



Archaetnos Culture & Cultural
Resource Consultants
BK 98 09854/23

**A REPORT ON A HERITAGE IMPACT ASSESSMENT (HIA) FOR
THE PROPOSED PHOTO-VOLTAIC SOLAR POWER GENERATION PLANT
ON THE FARM PADROOI 13 NEAR THE AUGRABIES FALLS NATIONAL PARK
IN THE NORTHERN CAPE**

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SUMMARY

Archaetnos cc was appointed by EScience & Associates, on behalf of Aurora Power Solutions, to conduct a Heritage Impact Assessment for a proposed Photo-Voltaic Solar Power Generation Plant on the farm Padrooi 13, near the Augrabies Falls National Park in the Northern Cape Province.

A number of sites, most dating to the Stone Age and represented by scatters of stone artifacts (tools) were recorded in the area. The report provides a discussion of the finds and observations made during the fieldwork and also gives an indication of the methodology followed. It also indicates how to deal with any archaeological material that may be unearthed or disturbed during the development activities. Mitigation of the Stone Age sites is recommended.

From a Cultural Heritage point of view there should be no objection to the continuation of the proposed development, taking into consideration the conclusions and recommendations made at the end of this report.

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1. INTRODUCTION

Archaetnos cc was appointed by EScience & Associates, on behalf of Aurora Power Solutions, to conduct a Heritage Impact Assessment for a proposed Photo-Voltaic Solar Power Generation Plant on the farm Padrooi 13, near the Augrabies Falls National Park in the Northern Cape Province.

A number of sites, most dating to the Stone Age and represented by scatters of stone artifacts (tools), were recorded in the area. Mitigation of the Stone Age sites is recommended.

From a Cultural Heritage point of view there should be no objection to the continuation of the proposed development, taking into consideration the conclusions and recommendations made at the end of this report.

The client indicated the boundaries of the area to be assessed and the work was confined to this. Subsequent to the fieldwork an area with slightly differing boundaries were identified for development purposes. A map of this area – indicating the position of sites recorded in relation to it – will also be included in the report. However, with the area (topographically/archaeologically) homogenous right through, it is not envisaged that the findings will be any different to that already made. The eventual mitigation measures (mapping and sampling of material) recommended will have to be implemented for this section as well.

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) 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.

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, structure 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 due to number of reasons such as visibility, accessibility and the subterranean nature of many sites, features and objects. 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 C**) 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 history and archaeology of the area. Sources consulted in this regard are indicated in the bibliography.

5.2 Field survey

The survey was conducted according to generally accepted HIA/AIA practices and was aimed at locating all possible objects, sites and features of cultural (archaeological and historical) significance in the area of proposed development. If required, the location/position of any site is determined by means of a Global Positioning System (GPS), while photographs are also taken where needed.

The survey was undertaken mainly on foot

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 project area is located on the farm Padrooi near the Augrabies Falls National Park in the Northern Cape.

The area's topography is flat, although it contains some low rocky outcrops. It is generally open, containing some grass cover and shrubs, as well as quiver trees in some areas. Open sandy patches occur as well and as a result of the general open nature of the area archaeological visibility was fairly good. A number of dry drainage lines crosses through the area as well.

Fairly little disturbance has happened in the past, with the most distinct being the development of Power Lines across the area and an Eskom substation in the vicinity of the site. The R359 cuts through a portion of the area, while a borrow pit is located in a portion of the area also.



**Figure 1: Aerial location of development (© Google 2009 and provided by client).
Note the ESKOM substation and the drainage lines.**

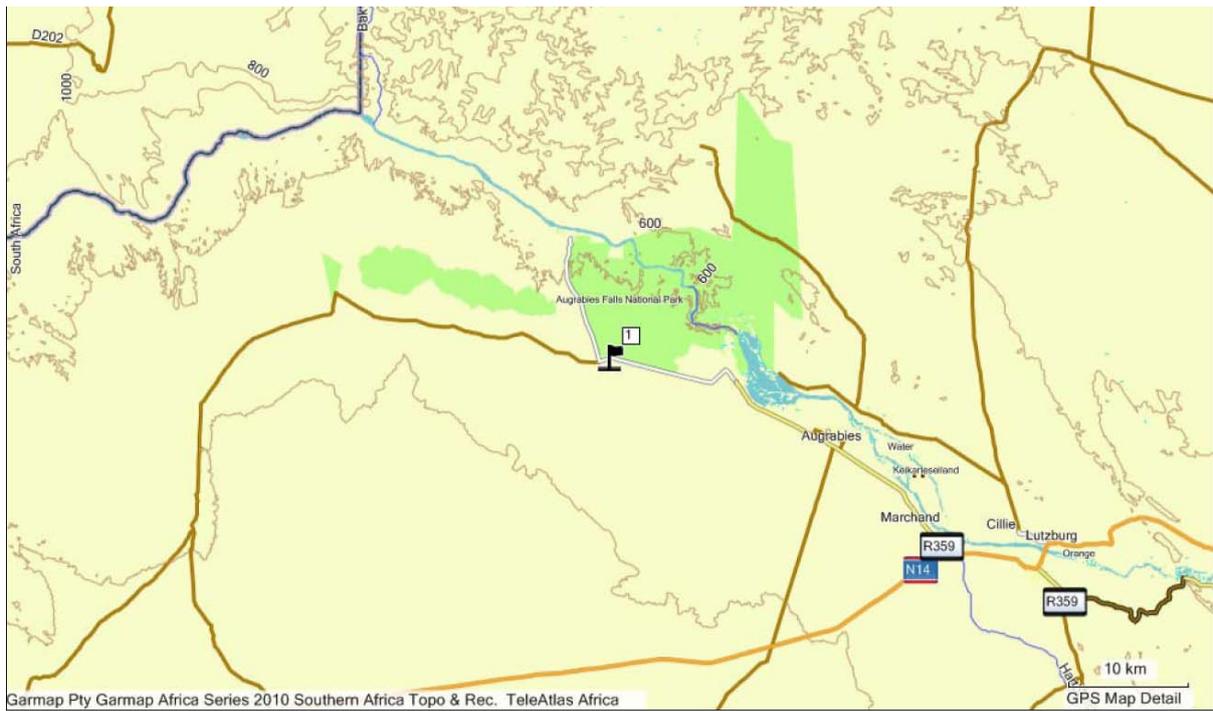


Figure 2: Topographic Location of development (© Map Source 2010).



Figure 3: View of the ESKOM Substation close to the area.



Figure 4: General view of the area. Note the sandy patches.



Figure 5: A low rocky outcrop in a section of the area.

7. DISCUSSION

During the assessment a number of sites (10) dating to the Stone Age, were identified in the area. These sites are represented by scatter of stone tools found throughout the area, and this will be discussed later on in this section. In order to enable the reader to understand cultural heritage (archaeological and historical) objects, features and sites that could possibly be unearthed and disturbed during development, it is necessary to give a background regarding the different phases of human history in South Africa, as well as on the general archaeology of the area.

7.1 Stone Age

The Stone Age is the period in human history when stone 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

Later Stone Age (LSA) 40 000 years ago – 1850 AD

According to David Morris of the McGregor Museum in Kimberley the archaeology of the Northern Cape is rich and varied, covering long spans of human history. The Karoo is particularly bountiful. Some areas are richer than others, and not all sites are equally significant. The significance of sites encountered in the study area may be assessed against previous research in the region and subcontinent. The region's remoteness from research institutions accounts for a relative lack of archaeological research in the area. The area has probably been relatively marginal to human settlement for most of its history, yet it is in fact exceptionally rich in terms of Stone Age sites and rock art, as a relatively few but important studies have shown (Morris 2006).

The area immediately west of the Augrabies falls has been subject to archaeological research by Professor Andrew Smith who has conducted informal surveys within the National Park and on river-bordering farms in the Kakamas area. He excavated a number of caves (Zoovoorbij, Droegrond, Waterval) which produced sequences containing both Middle and Later Stone age material. As a result of his research it became apparent to him that Khoekhoen herders were dependent on being close to the comparatively resource rich Orange River while San hunter gatherers lived in refuge situations deeper in the hinterland. The Richtersveld, on account of its low economic value became the last place where descendants of the Orange River Khoekhoen could practice their traditional herding lifestyle, all other arable land being taken over by private land owners for commercial stock farming. David Morris (Pers. comm. McGregor Museum Kimberly) has reported the presence of archaeological sites in the Riemvasmaak area including a number of significant fish bone and pottery rich sites close to the river, which appear to be similar to herder sites excavated by Webley and others in the Lower Orange River. He has pointed out that the archaeology of the river has within the last 10 years been severely impacted by vineyard cultivation. Prof Allan Morris (Dept Anatomy UCT) excavated and analyzed a collection of burials from the Kakamas area, some of which he excavated himself in 1984 and others from a collection of 56 individuals exhumed by Dreyer and Meiring in 1936. The burial cairns, typically Khoekhoen in form were thought to date to Korana or !kora herders of the Middle Orange River. The graves contained grave goods such as red ochre and trade beads. The analysis of the remains revealed that although there were Khoisan morphological trends, the skeletons also showed Negroid characteristic reflecting the movement of people up and down the river making contact with Thlaping people in the interior of the country (Hart 2003: 6).

Most of the sites found in the area that had to be assessed dates to the Stone Age.

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.

The expansion of early farmers, who, among other things, cultivated crops, raised livestock, made ceramic containers (pots), mined ore and smelted metals, occurred in this area between AD 400 and AD 1100 and brought the Early Iron Age (EIA) to South Africa. They settled in semi-permanent villages (De Jong 2010: 35).

While there is some evidence that the EIA continued into the 15th century in the South African Lowveld, on the escarpment it had ended by AD1100. The Highveld became active again from the 15th century onwards due to a gradually warmer and wetter climate. From here communities spread to other parts of the interior. This later phase, termed the Late Iron Age (LIA), was accompanied by extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman (De Jong 2010: 35-36).

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. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua. This period of contact is sometimes known as the Ceramic Late Stone Age and is represented for instance by the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36).

No Iron Age sites, features or objects were found during the survey.

7.3 Historical Age

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, Hlakwa and Phuting tribal groups.

The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first was PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were 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.

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government. The conflict mainly centered on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36).

The name Augrabies was given to the falls by a Swedish traveler Hendrik Jakob Wikar, when he moved through the area in 1799. The name is derived from a Nama word "Aukoerebis" which means "Place of Great Noise" (because of the noise created by the water falling down the gorge on the rocks below (www.sanparks.org.za)).

No definite historical sites, features or objects were found during the assessment, although a possible stone walled enclosure could date to this period.

Discussion of sites, features or objects found during the assessment

Sites 1 – 5 and 7 - 10

All these sites recorded date to the Stone Age and are represented by fairly dense to minimal scatters of stone tools all through the area. Many of the sites contain dense scatters of quartz, with some stone tools manufactured on the quartz. These scatters also contain tools made on other materials such as felsite, hornfels and other material types. Some of the sites can be seen on aerial images (Google Earth) as white patches. Not all scatters were recorded, as they are found throughout the area.

The stone tools found on these sites most likely date mostly to between the Middle and Later Stone Ages, although there is the possibility of the presence of some Earlier Stone Age material as well. Some archaeological material was also located close to and in the drainage lines (dry streams) that cut through the area.

GPS Locations:

Site 1: S28.61509 E20.21551

Site 2: S28.61533 E20.21507

Site 3: S28.61591 E20.21475

Site 4: S28.61599 E20.21282

Site 5: S28.61536 E20.21266

Site 7: S28.61591 E20.21897

Site 8: S28.61598 E20.22076
Site 9: S28.61447 E20.22178
Site 10: S28.61158 E20.22204

Significance of Sites: **Low to High**
Mitigation: **Mapping and surface sampling**



Figure 6: Aerial view of area. Black circles are around white patches with concentrations of quartz.



Figure 7: Some MSA/LSA tools on one of the sites.



Figure 8: One of the sites characterized by dense concentrations of quartz.



Figure 9: Quartz manufactured stone tools and flakes.



Figure 10: Possible ESA hand axe from the area.

Site 6

This site was recorded close to a low rocky outcrop in the area, and consists of a low stone wall (single row of stones) in front of a section of the outcrop. Some glass and metal (tins etc) was noticed close by. The exact age and function of this site is not known, but it seems to fairly recent. It could have been used by herd boys.

GPS Location: **S28.61530 E21259**

Significance: **Low**

Mitigation required: **None. Recording during assessment seen as sufficient. Development will not impact on outcrops**



Figure 11: Low stone wall on Site 6.

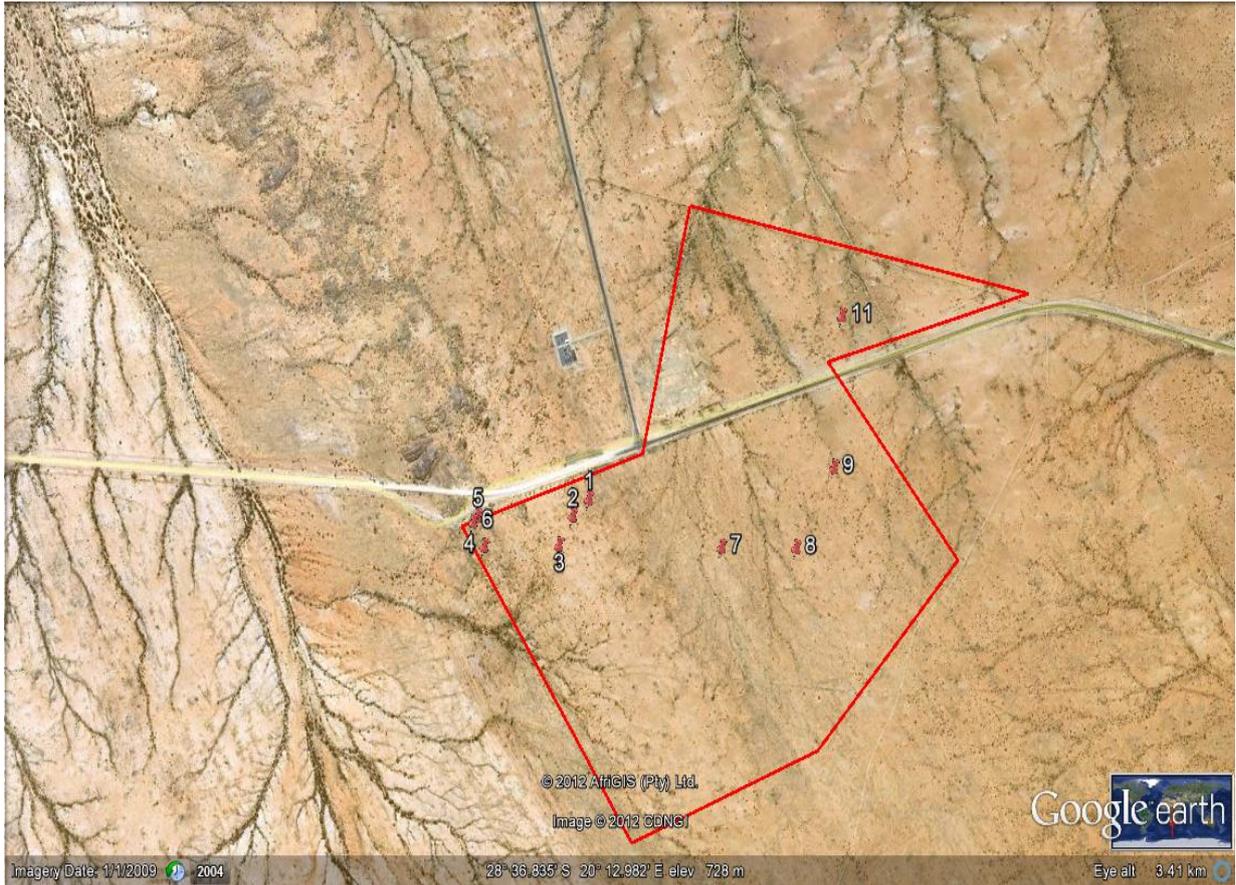


Figure 12: Aerial view of area with sites recorded indicated.

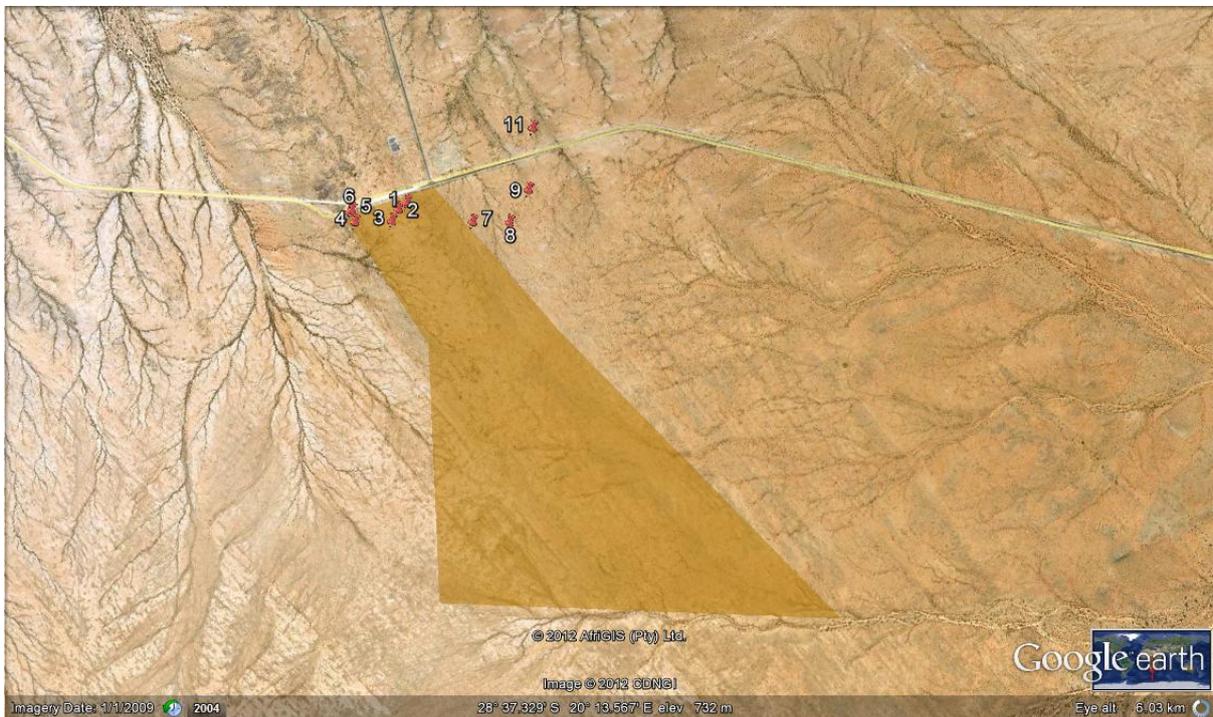


Figure 13: New map provided by client after fieldwork was completed. The other section will be included in the mitigation measures recommended.

8. CONCLUSIONS AND RECOMMENDATIONS

In conclusion it can be stated that the Impact Assessment of the area earmarked for the development of the Photo-Voltaic Solar Power Generation Plant on Padrooi 13 near the Augrabies Falls National Park in the Northern Cape was conducted successfully. Ten sites, most of which are Stone Age related, were recorded in the area, although there might be more sites here. The sites are characterized by scatters of stone tools, with varying degrees of density, throughout the area. Aerial views of the area indicate some of these scatters as white patches as they contain in many instance large concentrations of quartz. Pieces of quartz tools as well as tools on other material are found on these sites. One low stone wall was also identified, possibly dating to the more recent historical period.

A new map provided to Archaetnos cc after the fieldwork was conducted indicates that a section of the area will have to be included in the mitigation measures that are being proposed below. With the area being fairly homogenous throughout in terms of topography and archaeology it is believed that similar sites and occurrences will be found in the un-assessed area. However, to ensure that no significant sites are missed in the process the outstanding section will be surveyed, mapped and sampled in a similar fashion to those sites already identified in the originally assessed area. This will be undertaken during the recommended mitigation process detailed below

It is recommended that the following mitigation measures are undertaken for the Stone Age sites in the area:

1. that the sites are mapped and that a selective sampling of artifacts are undertaken in order to help interpreting the Stone Age archaeology of the area
2. that an Information Plaque on the Stone Age archaeology of the area be developed and erected at the Solar Energy Plant as part of the mitigation measurements

If these recommendations are implemented then, from a Cultural Heritage (Archaeological and Historical) point of view there is therefore no objection to the continuation of the planned development.

It should also 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. Also, it is virtually impossible to locate or identify all possible sites, features or objects in a given area. This would include low, stone packed or unmarked graves.

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Aerial views of development location as well as Site Distribution: Courtesy Google Earth and EScience Associates

Topographic Location of development: Courtesy Map Source 2010

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APPENDIX A

DEFINITIONS:

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

Feature: Means a coincidental find of movable cultural objects.

Object: Means an Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITIONS/STATEMENTS 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.
- Aesthetic 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:

1. 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.

2. 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.

3. 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 a sufficient recording of the existing structure and it may therefore be demolished of (low significance) .

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

1. Formal protection:

Formal protection is applicable to the following:

- National heritage sites and Provincial heritage sites – grades I and II
- Protected areas – which is described as an area surrounding a heritage site
- Provisional protection – described as protection for a maximum period of two years
- Heritage registers – listings of grades II and III
- Heritage areas – areas which include more than one heritage site
- Heritage objects – heritage objects include inter alia archaeological, paleontological, meteorites, geological specimens, visual art, military, numismatic and books.

2. General protection:

General protection is applicable to:

- Objects protected by the laws of foreign states
- Structures – older than 60 years
- Archaeology, paleontology and meteorites
- Burial grounds and graves
- Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

- Phase 1: Pre-assessment or scoping phase – the establishment of the scope of the project and the terms of reference.
- Phase 2: Baseline assessment – the establishment of a broad framework of the potential heritage of an area.
- Phase 3: Assessment of potential impacts – the identification of sites, assessment of their significance, commenting on the potential impact of the proposed development and recommending mitigation measures or the conservation thereof.
- Phase 4: Letter of recommendation for exemption –submitted in the event that no likelihood exists that any sites will be impacted upon.
- Phase 5: Mitigation or rescue – planning the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
- Phase 6: Compilation of and implementation of a management plan – in rare cases where sites are regarded as of high importance such that development cannot be permitted unconditionally.