Archaetnos Culture & Cultural
Resource Consultants
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A REPORT ON A CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED ESKOM KUDU-ORANJEMOND PROJECT IN THE NORTHERN CAPE PROVINCE

For:

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SUBMISSION OF REPORT

Please note that the South African Heritage Resources Agency (SAHRA) or one of its subsidiary bodies needs to comment on this report.

It is the client's responsibility to do the submission via the SAHRIS System on the SAHRA website.

Clients are advised not to proceed with any action before receiving the necessary comments from SAHRA.

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.

Should it be necessary to visit a site again as a result of the above mentioned, an additional appointment is required.

Reasonable editing of the report will be done upon request by the client if received within 60 days of the report date. However editing will only be done once and clients are therefore requested to send all possible changes in one request. Any format changes or changes requested due to insufficient or faulty information provided to Archaetnos on appointment, will only be done by additional appointment.

Any changes to the scope of a project will require an additional appointment.

SUMMARY

Archaetnos cc was requested by Landscape Dynamics Environmental Consultants to conduct a cultural heritage impact assessment (HIA) for the proposed ESKOM Kudu-Oranjemond Project. This is close to Alexander Bay in the Northern Cape Province.

The methodology for the study includes a survey of literature and a field survey. The latter was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS), while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied. Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage.

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

During the survey no site of cultural heritage significance was identified. However many stone tools have been noted and this will need further investigation.

It is therefore recommended that a walk-down study be implemented once the pylon positions are known, to ensure minimal impact on stone tools in the area. Thereafter, the proposed development may continue.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or artifacts is always a distinct possibility. Due to the density of vegetation it also is possible that some sites may only become known later on. Operating controls and monitoring should therefore be aimed at the possible unearthing of such features. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

It is also important to take cognizance that it is the client's responsibility to do the submission of this report via the SAHRIS System on the SAHRA website. No work on site may commence before receiving the necessary comments from SAHRA.

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1. INTRODUCTION

Archaetnos cc was requested by Landscape Dynamics Environmental Consultants to conduct a cultural heritage impact assessment (HIA) for the proposed ESKOM Kudu-Oranjemond Project. This is close to Alexander Bay in the Northern Cape Province (Figure 1-6).

The project entails the following:

- Upgrade of the existing Oranjemond MTS including –
  - Constructing a 400kV yard and equipment including busbar;
  - Installing a 1 x 315MVA 400/220kV transformer;
  - Create at least 4 x 400kV line bays to allow for potential development;

- Construction of 2 x 400kV lines from the Orange River to the Oranjemond Substation. At least three pylons are proposed which would be placed in between the substation and the Namibian side of the Orange River.

The client indicated the area to be surveyed and the survey was confined to these. It was done via foot and via off-road vehicle.

Figure 1: Location of Alexander Bay in the Northern Cape Province. North reference is to the top.

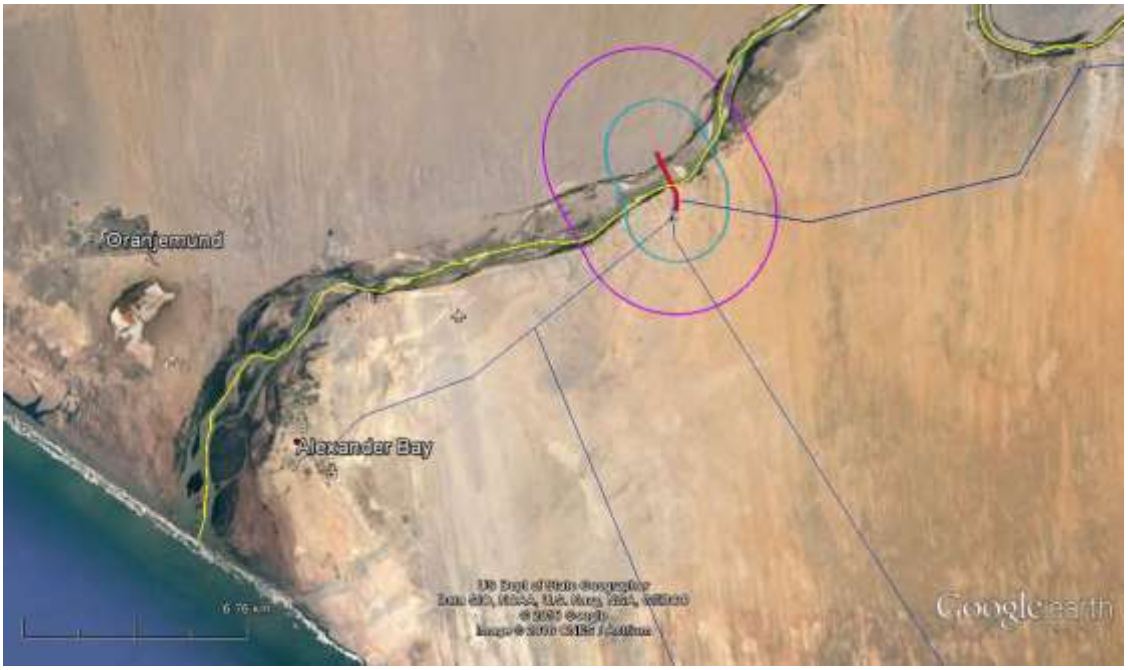

Figure 2: Location of the site in relation to Alexander Bay. North reference is to the top.

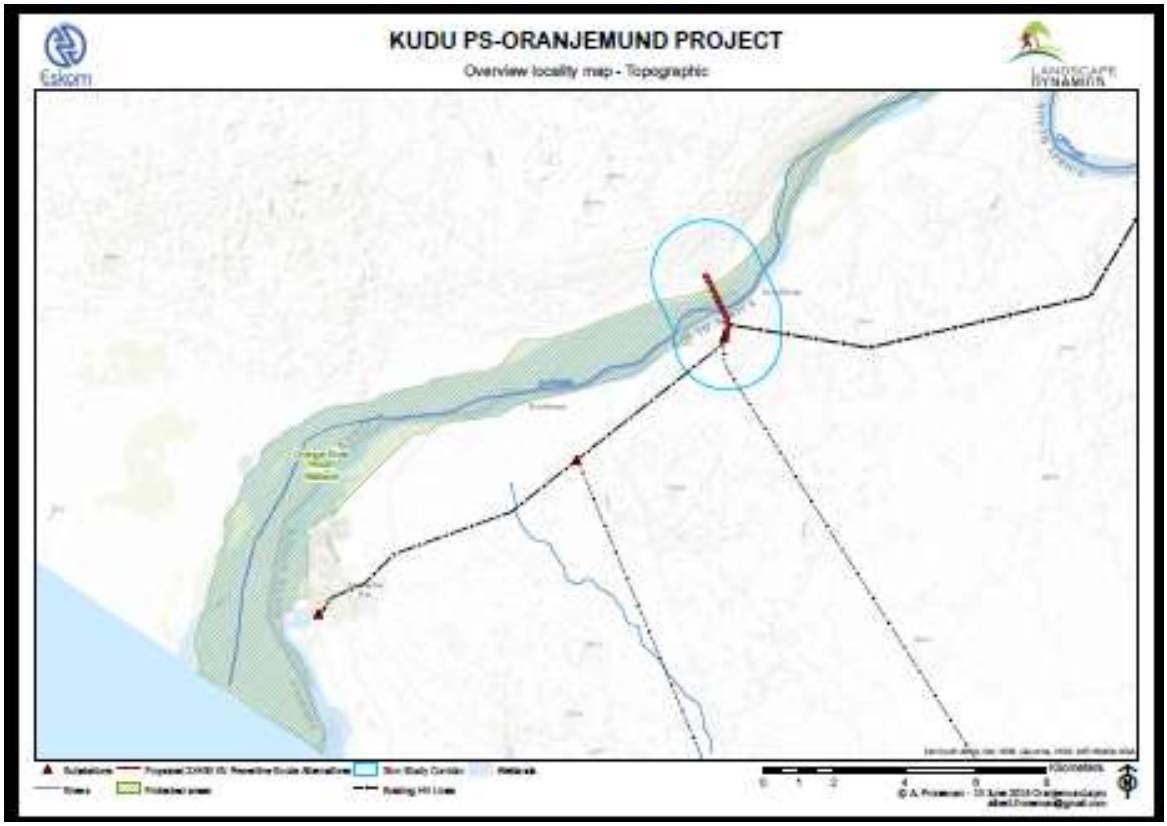

Figure 3: Topographic map indicating the locality of the site.

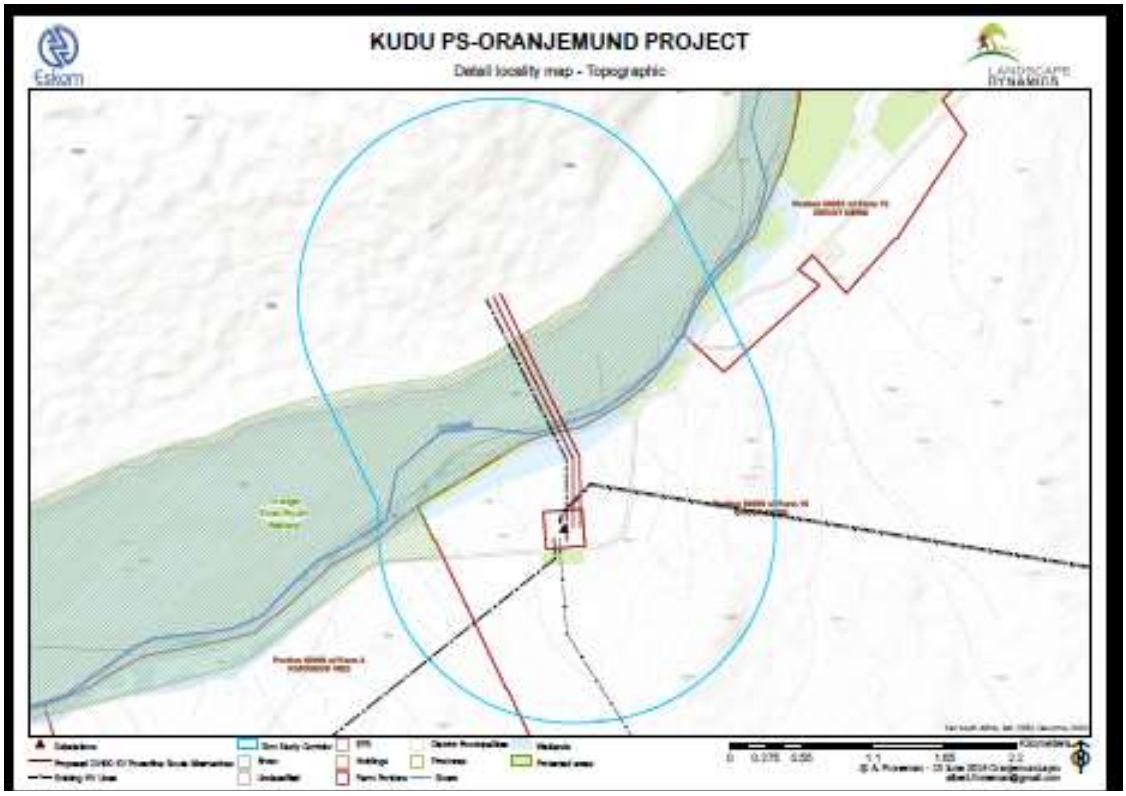

Figure 4: Detailed map of the development.

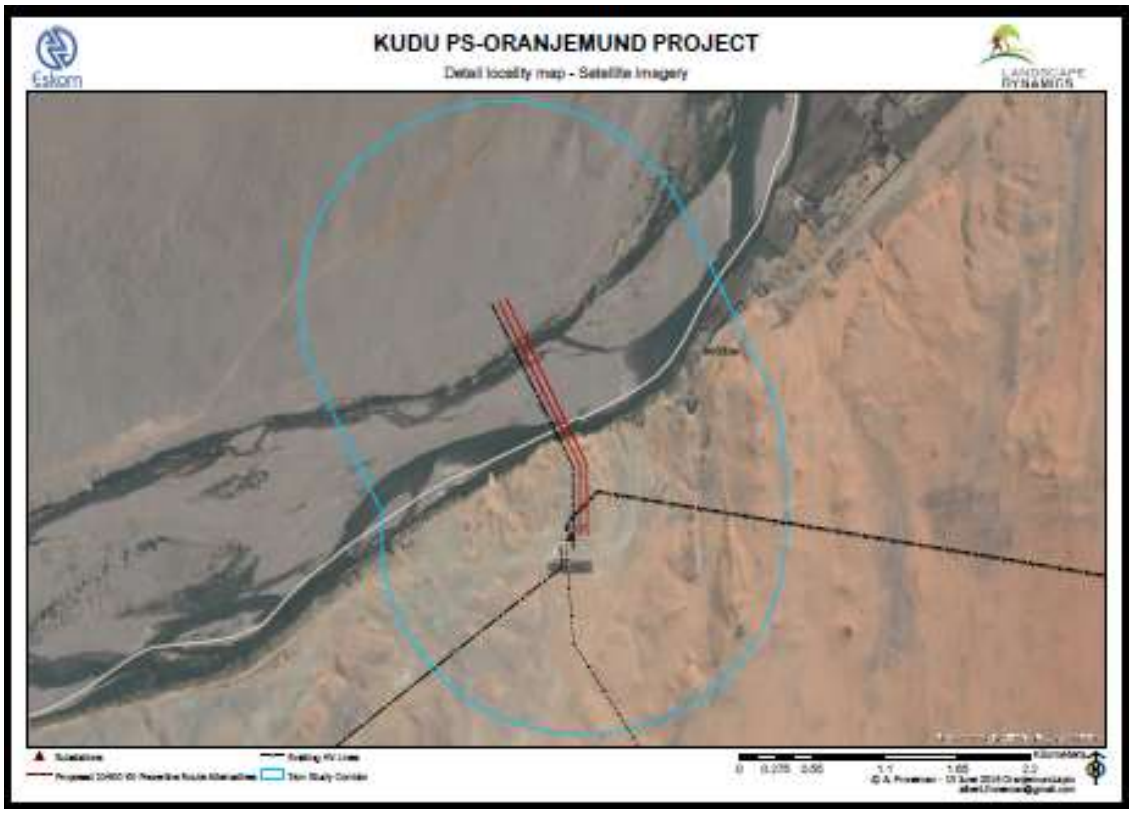

Figure 5: Detailed Google Earth map indicating the development.

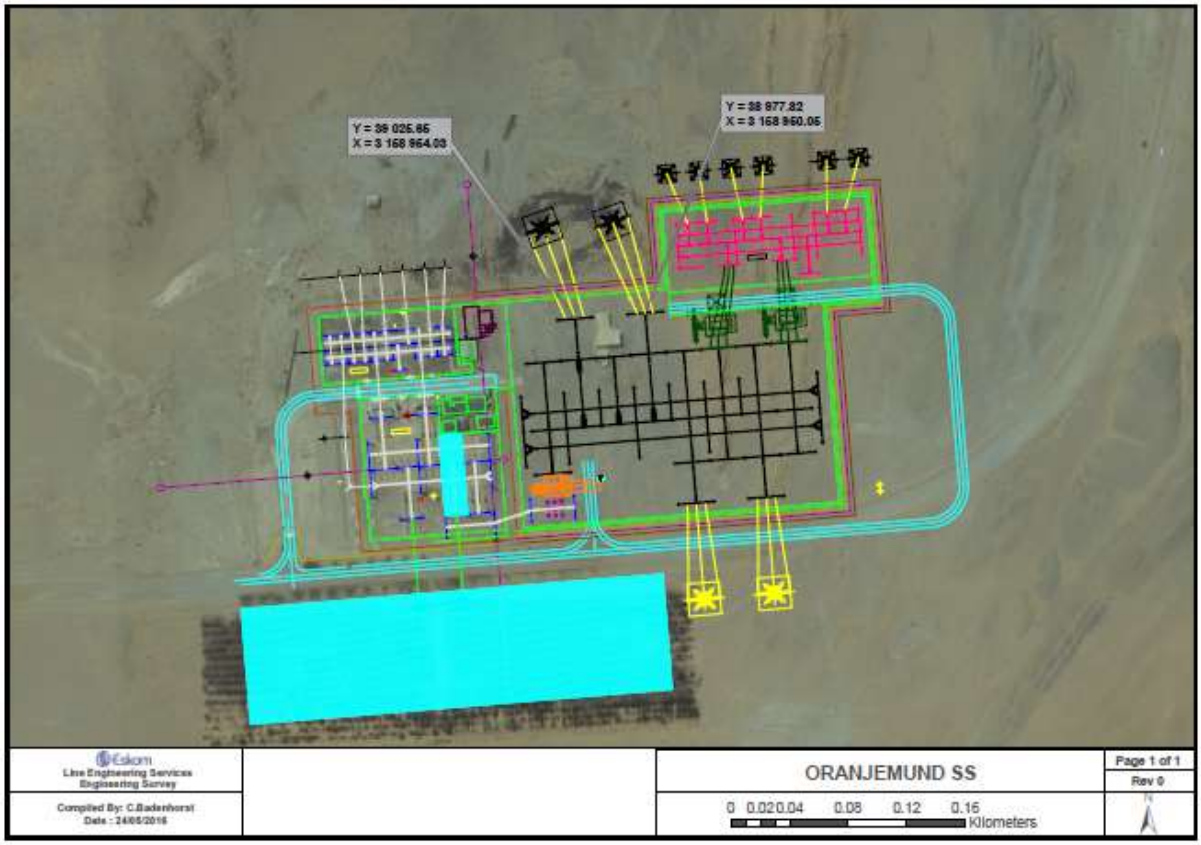

Figure 6: Detailed plan of the proposed substation.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Identify objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the property (see Appendix A).

2. Document the found cultural heritage sites according to best practice standards for heritage related studies.

3. Study background information on the area to be developed.

4. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value (see Appendix B).

5. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.

6. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.

7. Review applicable legislative requirements.

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 (Appendix A). 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 C).

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 occur.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. The first of these are the National Heritage Resources Act (Act 25 of 1999) which deals with the cultural heritage of the Republic of South Africa. The second is the National Environmental Management Act (Act 107 of 1998) which inter alia deals with cultural heritage as part of the Environmental Impact Assessment process.

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 or 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. Archaeological and paleontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g. archaeological, paleontological, 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 only looks at archaeological resources and can only be done by a professional archaeologist.

A Palaeontological Impact Assessment (PIA) is an assessment of palaeontological heritage. Palaeontology is a different field of study, and although also sometimes required by the South African Heritage Resources Agency (SAHRA)[1], should be done by a professional palaeontologist.

The different phases during the HIA process are described in Appendix E. 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

[1] Please consult SAHRA to determine whether a PIA is necessary.

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 000m^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000 m^2
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 paleontological site or any meteorite;
b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite;
d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites; or
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 or 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.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

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**).

4.2 The National Environmental Management Act

This act (Act 107 of 1998) 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. THE INTERNATIONAL FINANCE CORPORATIONS' PERFORMANCE STANDARD FOR CULTURAL HERITAGE

This standard recognizes the importance of cultural heritage for current and future generations. It aims to ensure that clients protect cultural heritage in the course of their project activities. This is done by clients abiding to the law and having heritage surveys done in order to identify and protect cultural heritage resources via field studies and the documentation of such resources. These need to be done by competent professionals (e.g. archaeologists and cultural historians).

Possible chance finds, encountered during the project development, also need to be managed by not disturbing such finds and by having them assessed by professionals. Impacts on the cultural heritage should be minimized. This include the possible maintenance of such sites in situ, or when impossible, the restoration of the functionality of the cultural heritage in a different location.

When cultural historical and archaeological artifacts and structures need to be removed is should be done by professionals and by abiding to the applicable legislation. The removal of cultural heritage resources may however only be considered if there are no technically or financially feasible alternatives. In considering the removal of cultural resources, it should be outweighed by the benefits of the overall project to the effected communities. Again professionals should carry out the work and adhere to the best available techniques.

Consultation with affected communities should be engaged in. This entails that access to such communities should be granted to their cultural heritage if this is applicable. Compensation for the loss of cultural heritage should only be given in extra-ordinary circumstances.

Critical cultural heritage may not be impacted on. Professionals should be used to advise on the assessment and protection thereof. Utilization of cultural heritage resources should always be done in consultation with the effected communities in order to be consistent with their customs and traditions and to come to agreements with relation to possible equitable sharing of benefits from commercialization.

6. METHODOLOGY

6.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

6.2 Field survey

The survey was conducted according to generally accepted HIA practices and was aimed at locating all possible objects, sites and features of cultural significance in the area of proposed development. One regularly looks a bit wider than the demarcated area, as the surrounding context needs to be taken into consideration.

If required, the location/position of any site was determined by means of a Global Positioning System (GPS)[2], while photographs were also taken where needed. The survey was undertaken by doing a physical survey via off-road vehicle and on foot and covered as much as possible of the area to be studied (Figure 7).

Certain factors, such as accessibility, density of vegetation, etc. may however influence the coverage. In this case the weather (fog) played a role in negatively affecting both the horizontal and the vertical archaeological visibility. The size of the surveyed area for the proposed substation is 6,5 Ha and the length of the power lines 800 m within a 3 km corridor. The survey took 5 hours to complete.

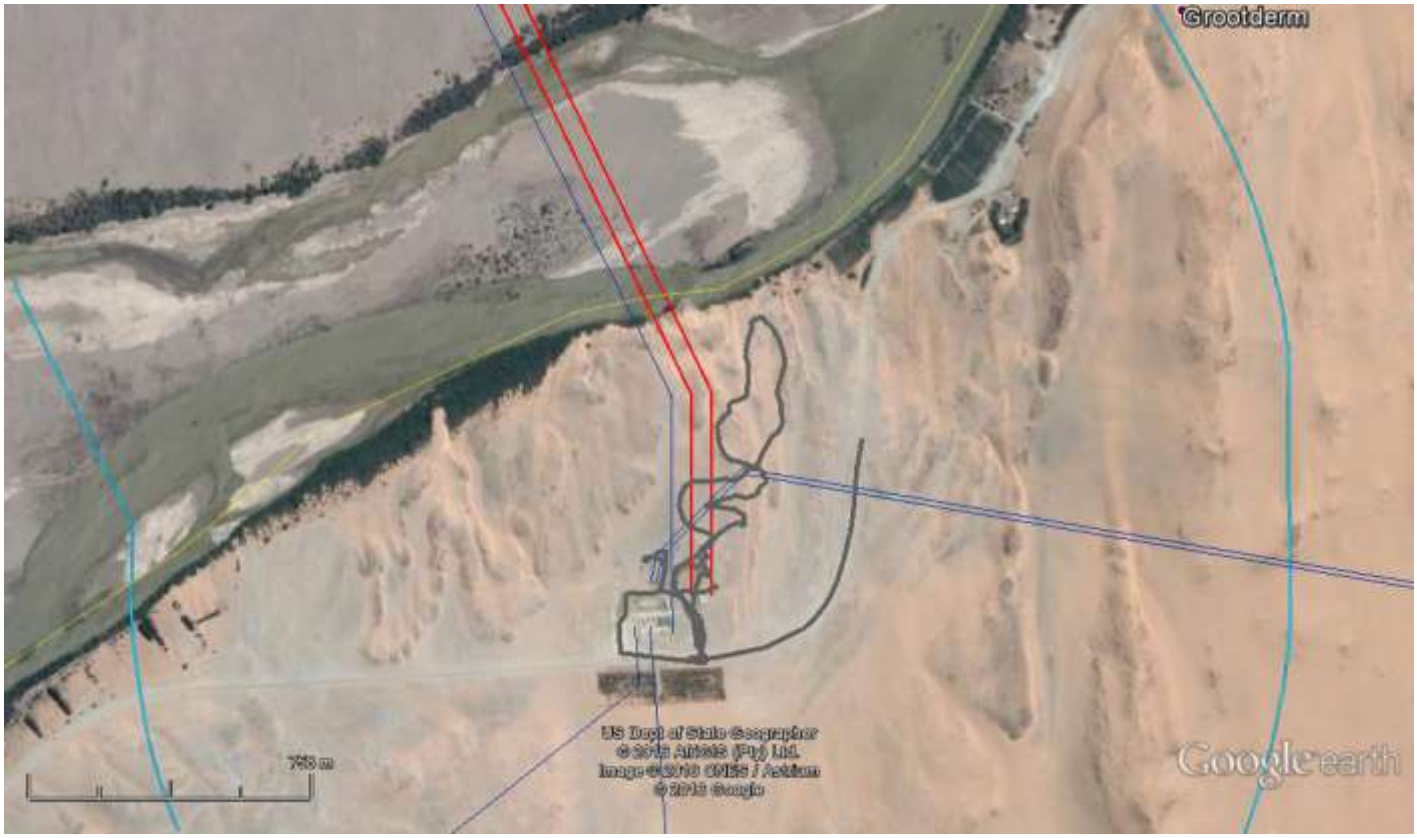

Figure 7: GPS track[3] of the surveyed area. North reference is to the top.

[2] A Garmin Oregon 550 with an accuracy factor of a few meters.
[3] Two persons did the survey using one GPS device. The track route therefore do not reflect the entire area covered.

6.3 Oral histories

People from local communities are 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.

Social Consultation for the project is done by the environmental company. The necessary was done and site notices erected (Figure 8-9).

6.4 Documentation

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

Figure 8: Site notice at the Oranjemond substation.

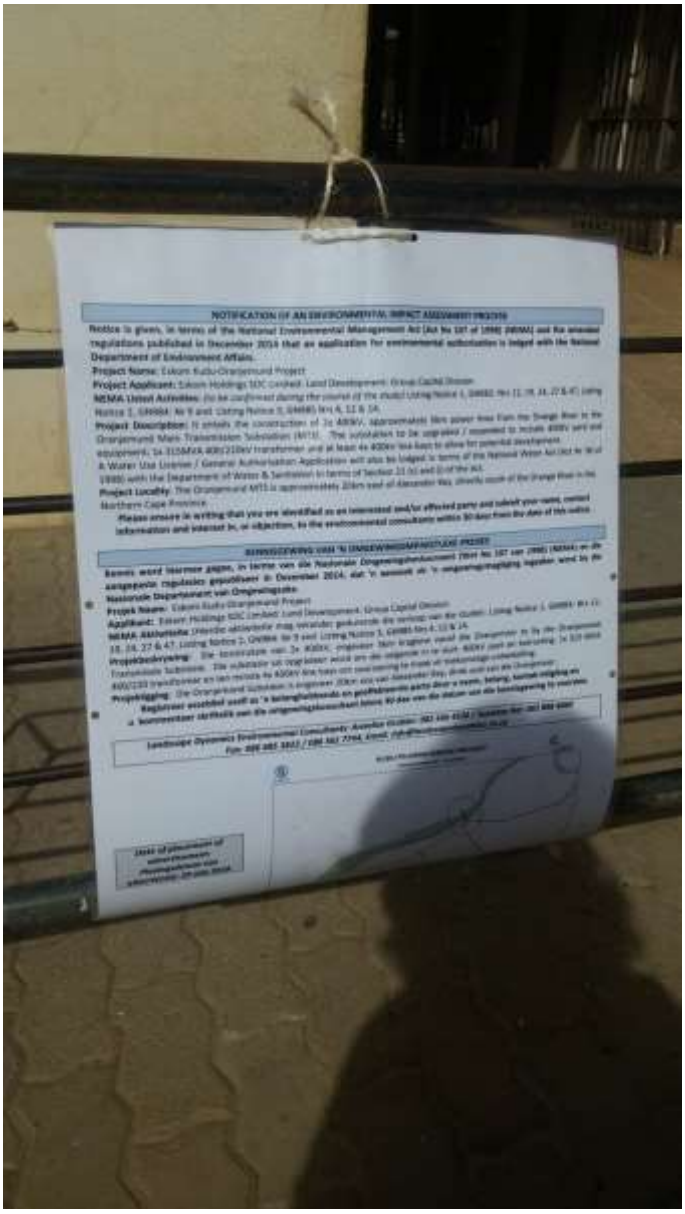

Figure 9: Site notice.

6.5 Evaluation of Heritage sites

The evaluation of heritage sites is done by giving a field rating of each (see Appendix C) using the following criteria:

- The unique nature of a site
- The integrity of the archaeological deposit
- The wider historic, archaeological and geographic context of the site
- The location of the site in relation to other similar sites or features
- The depth of the archaeological deposit (when it can be determined or is known)
- The preservation condition of the site
- Uniqueness of the site and

• Potential to answer present research questions.

7. DESCRIPTION OF THE ENVIRONMENT

The area that was surveyed is located in the semi-desert region of the Northern Cape, adjacent to the Orange River, which here forms the border between South Africa and Namibia (Figure 10-11). The Oranjemond substation is located in South Africa, but the propose power lines stretch across the border to the bank of the Orange River in Namibia (Figure 12).

Apart from the Orange River, the main other environmental feature is the series of hills on the southern bank of the river on the South African side. These create an environment with a topography which is uneven and varies constantly (Figure 13). The slope gradually leads down to the Orange River.

The mentioned hills consist mostly of shale rock which shows a large degree of deterioration. Sand is being captured by these hills creating the impression that these are sand dunes.

The vegetation cover is low consisting of succulent plants which are spread out in-between the rocky surface (Figure 14). Therefore both the vertical as well as the horizontal archaeological visibility was reasonably good. In general the area seems to be quite pristine with natural vegetation. Signs of disturbance include the substation, with recently built infrastructure including buildings and a reservoir, as well as a dirt road through the surveyed area (Figure 15-19). The hill adjacent to the current substation has been disturbed to a large extent.

Figure 10: General view along the Orange River.

Figure 11: View along the Orange River at the place where the crossing of the lines toward Namibia is proposed.

Figure 12: General view of the surveyed area showing low vegetation, hills and the Orange River.

Figure 13: Another section of the surveyed area, showing fairly recent buildings and a hill. This hill will be demolished by the development.

Figure 14: Another general view indicating the vegetation in the surveyed area.

Figure 15: Some of the buildings at the substation that will be demolished. None of these are older than 60 years and has no heritage significance.

Figure 16: Hill adjacent to the substation showing signs of disturbance.

Figure 17: Reservoir on the above mentioned hill.

Figure 18: View along the current substation.

Figure 19: The existing substation in the surveyed area.

8. HISTORICAL CONTEXT

No sites of cultural heritage significance were located during the survey. However stone tools were identified, mostly without context on disturbed areas within the surveyed area. Some background information is given in order to place these and the surveyed area in a historical context and to contextualize possible finds that could be unearthed during construction activities.

This geographical area is not well-known as one containing many prehistoric sites. One however has to realize that this most likely only indicates that not much research has been done here before. On the existing SAHRA Database no such sites are indicated here, but there are a few heritage surveys that were done in the area as was research done in the wider geographical region. This information is included in the discussion.

It should also be noted that the Richtersveld World Heritage Site is situated towards the south-east of the project area. It however is more than 50 km away and therefore no impact is expected. The palaeontological assessment done indicates that there are no records of invertebrate or trace fossils from the study area (Bamford 2016).

8.1 Stone Age

The Stone Age is the period in human history when lithic 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.

The nearest substantial site is the Doornlaagte Early Stone Age archaeological site close to Kimberley, some buildings at Postmasburg and a specularite mine close to Postmasburg (SAHRA database).

No Early Stone Age sites are known from the study area or the immediate geographical region. Stone Age sites are known to occur in the larger geographical area, including the well-known Wonderwerk Cave in the Kuruman Hills to the east, Tsantsabane, an ancient specularite working on the eastern side of Postmasburg, Doornfontein, another specularite working north of Beeshoek and a cluster of important Stone Age sites near Kathu. Additional specularite workings with associated Ceramic Later Stone Age material and older Fauresmith sites (early Middle Stone Age) are known from Lylyfeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley to the north (Morris 2005: 3).

The onset of the Middle Stone Age coincided with a widespread demand for coloured or glittering minerals that arose at the time for still unknown reasons. The intensive collection of such substances soon exhausted surface exposures and led to the quest being extended underground and thus to the birth of mining practice. Specularite was commonly mined in the Postmasburg area. In 1968 AK Boshier, working in collaboration with P Beaumont, found a number of underground specularite mines on Paling (De Jong 2010: 35). Stone and Iron Age communities mined specularite associated with iron ores for cosmetic purposes at Blinkklipkop, Paling, Gloucester and other farms (De Jong 2010: 41; Snyman 2000: 3).

A number of Stone Age sites and scattered finds of Stone Age material were identified on the nearby farm Paling during an earlier survey (Pelser and Van Vollenhoven 2010: 12-17). Many Middle and Late Stone Age tools have been found by Archaetnos during surveys in the Northern Cape. These sites are located close to Griekwastad, Hotazel, Postmasburg and Kenhardt (Archaetnos database). On the farm Konkooksies 91 in the Pofadder district, five sites with Middle and Late Stone Age tools were identified (Pelser 2011).

The environment here seems very similar to that at the study area, indicating that sites are most likely to be found within the proposed development area. Rock engraving (rock pecking) sites are known from Beeshoek and Bruce (Morris 2005: 3; Snyman 2000: 3). The latter are associated with the Late Stone Age.

The mentioned Late Stone Age sites are associated with the San people. Mitchell (2002: 126) indicates that the language group who occupied the Northern Cape is the /Auni-//Khomani and Eastern /Hoa, with the /Xam towards the Gariep (Orange) River. These people were hunters and gatherers which means that they would have moved around, leaving little trace of their existence.

All the mentioned sites are however relatively far from the study area. Hart (2015) did an archaeological assessment of the nearby proposed Richtersveld Solar Facility which is located towards the east of the study area. He indicates that shell middens, associated with Late Stone Age people, are to be found along the coastal regions of the Northern Cape (Hart 2015: 13). A number of heritage surveys were done along the coast, but information about Stone Age sites from these are of course only an indication that Stone Age people were present in the broader geographical environment. Hart (2015:13-14) also indicates that human burial are found here, but that these are mostly disturbed by mining activities.

Research in the Namaqualand area is only a recent event, and although a few publications have been resulting from this, none has direct impact on the study area (see Webley 1984, 1986, 1990, 1992, 1997, 2001, 2007; Brink & Webley 1996; Miller & Webley 1994; Webley et.al. 1993; Smith et.al. 2001 and Orton 2007a, 2007b, 2007c).

Hart identified more than a hundred scatters of Stone Age material in the area surveyed by him (Hart 2015: 36-39). This indeed indicates that Stone Age material could be found in abundance in the area. Although found in abundance, Townsend (2015: 15) indicates that these finds are of minimal heritage significance.

From the above mentioned it is clear that Stone Age people did utilize and settled in the area. One will therefore more than likely find sites or associated with these people. In fact some Middle and Late Stone Age tools were identified throughout the area (Figure 20).

Although no large site was identified, it is possible that even more tools and possibly sites may be present. This is due to the environment creating the correct known setting for Stone Age people and due to the fact that the limited visibility during the survey, may have resulted in such not being identified.

Figure 20: Stone tools identified in the surveyed area.

8.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal 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.

No Early or Middle Iron Age sites have been identified in the area of study. Iron Age people occupied the central and eastern parts of southern Africa from about 200 A.D., but the San and Khoi remained in the western and southern parts (Inskeep 1978: 126; see also Huffman 2007).

During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman. Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called 'first people'. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua (De Jong 2010: 36).

This however is geographically far from the study area. It is nevertheless known that Late Iron Age people did utilize the area further to the west, albeit briefly, as they did mine copper in the Northern Cape (Inskeep 1978: 135).

Iron Age people therefore probably did not settle in the study area. The chances of finding any Iron Age remains in the study area are thus extremely slim, if not impossible.

8.3 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. This era is sometimes called the Colonial era or the recent past. Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore much more cultural heritage resources have been left on the landscape.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *Difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwana and Phuting tribal groups (De Jong 2010: 36).

The D*ifaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first traders in the Northern Cape were PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were again followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read. At the end of the 18th century and the beginning of the 19th century Griqua tribes coming from the south settled in the region in order to escape encroachment of Afrikaner Trekboere who was active along the Orange River (De Jong 2010: 36). Again this is far towards the east of the study area.

Looking closer at the study area one can indicate that Nama Historical accounts up until 1913 suggest that Nama-speakers were living very much like their ancestors centuries before. The Nama-speaking inhabitants of the region follow a seasonal

transhumant cycle, meaning that they are not nomadic but tend to use a specific area on a seasonal basis. There is no clear indication of boundaries, and early traveler's record meeting with Nama groups as far south as Steinkopf (Hart 2015: 15-16).

Although pastoralism did allow for larger herder settlements, historic accounts suggest that the dry Northern Cape could not support the group sizes of several hundred observed further to the southwest. Therefore population density was low, resulting in little competition for land. Villages or kraals were centred on important water holes. Their houses consisted of the traditional 'matjieshuis' which could easily be packed up and transported to a next geographical area (Hart 2015: 16).

Hart (2015:14) also indicates that the first travelers to the Gariep River includes elephant hunters such as Jacobus Coetzee in 1660. The earliest penetration of the Richtersveld via the coast was done by William Paterson and Colonel Robert Jacob Gordon in 1779. In 1830 Dr. E Richter of the Rhenish Mission Society visited the area, which bears his name. In the mid-19th century a mission station was established at Kuboes. The Sendelingsdrift area was visited in 1837 by Captain James Edward Alexander who also prospected for copper at Kodas.

The South African Mining Company was formed in 1846. They send Thomas Fannin to the Gariep River to survey the area and begin with the mining of copper. The mine that he started is believed to be the oldest commercial mine in South Africa (Hart 2015: 14-15).

The British extended their control to the Gariep River in 1847. The Richtersveld was included in the Namaqualand district. By the 1890s, the inhabitants of the Richtersveld demanded clarity regarding land ownership. Eventually in 1934 a formal "ticket of occupation" was issued by the government which gave indigenous groups communal rights to the land which was technically still held in trust by the state. Hereafter the Richtersveld became a "coloured reserve" under a management board (Hart 2015: 15).

Diamonds were only discovered by Europeans in the early 20th century. The first was Dr. Bernhard Dernburg who discovered diamonds in southern Namibia in 1908, although a certain person named Pohle had been the first to recognise the potential for finding diamonds in the Gariep River. In 1925 the first Namaqualand diamond was discovered at a site 10,5 km south of Port Nolloth by Jack Carstens. The first diamonds of Alexander Bay was found in November 1926 by Dr. Ernst Reuning. In December 1926 Israel Gordon's party found diamonds near Alexander Bay. Public digging was prevented at Alexander Bay when on 22 February 1927 the government banned prospecting on Crown land. State mining operations began in 1928. This later became the Alexcor or State Diamond mines (Hart 2015: 15).

The oldest map of the farm Groot Derm, identified in the Office of the Surveyor-General dates to 1914, but it was likely already surveyed in 1909 (Figure 21). The farm was surveyed for HAM Louw. It is indicated that it was surrounded by government land as well as the Richtersveld Institute, the latter likely to indicate the so-called native reserve. The diagram shows a rough road running between

hills/sand dunes as well as the Orange River (Surveyor-General 1247/1909). The only deduction that can be made from it is that it is a typical environment of Stone Age people. However, the presence of a farmer here may indicate that structures linked to farming activities was also later on added.

One may therefore expect sites associated with the first white farmers, early missionaries and mining companies. This may include graves. However, no such sites were identified.

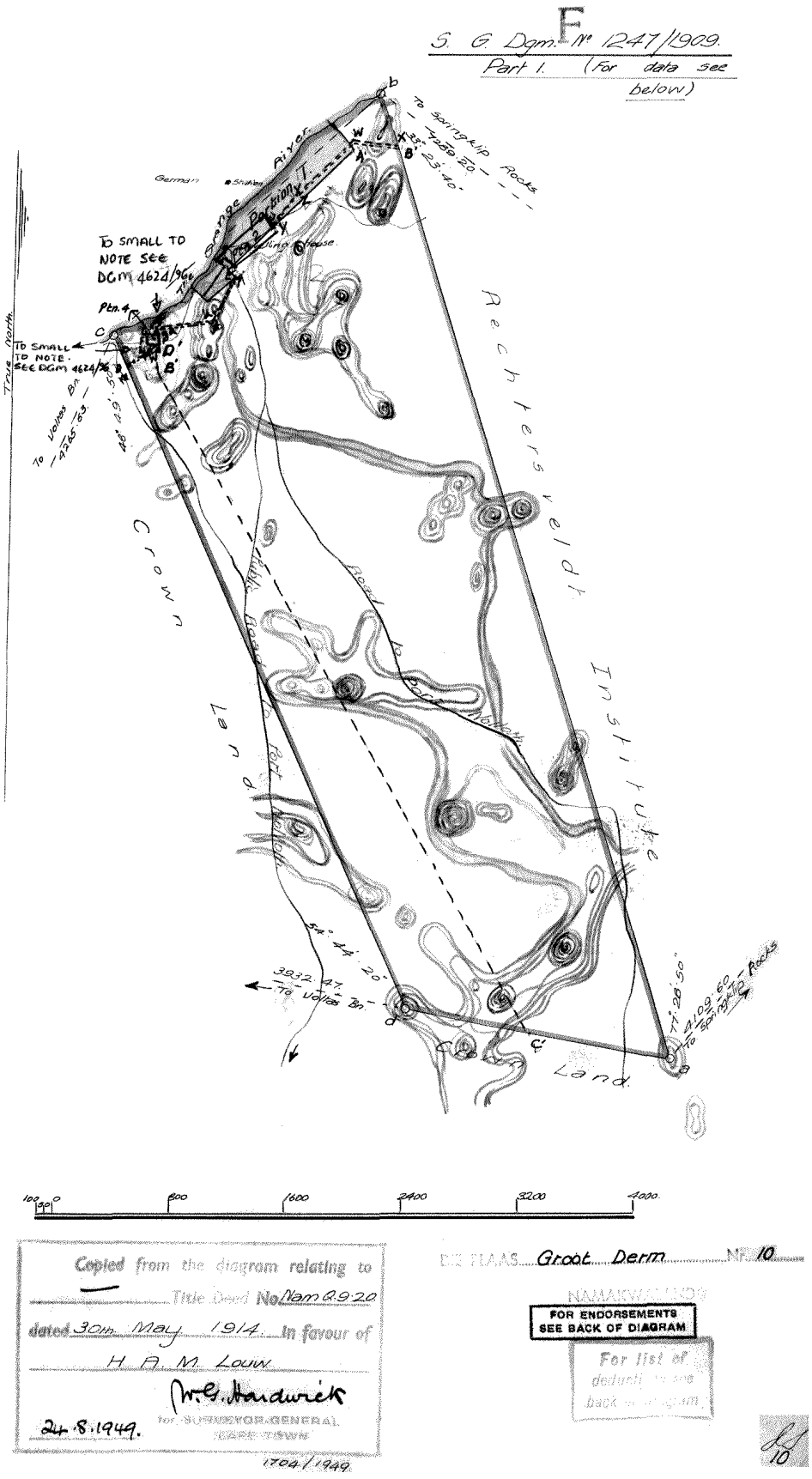

Figure 21: Surveyor-General's diagram of the farm Groot Derm 10.

9. CONCLUSION AND RECOMMENDATIONS

As indicated no sites of cultural heritage significance was located in the surveyed area. However many stone tools have been noted and this will need further investigation.

The survey of the indicated area was completed successfully. The following is recommended:

- A walk-down study should be implemented once the pylon positions are known, to ensure minimal impact on stone tools in the area. It may even be necessary to have an archaeologist present on site when construction of the pylons and the demolition of the indicated hill is being implemented, but the walk-down study will give the necessary guidance in this regard.

- The latter would aim at collection a representative sample of stone tools from the area since it is terra incognito as far as research goes and would therefore assist in elucidating this part of history.

- It should always be realized that the subterranean presence of archaeological and/or historical sites, features or artifacts is a distinct possibility. Due to the nature of this development and the environment, it is indeed expected that some Stone Age sites may only become known later on, thus emphasizing the need for further studies.

- Only after the mentioned study has been done and pending the outcome thereof as well as SAHRA's approval, the proposed development may continue.

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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

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value:	Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.
Aestetic value:	Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.
Scientific value:	Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period
Social value:	Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.
Rarity:	Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.
Representivity:	Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

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.

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

Field ratings:

National Grade I significance	should be managed as part of the national estate
Provincial Grade II significance	should be managed as part of the provincial estate
Local Grade IIIA	should be included in the heritage register and not be mitigated (high significance)
Local Grade IIIB	should be included in the heritage register and may be mitigated (high/ medium significance)
General protection A (IV A)	site should be mitigated before destruction (high/ medium significance)
General protection B (IV B)	site should be recorded before destruction (medium significance)
General protection C (IV C)	phase 1 is seen as sufficient recording and it may be demolished (low significance)

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

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or scoping phase – establishment of the scope of the project and terms of reference.
2. Baseline assessment – establishment of a broad framework of the potential heritage of an area.
3. Phase I impact assessment – identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – if there is no likelihood that any sites will be impacted.
5. Phase II mitigation or rescue – planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III management plan – for rare cases where sites are so important that development cannot be allowed.