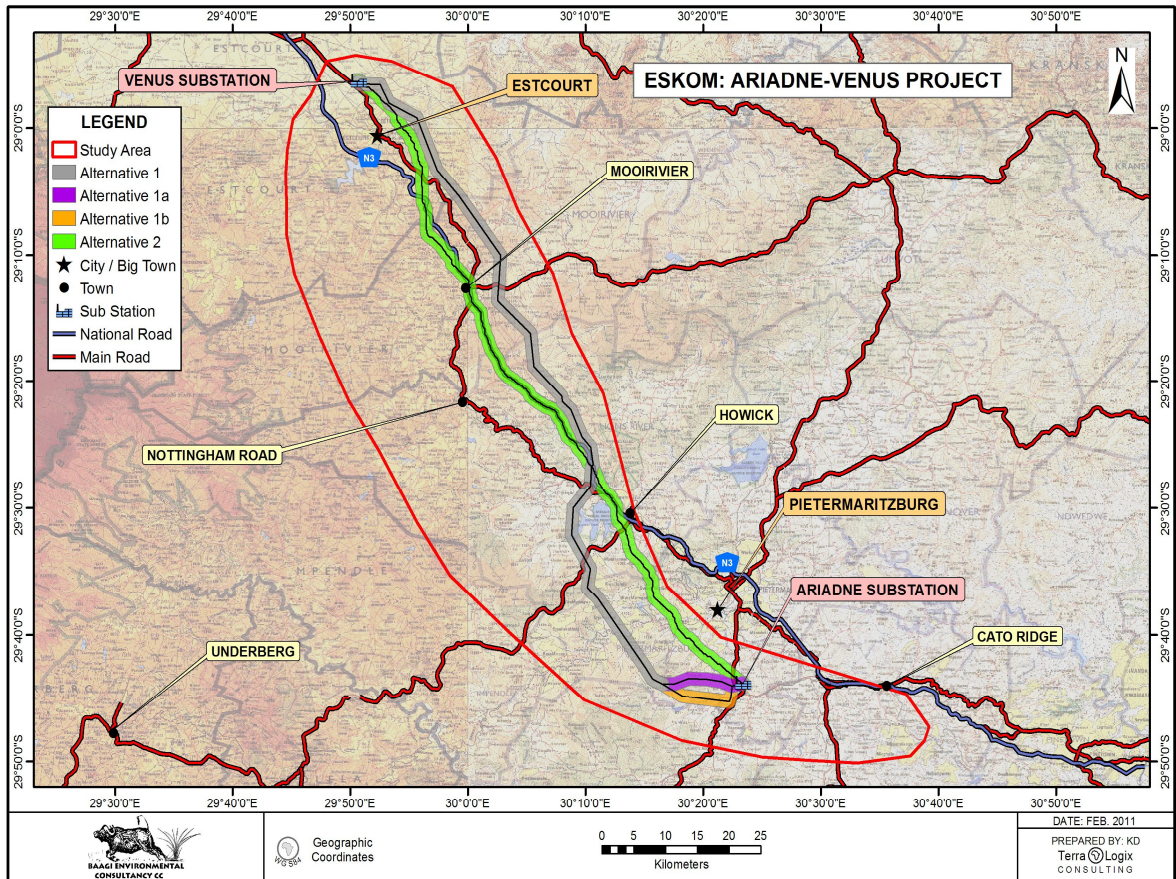


Figure 1: Location of the project area showing the substations and alternative line routes (map courtesy TerraLogix Consulting).



Figure 2: Venus substation from the air



Figure 3: Ariadne substation from the air



Figure 4: View of a portion of the area over which the line will stretch



Figure 5: One of the mining areas that has caused disturbance



Figure 6: Urban residential development



Figure 7: Large areas has been forested with plantations



Figure 8: Sugarcane fields



Figure 9: Dense natural forest are found in certain sections



Figure 10: Sprawling rural residential areas



Figure 11: Some mountainous areas are also found. Stone Age sites, including rock art sites could be found here

7. DISCUSSION

During the fly-over, preliminary visit and recent limited field study (Scoping) in the area a range of cultural (archaeological and historical) sites and features were identified, while a search of databases and literature also indicated the presence of more sites in the area. In order to enable the reader to understand archaeological objects, features and sites that could possibly be identified, unearthed and disturbed during development, it is necessary to give a background regarding the different phases of human history.

7.1 Stone Age

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

7.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

7.3 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. The first Europeans in the Estcourt area were the Voortrekkers, who camped close to the area on the banks of the Bushmans River. The town was apparently named after Thomas Estcourt, a member of the British parliament, in 1863. Pietermaritzburg was established in 1838, and is named after Piet Retief and Gerrit Maritz, two of the Voortrekker leaders (Source: Wikipedia).

Stone Age cultural heritage in the area

Although no sites, including rock art locations, were identified or visited during the Scoping phase, it is known that stone age sites and rock art does occur in the wider geographical area. Some erosion dongas were noticed during the fly-over on the line, and these locations might reveal Stone Age tools and other material. Similarly, hilly areas with possible rock shelters and overhangs were also seen, and together with the dongas these locations will have to be visited and assessed in detail during the final Heritage Walkdown phase of the project, to ensure that the line and individual pylons do not impact on any sites.



**Figure 12: One of several erosion dongas on the line.
Stone Age and other archaeological material could be recovered from here**



Figure 13: A possible rock art location not far from the line

Iron Age

A number of Late Iron Age stone walled features and sites were visible on the line during the fly-over, and include livestock enclosures, hut bays and other features that represent larger settlements and smaller homesteads.

Although it is not possible to really determine to which time-period or groups the sites belong to, it is possible that some Early Iron Age sites could be found in the area. Sites, based on decorated pottery, dating to between AD 750 and 1050, are known to occur in the larger geographical area. These sites, including Ndongondwane and Ntsekane belong to the so-called Kalundu Tradition of the EIA (Huffman 2007: 309 & 313). Late Iron Age sites, belonging to the Moor Park facies of the Urewe Tradition, and dating to between AD 1350 and 1750 can also be expected (Huffman 2007:159).



Figure 14: Iron Age stone walled site from the air



Figure 15: Another Iron Age stone walled site

Historical Age sites

By far the largest number and range of cultural heritage sites in the area date to the more recent historical period (early 19th to mid 20th century). This includes graves and graveyards, old farmsteads, Anglo-Boer War (1899 – 1902) sites, railway stations and bridges.

Graves

A total of 51 formal graveyards were identified in the area stretching from Estcourt to Pietermaritzburg (SA Genealogical Society Graves Database). This includes church cemeteries, war cemeteries, private (family) cemeteries, farm cemeteries and community cemeteries (e.g Commercial Road cemetery in Pietermaritzburg). Many more single graves, unknown or undocumented graveyards could still be present in the area. Due to the sensitive nature of graves this aspect will have to be dealt with very carefully, and once the final line route has been determined, all graveyards will have to be visited and recorded during the final Walkdown to ensure that they will not be negatively impacted on by the Powerline construction. This will include obtaining GPS coordinates of each graveyard in the area.

Anglo-Boer War (1899-1902) sites

This includes Concentration Camp sites near Howick (Howick Internment Camp) and Pietermaritzburg, as well as the Battle of Willow Grange site on Nottingham Road. This battle was fought during 23 November 1899, during the early phases of the War. There are also a number of Anglo-Boer War Memorials in Howick.

Other Historical sites

This includes a number rail bridges and stations, including the Thornville station near Ariadne substation, which could be older than 60 years of age. Others include the following:

Fort Durnford in Estcourt(1873)
Rensbergkop (1838)
Saailaager (Gerrit Maritz) Monument in Estcourt(1838)
Old Natal Government Rail Bridge in Estcourt (1885)
The Powder magazine in Estcourt (1859)
The first government school in Estcourt (1876)
St Matthew's Chapel in Estcourt (1882)
St Augustine's Chapel in Estcourt (18??)
Old Civic Buildings in Estcourt (1891)
World War I Memorial in Estcourt (1924)
The Mandela Capture Site Memorial near Lion's River
Various museums and historical buildings in the various towns on the line.



Figure 16: Farmstead



Figure 17: Old Rail Bridge



Figure 18: Rail station



Figure 19: Ruins of farmstead



Figure 20: Historical railway bridge near Estcourt



Figure 21: Another farmstead ruin on the line



Figure 22: Graveyard from the air (near Estcourt)

Discussion of sites found during the recent survey and sites recorded in the Natal Museum Database

A large number of sites of cultural (archaeological & historical) heritage sites are known to occur in the larger geographical area and in the area where the development is being planned. These probably included some of the sites mentioned above. **The impact of the Powerlines on these is at this stage unknown, as the final line route and individual pylon positions have not been determined yet. However, this does give an indication of the range and types of sites that could be expected on the line.**

Stone Age (Early, Middle & Late) = 172

Rock Art = 47

Iron Age (Early & Later) = 124

Historical = 54

These are of course just the known, recorded, sites, and there could be many more similar sites in the area. **The significance of these sites will vary, from low to high, and the impact on these sites by the development of the Powerline will only be determined during the Heritage Walkdown and once the final line route and individual pylon positions have been determined.** With such a huge number of sites known to occur in the area, it was decided not to produce a Site Distribution map (showing them in relation to the alternative routes), but only to provide a list of all sites, with GPS coordinates (where available). Individual site photographs will also not be presented. The list of sites (taken from the Natal Museum Archaeological Sites Database) is found in Appendix E.

8. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the Heritage Scoping of the area was conducted successfully, taking into consideration the limitations experienced (large area). Although all the areas that are earmarked for the development of the new 400Kv ESKOM Powerline between the Venus (Estcourt) substation and Ariadne (Pietermaritzburg) substations could not be visited, a large number of cultural heritage (archaeological & historical) sites were identified. These were identified during the February 2010 fly-over and site visits, as well

during the June 2011 survey, while the Natal Museum Archaeological Sites Database provided the largest number of sites that are located in the larger geographical area. A total of **around 350 known sites** are located in the area around the alternative routes and the larger geographical areas between Estcourt, Mooi River, Nottingham Road, Howick and Pietermaritzburg. The sites range from the Stone Age (including Early, Middle and Later Stone Age, as well as Rock art), Earl & Later Iron Age and the more recent Historical period. Many more (unknown/unrecorded) sites are possibly located in the area.

Site significance can not be determined at this stage, although it is envisaged that this will vary between low and high. The impact of the line (alternative routes) can also not be ascertained now, and the potential impacts on any sites will only be determined during the Heritage Walkdown on the final route and when individual pylon positions have been provided.

The following is recommended:

- (a) that, once the final line route has been determined, based on various Environmental considerations, a detailed Heritage Walkdown is undertaken**
- (b) The Walkdown will then focus on the individual Pylon positions to see if any pylons will negatively impact on any significant cultural heritage (archaeological and historical) sites at these pylon positions. The Walkdown will also then concentrate on servitude and other access roads and infrastructural developments for the Powerline.**
- (c) Finally, mitigation measures, if required, will then be recommended before the development can commence**

Finally, it should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken during any development activities that if any of these are accidentally discovered, a qualified archaeologist be called in to investigate.

9. REFERENCES

Location map showing alternative routes: Provided by BAAGI Environmental and Produced by TerraLogix Consulting

Wikipedia

SA Genealogical Society Graves Database

Bergh, J.S. (red.). 1999. **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies.** Pretoria: J.L. van Schaik.

Coertze, P.J. & Coertze, R.D. 1996. **Verklarende vakwoordeboek vir Antropologie en Argeologie.** Pretoria: R.D. Coertze.

Huffman, T.N. 2007. **Handbook to the Iron Age: The Archaeology of Precolonial Farming Societies in Southern Africa**. Pietermaritzburg: Kwazulu-Natal University Press.

Knudson, S.J. 1978. **Culture in retrospect**. Chicago: Rand McNally College Publishing Company.

Korsman, S.A. & Meyer, A. 1999. Die Steentydperk en rotskuns. Bergh, J.S. (red.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

Pelser, A.J. 2010. **Scoping Report on Cultural Heritage Resources for the Ariadne-Venus 400 kV Transmission Line between Estcourt and Pietermaritzburg, KZN Province**. Unpublished Report Archaeos cc AE1005 June 2010: For BAAGI Environmental Consultancy.

Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: the Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Van der Ryst, M.M. & Meyer, A. 1999. Die Ystertydperk. Bergh, J.S. (ed.). **Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies**. Pretoria: J.L. van Schaik.

APPENDIX A

Definition of terms:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

Cultural significance:

- Low A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.

- Medium Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.

- High Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

APPENDIX C

Heritage significance:

- Grade I Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III Other heritage resources of local importance and therefore worthy of conservation

APPENDIX D

Protection of heritage resources:

- Formal protection

National heritage sites and Provincial heritage sites – grade I and II

Protected areas - an area surrounding a heritage site

Provisional protection – for a maximum period of two years

Heritage registers – listing grades II and III

Heritage areas – areas with more than one heritage site included

Heritage objects – e.g. archaeological, palaeontological, meteorites, geological specimens,
visual art, military, numismatic, books, etc.

- General protection

Objects protected by the laws of foreign states

Structures – older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E – LIST OF SITES

ESA = Early Stone Age **MSA = Middle Stone Age** **LSA = Later Stone Age**
RA = Rock Art **ISA = Intermediate Stone Age** **EIA = Early Iron Age**
LIA = Late Iron Age **IIA = Intermediate Iron Age** **HIS = Historical Age**

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2930CA 001	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 31 16	E30 13 38
2930CA 002	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 37 09	E30 04 45
2930CA 003	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 40 10	E30 13 05
2930CA 004	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 40 05	E30 13 15
2930CA 005	Yes	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 40 45	E30 10 15
2930CA 006	Yes	No	No	No	No	No	No	No	No	2930CA Merrivale	S29 40 55	E30 01 45
2930CA 007	No	Yes	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 41 10	E30 10 15
2930CA 008	Yes	Yes	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 41 15	E30 10 15
2930CA 009	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 41 40	E30 09 45
2930CA 010	Yes	No	No	No	No	No	No	No	No	2930CA Merrivale	S29 41 30	E30 10 10
2930CA 011	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 41 45	E30 10 10
2930CA 012	No	No	Yes	No	No	No	No	No	No	2930CA Merrivale	S29 43 55	E30 05 50 - E30 06 10.
2930CA 014	Yes	No	No	No	No	No	No	No	No	2930CA Merrivale	S29 40 30	E30 12 45
2930CA 015	No	No	No	No	No	No	Yes	No	No	2930CA Merrivale	S29 45	E30 13 25
2930CA 016	No	No	No	No	No	No	Yes	No	No	2930CA Merrivale	S29 45	E30 13 25
2930CA 017	Yes	No	No	No	No	No	No	No	No	2930CA Merrivale	S29 37 30	E30 14
2930CA 018	No	No	No	No	Yes	No	No	No	No	2830CA Merrivale	S29 36	E30 15
2930CA 019	No	No	No	No	No	No	Yes	No	Yes	2930CA Merrivale	S29 42 41	E30 10 25
2930CA 020	No	No	No	No	No	No	No	No	Yes	2930CA Merrivale	S29 43 16	E30 10 21.5
2930CA 021	No	No	No	No	No	No	No	No	Yes	2930CA Merrivale	S29 43 18	E30 10 39.5
2930CA 022	No	No	No	No	No	No	No	No	Yes	2930CA Merrivale	S29 43 22	E30 10 21
2930CA 023	No	No	No	No	No	No	No	No	Yes	2930CA	S29 43	E30 13 32

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Merrivale	38	
2930CA 024	No	No	No	No	No	No	No	No	Yes	2930CA Merrivale	S29 42 34	E30 09 24
2930CA 025	No	No	No	No	No	No	No	No	Yes	2930CA Merrivale	S29 40 26	E30 07 27

2930CC 001	Yes	No	Yes	No	Yes	No	No	No	No	2930CC Byrne	S29 47 35	E30 02 24		
2930CC 002	No	No	No	No	No	Yes	No	No	Yes	2930CC Byrne	S29 59 00	E30 07 30		
2930CC 004	No	No	Yes	No	No	No	No	No	No	2930CC Byrne	S29 47 42	E30 01 58		
2930CC 005	No	No	Yes	No	No	No	No	No	No	2930CC Byrne	S29 55 38	E30 03 49		
2930CC 006	No	Yes	No	No	No	No	No	No	No	2930CC Byrne	S29 53 58	E30 03 18		
2930CC 007	No	Yes	No	No	No	No	No	No	No	2930CC Byrne	S29 49 21	E30 06 22		
2930CC 008	No	No	No	No	No	No	Yes	No	No	2930CC Byrne	S29 50 55.	8 E30 05 07.9		
2930CC 009	No	No	No	No	No	No	No	Yes	No	2930CC Byrne	S29 52 40.4	E30 04 36.8		
2930CD 005		Yes	No	No	No	No	No	No	No	No	2930CD Richmond	S29 47	E30 20	
2930AA 001		No	Yes	No	No	No	No	Yes		No	No	2930AA Weston	S29 00 10	E30 10 10
2930AA 002		No	No	Yes	No	No	No	No		No	No	2930AA Weston	S29 13	E30 02
2930AA 003		Yes	No	No	No	No	No	No		No	No	2930AA Weston	S29 04 15	E30 14 45
2930AA 004		Yes	No	No	No	No	No	No		No	No	2930AA Weston	S 29 04 50	E30 14 30
2930AA 005		No	No	No	No	No	No	No		No	No	2930AA Weston	S29 12	E30 05
2930AA 006		Yes	Yes	No	No	No	No	No		No	No	2930AA Weston	S29 09 00,	E30 10 40
2930AA 007		No	No	No	No	No	No	Yes		No	No	2930AA Weston	S29 06 41	E30 09 25
2930AA 008		No	Yes	No	No	No	No	No		No	No	2930AA Weston	S29 02 32	E30 01 22
2930AA 009		No	Yes	Yes	No	No	No	Yes		No	No	2930AA Weston	S29 09 41	E30 12 19
2930AA 010		Yes	Yes	No	No	No	No	No		No	No	2930AA Weston	S29 09 18	E30 09

													56
2930AA 011	Yes	Yes	No	No	No	No	No	No	No	No	2930AA Weston	S29 08 16	E20 08 56
2930AA 012	No	Yes	No	Yes	No	No	No	No	No	No	2930AA Weston	S29 03 11	E30 00 47
2930AA 013	Yes	Yes	Yes	No	No	No	No	No	No	No	2930AA Weston	S29 08 30	E30 13
2930AA 014	No	No	No	No	No	No	Yes	No	No	No	2930AA Weston	S29 03 27	E30 04 59
2930AA 015	No	No	No	No	No	No	Yes	No	No	No	2930AA Weston	S29 03 12	E30 04 47
2930AA 016	No	No	No	No	No	No	Yes	No	No	No	2930AA Weston	S29 02 02	E30 05 02
2930AA 017	No	No	No	No	No	No	No	No	Yes	No	2930AA Weston	S29 01 06	E30 05 45
2930AA 018	No	Yes	No	No	No	No	No	No	No	No	2930AA Weston	S29 00 06	E30 06 59
2930AA 019	No	Yes	No	No	No	No	No	Yes	No	No	2930AA Weston		
2930AA 020	No	No	Yes	No	No	No	No	No	No	No	2930AA Weston	S29 12	E 30 00 05 *
2930AA 021	No	No	No	No	No	No	Yes	No	No	No	2930AA Weston	S29 02	E30 02

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2930AC 001	No	No	Yes	No	No	No	No	No	No	2930AC Howick	S29 27 30	E30 07 30
2930AC 002	No	No	Yes	No	No	No	No	No	No	2930AC Howick	S29 24	E30 03
2930AC 003	No	No	No	No	Yes	No	No	No	No	2930AC Howick		
2930AC 004	No	Yes	Yes	No	No	No	No	No	No	2930AC Howick	S29 29 20	E30 05
2930AC 005	No	No	Yes	No	No	No	No	No	No	2930AC Howick	S29 21 30	E30 04
2930AC 006	No	No	Yes	No	No	No	No	No	No	2930AC Howick	S29 21	E30 14
2930AC 007	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 16 29- 49	E30 07 14- 47
2930AC 008	No	Yes	Yes	No	No	No	No	No	No	2930AC Howick		
2930AC 009	No	No	No	No	Yes	No	No	No	No	2930AC Howick	S29 18	E30 04

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2930AC 010	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 29 30	E30 00 50
2930AC 014	No	Yes	No	No	No	No	No	No	No	2930AC Howick		
2930AC 015	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 29 34	E30 14 58
2930AC 016	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 29 48	E30 14 50
2930AC 017	No	No	No	No	No	No	No	No	Yes	2930AC Howick	S29 29 44	E30 14 47
2930AC 018	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 29 38	E30 14 50
2930AC 019	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 17 42	E30 06 00
2930AC 020	No	No	No	No	No	No	Yes	No	No	2930AC Howick	S29 16 31	E30 08 36
2930AC 021	Yes	No	No	No	No	No	No	No	No	2930AC Howick	S29 17 20-25	E30 06 51-59
2930AC 022	No	No	Yes	No	No	No	No	No	No	2930AC Howick	S29 15 14	E29 07 02
2930AC 023	No	Yes	No	No	No	No	No	No	No	2930AC Howick	S29 29 22	E30 12 24
2930AC 024	No	No	No	No	No	No	No	No	Yes	2930AC Howick	S29 23 58	E30 04 32
2930AC 025	No	No	No	No	No	No	No	No	Yes	2930AC Howick	S29 23 57	E30 04 36
2930AC 026	No	No	No	No	No	No	No	Yes	Yes	2930AC Howick	S29 29 26.1	E30 14 51.0
2930AC 027	No	No	Yes	No	No	No	No	No	No	2930AC Howick		
2930AC 028	No	No	No	No	No	No	No	No	Yes	2930AC Howick	S29 28 15	E30 13 50

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2929BA 001	No	No	Yes	Yes	No	No	No	No	Yes	2929BA Ntabamhlope	S29 08.692	E29 35.547
2929BA 002	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlope	S29 12 27	E29 30 12
2929BA 003	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlope	S29 13.890	E29 32.992
2929BA 004	No	No	Yes	Yes	No	No	No	No	No			
2929BA 005	No	No	Yes	Yes	No	No	No	No	No			
2929BA 006	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlope	S29 14 49	E29 30 10
2929BA 007	No	No	No	No	No	No	No	No	No	2929BA Ntabamhlope	S29 14 52	E29 30 07

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2929BA 008	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 53	E29 30 16
2929BA 009	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S20 08.750	E29 31.805
2929BA 010	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 08 27	E29 33 48
2929BA 011	No	No	No	No	No	No	Yes	No	No	2929BA Ntabamhlophe	About S29 07	E20 40
2929BA 012	No	Yes	Yes	No	No	No	No	No	No	2929BA Ntabamhlophe	S29 00 06	E29 39 57
2929BA 013	No	Yes	No	No	No	No	No	Yes	No	2929BA Ntabamhlophe	S29 00 18	E29 39 55
2929BA 014	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 58	E29 30 27
2929BA 015	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 04 14. 8	E29 44 38.9
2929BA 016	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 01 36	E29 38 22
2929BA 017	No	No	Yes	Yes	No	No	No	Yes	No	2929BA Ntabamhlophe	S29 01 09	E29 39 28
2929BA 018	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 08 40	E29 39 03
2929BA 019	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 10 22	E29 30 03
2929BA 020	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 18	E29 33 30
2929BA 021	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 13 08	E29 33 35
2929BA 022	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 12 44	E29 32 55
2929BA 023	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 12 44	E29 32 27
2929BA 024	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 12 30	E29 32 10
2929BA 025	No	No	Yes	Yes	No	No	Yes	No	Yes	2929BA Ntabamhlophe	S29 12 24	E29 31 59
2929BA 026	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 12 38	E29 31 02
2929BA 027	No	No	Yes	No	No	No	Yes	No	No	2929BA Ntabamhlophe	S29 07 38	E29 44 39
2929BA 028	No	No	No	No	No	No	Yes	No	Yes	2929BA Ntabamhlophe	S29 08 56	E29 44 30
2929BA 029	No	No	No	No	No	No	Yes	No	Yes	2929BA Ntabamhlophe	S29 09 04	E29 44 37
2929BA 030	No	No	No	No	No	No	Yes	No	Yes	2929BA Ntabamhlophe	S29 09 06	E29 44 46
2929BA 031	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 08.749	E29 30.604
2929BA	No	No	Yes	Yes	No	No	No	No	No	2929BA	S29 09.296	E29 30.847

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
032										Ntabamhlophe		
2929BA 033	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 10	E29 30 10
2929BA 034	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 52	E29 30 04
2929BA 035	No	No	Yes	Yes	No	No	No	No	No	2929BA Ntabamhlophe	S29 14 48	E29 30 25
2929BA 036	No	No	No	No	No	No	No	No	Yes	2929BA Ntabamhlophe	S29 07 40-51	E29 31 00-07
2929BA 037	No	Yes	No	No	No	No	Yes	No	No	2929 BA Ntabamhlope	S29 04 08	E29 45 00
2929BA 038	No	No	No	No	No	No	Yes	No	No	2929 BA Ntabamhlope	S29 06 19	E29 42 29
2929BA 039	No	No	No	Yes	No	No	No	No	No	2929BA Ntabamhlope	S29 07 24. 7	E29 44 56.5
2929BB 001	No	No	Yes	No	No	No	No	No	No	2929BB Estcourt	S29 13 15	E29 59 40
2929BB 002	No	No	Yes	Yes	No	No	No	No	No	2929BB Estcourt	S29 14 08	E29 59 04
2929BB 003	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 04 40	E39 50 30
2929BB 004	No	No	No	No	Yes	No	No	No	No	2929BB Estcourt	S29 01 20	E29 52 10
2929BB 005	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 01 45	E29 52 15
2929BB 006	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 04 40	E29 49 50
2929BB 007	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 04 00	S29 49 00
2929BB 008	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 03 40	E29 50 15
2929BB 009	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt		
2929BB 010	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 02 00	E29 52 38
2929BB 011	No	No	Yes	No	No	No	No	No	No	2929BB Estcourt	S29 02 00	E29 52 35
2929BB 012	No	No	No	No	Yes	No	No	No	No	2929BB Estcourt	S29 15	E29 47
2929BB 013	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 04 22	E29 48 02
2929BB 014	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 04 25-35	E29 48 00-06
2929BB 015	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 04 26	E29 47 56
2929BB 016	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 05 13	E29 48 53
2929BB 017	No	No	Yes	Yes	No	No	No	No	No	2929BB Estcourt	S29 06 14	E29 50 30

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2929BB 018	No	No	Yes	Yes	No	No	No	No	No	2929BB Estcourt	S29 07 34	E29 54 25
2929BB 019	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 07 06	E29 53
2929BB 020	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 07 30	E29 54 25
2929BB 021	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 07 30	E29 54 25
2929BB 022	No	No	Yes	Yes	No	No	No	No	No	2929BB Estcourt	S29 07 47	E29 54 22
2929BB 023	No	No	Yes	Yes	No	No	No	No	No	2929BB Estcourt	S29 08 30	E29 53 50
2929BB 024	No	No	No	No	Yes	No	No	No	No	2929BB Estcourt	S29 04 3/4	E29 50 1/2
2929BB 025	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 00 20	E29 53 10
2929BB 026	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 00 45	E29 53
2929BB 027	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 05	E29 49
2929BB 028	Yes	Yes	Yes	No	No	No	No	No	No	2929BB Estcourt		
2929BB 029	No	Yes	Yes	No	No	No	No	No	No	2929BB Estcourt	S29 00 32	E29 53 00
2929BB 030	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 13 30	E29 59 30
2929BB 031	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 00 45	E29 57 07
2929BB 033	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 04 00	E29 50 24
2929BB 034	Yes	Yes	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 00 24	E29 56 32
2929BB 035	Yes	No	Yes	No	No	No	No	No	No	2929BB Estcourt	S29 00 06	E29 58 12
2929BB 036	No	Yes	No	No	No	No	No	No	No	2929BB Estcourt	S29 00 09	E29 57 34
2929BB 037	No	No	No	No	No	No	Yes	No	Yes	2929BB Escourt	S29 05 04	E29 59 00
2929BB 038	No	No	No	No	No	No	No	No	Yes	2929BB Estcourt	S29 04 55	E29 58 56
2929BB 039	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 14 38	E29 58 10
2929BB 040	No	No	No	No	No	No	Yes	No	Yes	2929BB Estcourt	S29 14 18	E29 57 48
2929BB 041	No	No	No	No	No	No	No	No	No	2929BB Escourt	S29 14	E29 58
2929BB 042	No	Yes	Yes	No	No	No	No	No	No	2929BB Escourt	S29 02 45 to S29 03 14	E29 45 20 to 29 45 51.
2929BB	No	No	Yes	No	No	No	No	No	No	2929BB	S29 04	E29 57

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
043										Estcourt		
2929BB 044	No	No	No	No	No	No	Yes	No	No	2929BB Estcourt	S29 03	E29 59 55
2929BD	No	No	No	Yes	No	No	No	No	No	2929BD	29 27 35	29 47 45
2929BD 001	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 27 30	E29 48 30
2929BD 002	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 18 15	E29 58 45
2929BD 003	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 21	E29 45
2929BD 004	No	No	No	No	Yes	No	No	No	No	2929BD Nottingham Road		
2929BD 005	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 24	E29 57
2929BD 006	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 20	E29 59 40
2929BD 007	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 22 45	E29 59 50
2929BD 008	Yes	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 20 15	E29 59 50
2929BD 009	No	No	No	No	No	Yes	No	No	No	2929BD Nottingham Road	S29 21	E29 59
2929BD 010	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 18 10	E29 57 58
2929BD 011	No	No	No	No	Yes	No	No	No	No	2929BD Nottingham Road	S29 26 40	E29 46 30
2929BD 012	No	Yes	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 16	E29 50
2929BD 013	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 27 35	E29 47 45
2929BD 014	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 17 27	E29 59 20
2929BD 015	No	No	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 20 26	E29 52 20
2929BD 016	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham	S29 18 20	E29 49 50

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Road		
2929BD 017	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 18 20	E29 49 51
2929BD 018	No	Yes	Yes	No	No	No	No	No	No	2929BD Nottingham Road	S29 20 08	E29 54 28
2929BD 019	No	No	No	No	No	No	Yes	No	No	2929BD Nottingham Road	S29 20 25	E29 56 22
2929BD 020	No	No	No	No	No	No	No	No	Yes	2929BD Nottingham Road	S29 20 03.8	E29 55 21.3
2929BD 021	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 16 12	E29 57 32
2929BD 022	No	No	Yes	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 16 12	E29 57 32
2929BD 023	No	No	No	No	No	No	No	No	Yes	2929BD Nottingham Road	S29 19 12.4	E29 57 28.3
2929BD 024	No	No	No	No	No	No	No	No	Yes	2929BD Nottingham Road	S29 19 15.3	E29 57 23.8
2929BD 025	No	No	No	Yes	No	No	No	No	No	2929BD Nottingham Road	S29 20 07.3	E29 54 25.5

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
2829DC 001	No	Yes	No	No	No	No	No	No	No	2829DC Winterton	S28 56 25	E29 35 15
2829DC 002	No	Yes	No	No	No	No	No	No	No	2829DC Winterton	S28 48 50	E29 32 05
2829DC 003	No	No	Yes	No	No	No	No	No	No	2829DC Winterton	S29 00	E28 44
2829DC 004	No	No	No	No	No	No	Yes	Yes	No	2829DC Winterton	S28 56 12	E29 36 25
2829DC 005	No	Yes	No	No	No	No	No	No	No	2829DC Winterton	S28 56 10	E29 36 35
2829DC 006	No	Yes	No	No	No	No	No	No	No	2829DC Winterton	S28 59 30	E29 41 42
2829DC 007	No	No	Yes	Yes	No	No	No	No	No	2829DC Winterton	S28 56 43	E29 35 23
2829DC 008	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 46 35	E29
2829DC 009	Yes	Yes	Yes	No	No	No	Yes	No	No	2829DC Winterton	S28 58 44	E29 43 29
2829DC 010	No	No	Yes	Yes	No	No	No	No	No	2829DC	S28 59	E29 41 40

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Winterton	50	
2829DC 011	No	Yes	Yes	No	No	No	No	No	No	2829DC Winterton	S28 56	E29 36 to 29 36 30
2829DC 012	No	No	Yes	No	No	No	No	No	No	2829DC Winterton	S28 57	E 29 37
2829DC 013	No	No	Yes	No	No	No	No	No	No	2829DC Winterton	S28 58 30	E29 43 45
2829DC 014	Yes	Yes	Yes	No	No	No	No	No	No	2829DC Winterton	S28 59	E 29 44
2829DC 015	No	No	No	No	No	No	Yes	No	Yes	2829DC Winterton	S28 49 00	E29 40 50
2829DC 016	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 47 07	E29 41 00
2829DC 017	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 46 30	E29 40 40
2829DC 018	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 46 16	E29 40 37
2829DC 019	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 45 12	E29 40 45
2829DC 020	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 50 02	E29 35 58
2829DC 021	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 48 21/30	E29 39 15/26
2829DC 022	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 48 21/32	E29 38 50/E29 39 10
2829DC 023	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 48 34/48	E29 38 40/57
2829DC 024	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 48 4/15	E29 38 32
2829DC 025	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 45 46	E29 38 59
2829DC 026	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 45 58	E29 42 06
2829DC 027	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 49 40	E29 43 20
2829DC 028	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 45 58	E29 33 02
2829DC 029	No	No	No	No	No	No	Yes	No	No	2829DC Winterton	S28 54 46	E29 34 28
2829DC 030	No	No	Yes	Yes	No	No	No	No	No	2829DC Winterton	S28 56 19	E29 36 42
2829DD 001	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 53 50	E29 50 55
2829DD 002	Yes	No	No	No	No	No	No	No	No	2829DD Frere	S28 54	E29 51
2829DD 003	No	No	No	No	No	No	No	No	No	2829DD Frere	S28 55 04	E29 48 16
2829DD 004	No	No	Yes	Yes	No	No	No	No	No	2829DD Frere	S28 51 08	E29 57 45
2829DD 005	No	No	No	No	No	No	Yes	No	No	2829DD	S28 58	E29 56 34

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Frere	50	
2829DD 006	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 55 42	E29 59 34
2829DD 007	Yes	No	No	No	No	No	No	No	No	2829DD Frere	S28 52 10	E29 46 05
2829DD 008	Yes	No	No	No	No	No	No	No	No	2829DD Frere	S28 53	E29 57
2829DD 009	No	No	No	No	Yes	No	No	No	No	2829DD Frere	S28 54	E29 55 30
2829DD 010	No	Yes	Yes	No	No	Yes	No	No	No	2829DD Frere	S28 55 00	E29 58 55
2829DD 011	No	Yes	Yes	No	No	No	No	No	No	2829DD Frere	S28 53	E29 58
2829DD 012	No	Yes	Yes	No	No	No	No	No	No	2829DD Frere	S28 54	E29 55
2829DD 013	No	Yes	Yes	No	No	No	No	No	No	2829DD Frere	S28 59 49	E29 59 04
2829DD 014	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S29 55	E29 54.
2829DD 015	No	No	No	No	Yes	No	No	No	No	2829DD Frere		
2829DD 016	Yes	No	No	No	No	No	No	No	No	2829DD Frere		
2829DD 017	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 51	E29 51
2829DD 018	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 46	E29 58 33
2829DD 019	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 51 07	E29 45 52
2829DD 020	No	Yes	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 51 30	E29 46 20
2829DD 021	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 51 04	E29 45 47
2829DD 022	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 51 10	E29 46 08
2829DD 023	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 56 38	E29 50 54
2829DD 024	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S25 58 48	E29 56 52
2829DD 025	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 58 50	E29 55 55
2829DD 026	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 58 46	E29 58 40
2829DD 027	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 59 10	E29 56 05
2829DD 028	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 59 01	E29 56 46
2829DD 029	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 58 58	E29 56 58
2829DD 030	No	Yes	No	No	No	No	No	No	No	2829DD	S28 58	E29 57 06

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Frere	42	
2829DD 031	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 59 04	E29 56 08
2829DD 032	No	No	Yes	No	Yes	No	No	No	No	2829DD Frere	S28 59 01	E29 56 10
2829DD 033	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 59 26	E29 56 52
2829DD 034	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 58 48	E29 56 24
2829DD 035	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 59 54	E29 56 18
2829DD 036	No	No	Yes	No	No	No	Yes	No	No	2829DD Frere	S28 58 51	E29 56 44
2829DD 037	Yes	Yes	Yes	No	No	No	No	No	No	2829DD Frere	S28 57 32	E29 56 09
2829DD 038	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 57 06	E29 59 12
2829DD 039	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 57 26	E29 59 04
2829DD 040	Yes	No	No	No	No	No	No	No	No	2829DD Frere	S28 57 44	E29 58 26
2829DD 041	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 57 52	E29 59 17
2829DD 042	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 51 32	E29 58 35
2829DD 043	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 57 04	E29 58 46
2829DD 044	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S29 59 34	E29 54 47
2829DD 045	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 59 15	E29 55 29
2829DD 046	No	Yes	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 35	E29 59 15
2829DD 047	No	No	Yes	No	No	No	No	No	No	2829DD Frere	S28 59 27	E29 5723
2829DD 048	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 50 39.5	E29 58 01
2829DD 049	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 52-58	E29 56 21
2829DD 050	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 44	E29 57 43
2829DD 051	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 58 54	E29 56 05
2829DD 052	Yes	Yes	No	No	Yes	No	No	No	No	2829DD Frere	S28 57 19	E29 59 52
2829DD 053	Yes	Yes	No	No	Yes	No	No	No	No	2829DD Frere	S28 57 58	E29 59 15
2829DD 054	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 57 10	E29 59 09
2829DD 055	No	Yes	No	No	No	No	No	No	No	2829DD	S28 56	E29 59 15

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Frere	59	
2829DD 056	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 58 01	E29 59 09
2829DD 057	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 55 48	E29 59 12
2829DD 058	No	No	No	No	No	No	No	Yes	No	2829DD Frere	S28 56 32	E29 59 06
2829DD 059	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 50 44/49	E29 45 42/50
2829DD 060	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 50 37/42	E29 45 42
2829DD 061	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 50 46/55	E29 45 36
2829DD 062	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 50 52	E29 45 23
2829DD 063	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 50 46	E29 25 23
2829DD 064	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 46 49-58	E29 51 14-32
2829DD 065	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 46 52	E29 51 39
2829DD 066	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 02	E29 51 30
2829DD 067	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 46 52	E29 52 20
2829DD 068	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 46 52	E29 52 23
2829DD 069	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 10	E29 51 56
2829DD 070	No	No	No	No	No	No	No	Yes	Yes	2829DD Frere	S28 47 20	E29 52 20
2829DD 071	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 38	E29 52 42
2829DD 072	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 42	E29 52 33
2829DD 073	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 46	E29 52 30
2829DD 074	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 40	E29 53 01
2829DD 075	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 38	E29 53 08
2829DD 076	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 47 47	E29 52 57
2829DD 077	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 46	E29 53 01
2829DD 078	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 47 52	E29 53 01
2829DD 079	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 47 58	E29 53 08
2829DD 080	No	No	No	No	No	No	No	No	Yes	2829DD	S28 48	E29 53 01

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Frere	07	
2829DD 081	No	No	No	No	No	No	No	Yes	No	2829DD Frere	S28 48 16	E29 52 50
2829DD 082	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 48 04	E29 51 18
2829DD 083	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S 28 48 01-12	E29 51 23-44
2829DD 084	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 48 30	E29 51 54
2829DD 085	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 48 52	E29 52 09
2829DD 086	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 49 06	E29 52 04
2829DD 087	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 49 07	E29 52 09
2829DD 088	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 49 38	E29 52 09
2829DD 089	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 49 44	E29 52 09
2829DD 090	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 47 44	E29 51 39
2829DD 091	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 47 40	E29 51 41
2829DD 092	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 53 48	E29 53 46
2829DD 093	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 53 04	E29 58 06
2829DD 094	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 52 08	E29 54 02
2829DD 095	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 53 00	E29 56 03
2829DD 096	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 46 18	E29 51 24
2829DD 097	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 45 55	E29 59 51
2829DD 098	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 58 33	E29 54 50
2829DD 099	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 46	E29 53 10
2829DD 100	No	No	No	No	No	No	No	No	Yes	2829DD Frere	S28 51 18.3	E29 59 44.2
2829DD 101	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 57 44	E29 56 38
2829DD 102	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 55 42	E29 53 42
2829DD 103	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 55 17	E29 53 34
2829DD 104	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 55 09	E29 53 39
2829DD 105	No	No	No	No	No	No	Yes	No	Yes	2829DD	S28 55	E29 53 42

National site number	ESA	MSA	LSA	RA	ISA	EIA	LIA	IIA	HIS	Map sheet	GPS S	GPS E
										Frere	04	
2829DD 106	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 54 32	E29 54 00
2829DD 107	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 54 01	E29 53 46
2829DD 108	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 53 52	E29 54 00
2829DD 109	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 53 44	E29 54 03
2829DD 110	No	No	No	No	No	No	Yes	No	Yes	2829DD Frere	S28 53 40	E29 54 09
2829DD 111	No	No	No	No	No	No	Yes	No	No	2829DD Frere	S28 52 32	E29 47 12
2829DD 112	No	Yes	No	No	No	No	No	No	No	2829DD Frere	S28 52 36	E29 47 00