



Archaetnos Culture & Cultural
Resource Consultants
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**A REPORT ON A HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED
SASOL CSP AND CPV PROJECT NEAR UPINGTON IN THE NORTHERN CAPE
PROVINCE**

For:

WSP ENVIRONMENTAL (PTY) LTD

REPORT: AE01228V

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SUMMARY

Archaetnos cc was appointed by WSP Environment and Energy to conduct a cultural heritage study for the proposed SASOL CSP Project. This is situated on the farm Van Roois Vley close to Upington in the Northern Cape Province.

The fieldwork undertaken revealed numerous features of archaeological nature. It is difficult to name these sites due to the lack of vast amounts of cultural material. One of these dates to the recent historical past or Historical Age and the rest to the Stone Age. The features are discussed in the report.

It seems some of these features will be directly impacted on by the development. On others there might be a secondary impact. Mitigation measures are proposed. The development may continue after implementation of these.

The developer also needs to take note that all archaeological and historical sites may not have been identified. Apart from natural factors this is also due to certain farms not being accessible. It also is possible that subterranean archaeological sites may be found later on. On identification of these it needs to be dealt with by an archaeologist.

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1. INTRODUCTION

Archaeos cc was appointed by WSP Environment and Energy to conduct a cultural heritage study for the proposed SASOL CSP Project. This is situated on the farm Van Roois Vley close to Upington in the Northern Cape Province. The project entails the erection of concentrated solar panels for the generation of electricity.

The client indicated the area where the proposed development is to take place. The field survey was confined to this area.

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. 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. Recommend suitable mitigation measures to minimize possible negative impacts on the cultural resources by the proposed development.
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 (Appendix A). 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, 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. In this particular case the area was very large and the vegetation cover in certain sections reasonably dense, making archaeological visibility difficult.

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. 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. 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
- 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 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; or
- 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.
- 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.

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. METHODOLOGY

5.1 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.

5.2 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. If required, the location/position of any site was determined by means of a Global Positioning System (GPS)¹, while photographs were also taken where needed. The survey was undertaken by a physical survey via off-road vehicle and on foot.

5.3 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.

5.4 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.

5.5 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:

¹ A Garmin Oregon 550 with an accuracy factor of a few meters.

- 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.

6. DESCRIPTION OF THE AREA

The area that was surveyed is situated between approximately 30 and 50 km to the north-west of the town of Upington in the Northern Cape Province. It comprises certain portions of the farm Van Roois Vley (Figure 1, 2 &3).

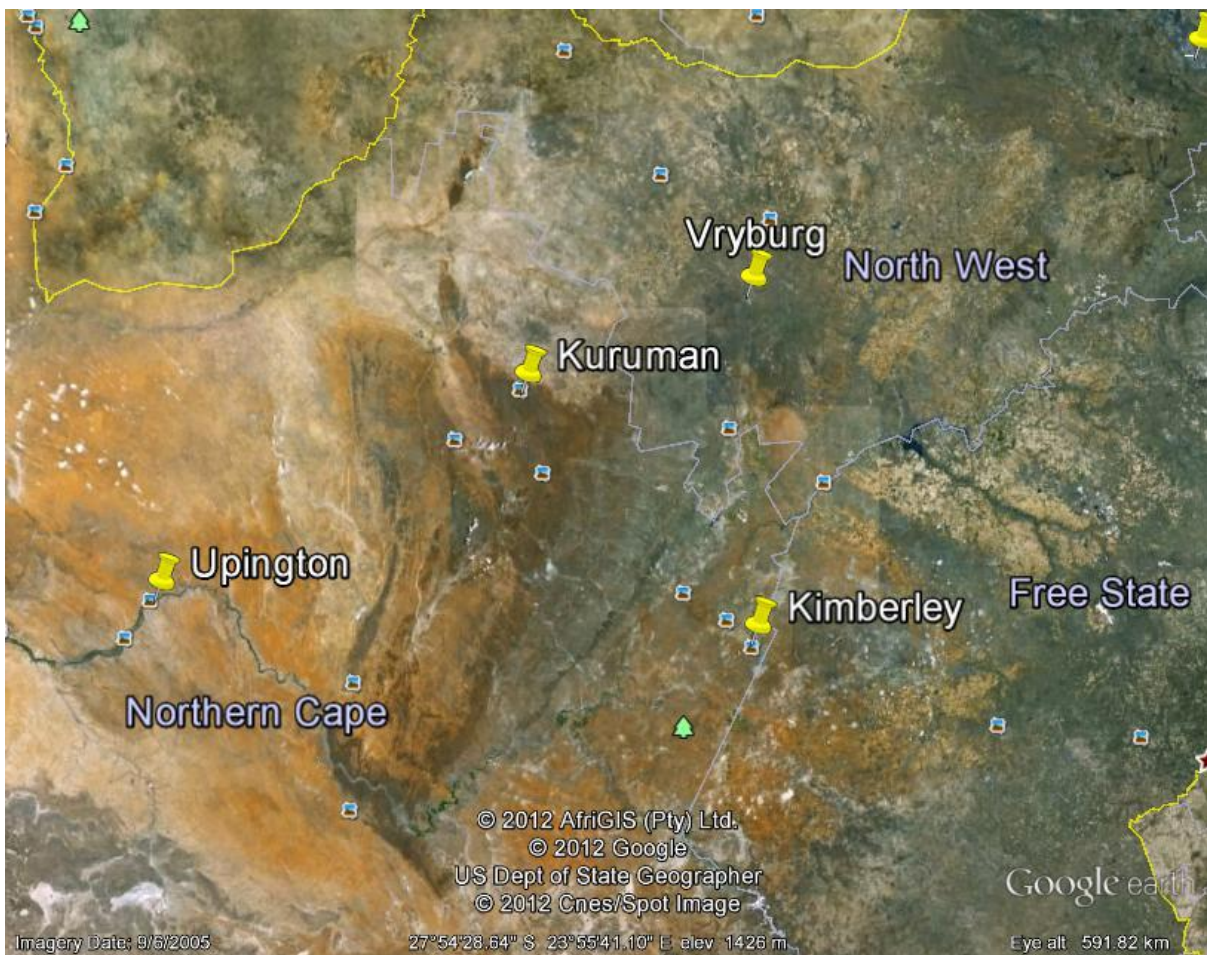


Figure 1 Location of the town of Upington in the Northern Cape Province.

The environment of the area is mostly undisturbed although it is being used for sheep farming. The dominant plant species is grass which was reasonably high in certain areas during the survey making archaeological visibility difficult. However, in certain other areas the vegetation cover was less and patches of sand and loose stones visible (Figure 4 & 5).

The natural topography in most of the surveyed area is reasonably flat, but in the north-west and just outside of the project boundary, a hill dominates the area resulting in an even slope up to the crest. This area also is very rocky. The stones here are dark in colour and may be of a basaltic origin. However in the flat areas adjacent to the hill the rocks are white coloured and most likely are soft calcrete, which would not have been suitable for the manufacture of stone tools.

Different non-perennial streams runs through the area, but during the time of the survey these were no more than sandy river beds. It does not make much of a difference in the topography.

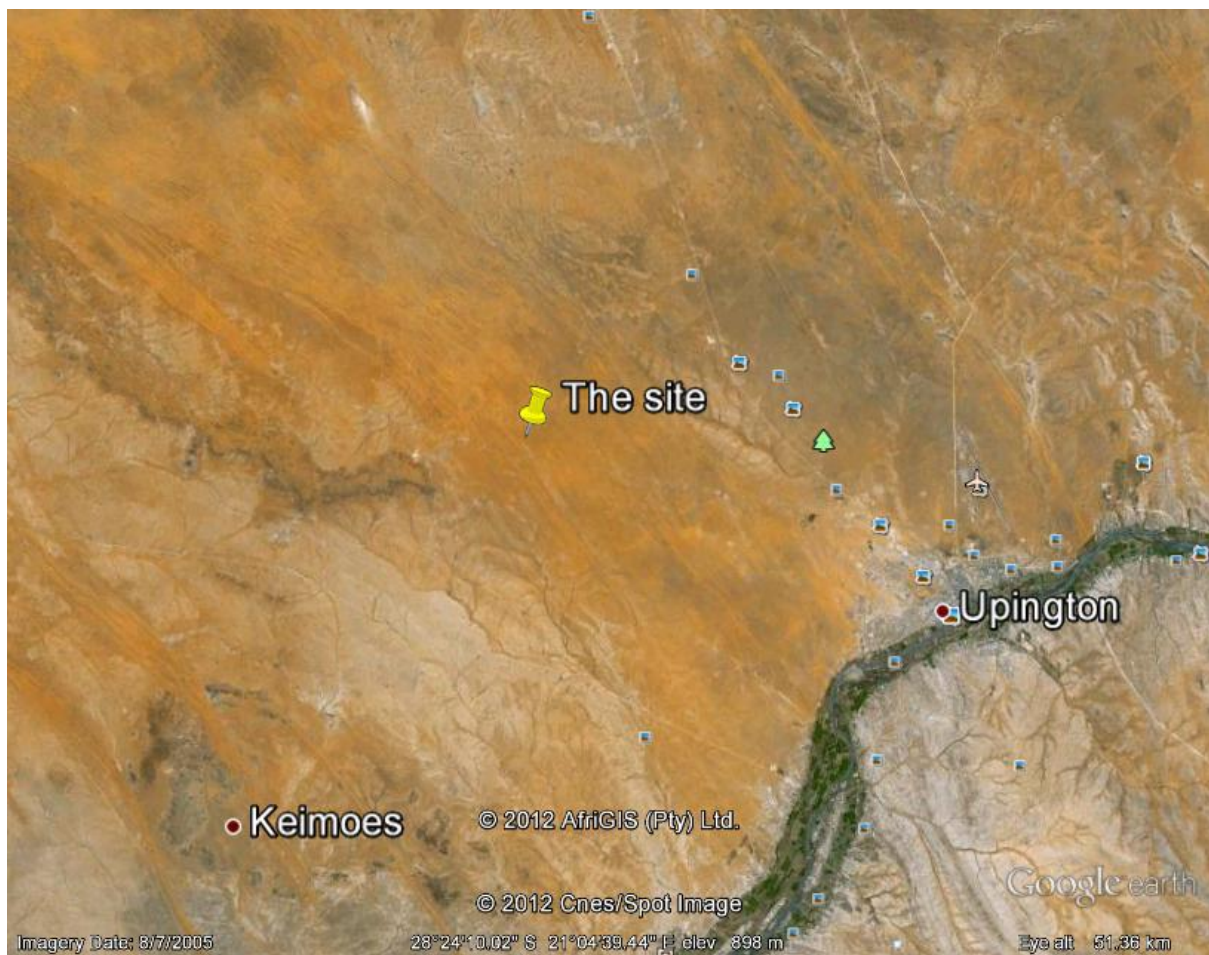


Figure 2 Google image indicating the study area to the north-west of Upington.

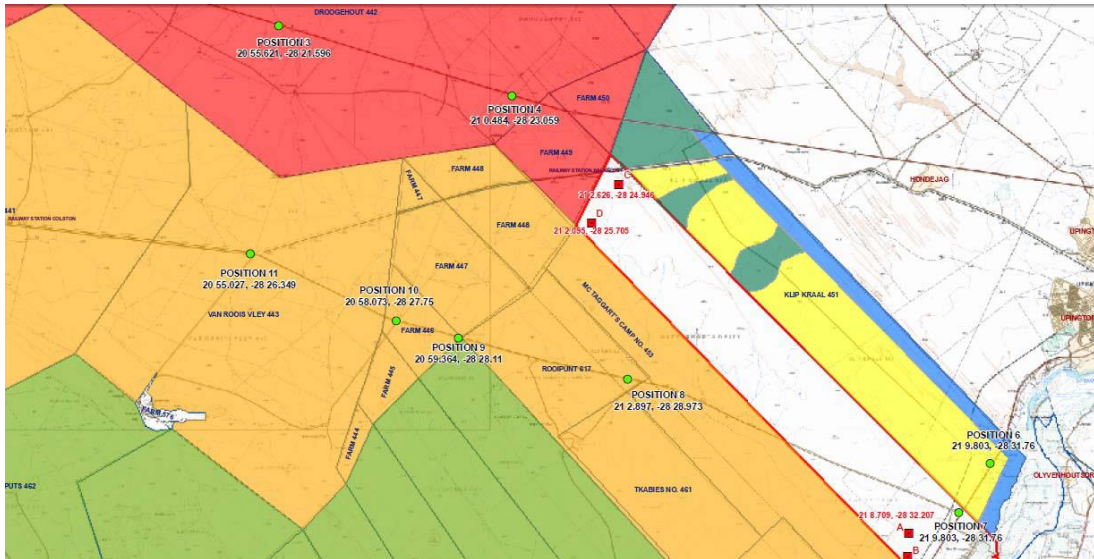


Figure 3 Plan indicating the proposed development.



Figure 4 General view of vegetation in the surveyed area.



Figure 5 Another view of the surveyed area.

7. HISTORICAL CONTEXT

During the survey various features of cultural heritage significance were located in the area. It is difficult to call these 'sites' due to the lack of vast amounts of cultural material found at each location. One can however do a broad categorization and relative dating (see below). The significance will however be explained below where each 'site' is described.

However, there always is a possibility that more features and sites may become known later and that those need to be dealt with in accordance with the legislation discussed above. In order to enable the reader to better understand archaeological and cultural features, 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 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.

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. The

nearest indicated are the Doornlaagte Early Stone Age archaeological site close to Kimberley, 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 (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 by Küsel et.al. (2009) and Archaetnos close to the town of Hotazel and adjacent to the Gamagara River during 2011 (Archaetnos database). 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 (www.archaetnos.co.za). On the farm Konkooksies 91 in the Pofadder district, five sites with Middle and Late Stone Age tools were identified (Pelser 2011).

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. These people were hunters and gatherers which means that they would have moved around, leaving little trace of their existence.

The environment here seems very similar to that at the study area, indicating that sites are most likely to also be found at Van Roois Vley. This was indeed the case, as will be discussed later (Section 8). 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.

Similar rock peckings were indeed found on the farm Van Roois Vley, but these are on the portion of the farm to the west of the provincial road and these will not be affected by the development as it falls outside of the project area. On these rocks, found in a dry river bed, different animals and geometrical figures are depicted. It includes different depictions of giraffes, an aardvark and animals that could not be identified due to the state of preservation of the peckings (Figure 6, 7 & 8).

From the above mentioned it is clear that Stone Age people did utilize the area by settling in it. Many Middle and Late Stone Age features were indeed identified during the survey (see section 8).



Figure6 Rock pecking of an aardvark.



Figure 7 Rock pecking showing a geometrical figure (perhaps a picture of a footprint).

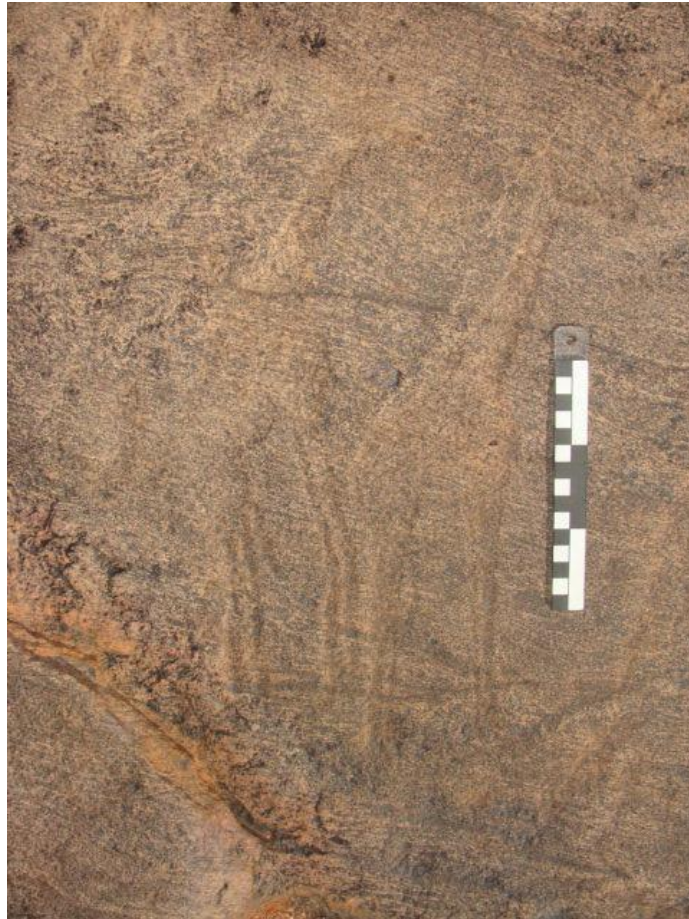


Figure 8 Rock pecking of two giraffes.

7.1 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. This period of contact is sometimes known as the Ceramic Late Stone Age and is represented by the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36). It is also known that Late Iron Age people did utilize the area close to the Orange River, 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. It therefore is no surprise that no such sites were identified during the survey.

7.2 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 and because less time has passed, much more cultural heritage resources from this era have been left on the landscape.

It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

Such sites include the many historical buildings and structures indicated on the SAHRA database in Kakamas, Kenhardt, Keimoes and Upington (SAHRA Database). These are associated with the early missionaries, travellers, first white farmers and establishment of towns during the 19th century.

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 (De Jong 2010: 36).

The *difaqane* 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 (De Jong 2010: 36). During the 1870's William Sanderson, John Ryan and John Ludwig passed through the area close to Postmasburg (Snyman 2000: 3).

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 centred 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 Gariiep area was inhabited by the Nama, Bondelswarts, Afrikaners, Koranna and the Griqua. These people utilized the islands in the Orange (Gariiep) River and due to their wars the Koranna chief, Klaas Lukas, appealed for the establishment of a mission station at Olyfenhoutdrift. This led to the Reverend Christiaan Schröder establishing a mission station here in 1871. The buildings at the missionary were erected between 1873 and 1883. These buildings are today hosting the museum in the town of Upington (Kalahari-Oranje Museum brochure).

In the 1880's a former slave, Abraham Holbors September, was granted a farm in this region. He established the first irrigation system from the Orange River (Kalahari-Oranje Museum brochure).

Conflict between the white farmers and the San and Koranna between 1869 and 1879 led to a visit by Sir Thomas Upington to investigate the situation. This resulted in a police force being stationed here. The Reverend Schröder refused them using the name Olyfenhoutdrift and therefore the name Upington was used to refer to the police. In 1898 the two areas united under the name Upington (Kalahari-Oranje Museum brochure).

From the 1880's onwards colonial settlement was promoted in the area. Government-owned land was surveyed and divided into farms, which were transferred to farmers. Surveyors were given the task of surveying and naming some of the many farms in this region. These farms were allocated to prospective farmers, but permanent settlement only started in the late 1920s and the first farmsteads were possibly built during this period. The region remained sparsely populated until the advent of the 20th century (De Jong 2010: 36).

During the Rebellion of 1914 (some Afrikaner people against the Government's plan to invade German South-west Africa) a number of people camped on the farm Van Roois Vley. Here, under a camel thorn tree, General Manie Maritz announced his intentions to join the rebellion (Personal communication: A. Vlok). The tree and site (the Rebellion tree) is a declared Provincial Heritage site. It is situated on the farm Van Roois Vley, but on the portion not to be affected by the development (Figure 9 & 19).

One of the rebels, Willem Hendrik Strauss died here. He was originally buried under one of the other trees at the camp site, but his body was exhumed and he was reburied at the Rebellion tree (Personal communication: A. Vlok). The headstone has fallen down and is broken, but it still is legible (Figure 10 & 11).



Figure 9 The Rebellion tree.



Figure 10 Headstone of the grave of Willem Hendrik Strauss.



Figure 11 Close-up view of the headstone.

8. DISCUSSION OF SITES AND FEATURES IDENTIFIED DURING THE SURVEY

8.1 Site 1

This is a recent historical site that was used for residential purposes. It contains a large refuse midden with indication of material dating back to at least the 1920's. This includes glass, porcelain and metal artifacts. Other features on site include a pile of bricks which seem much more recent (1960's) as well as artifacts scattered over an area of about 50 m in diameter (Figure 12).

GPS: 28°26.945'S
21°00.142'E

The permanent settlement of the farm is on the western side of the road. This could therefore only be a non-permanent settlement area, perhaps used by the first farmer before building a house or by some of the farm workers. The site is regarded as having a **low** cultural significance. It therefore is of a general significance and is given a rating of Grade C (IVC).

This report is seen as ample mitigation and it may therefore be demolished. However it is expected that there will not be a direct impact on the site and therefore it should just be left as it is.



Figure 12 The refuse midden at site no. 1.

Impact rating before mitigation:

$$\begin{aligned}\text{Consequence (C)} &= \text{severity} + \text{duration} + \text{extent} / 3 \\ &= 2 + 5 + 2 / 3 \\ &= 9 / 3 \\ &= 3\end{aligned}$$

$$\begin{aligned}\text{Likelihood (L)} &= \text{frequency} + \text{probability} / 2 \\ &= 2 + 3 / 2 \\ &= 5 / 2 \\ &= 2.5\end{aligned}$$

$$\begin{aligned}\text{Environmental significance} &= C \times L \\ &= 3 \times 2.5 \\ &= 7.5 - \text{Low to medium}\end{aligned}$$

8.2 Stone Age features (numbers 2-34)

A total number of 33 features dating to the Middle and Late Stone Age were identified. This varies between scatters of stones with only a few stone tools in between to others with a reasonable number of stone tools. It needs to be indicated that none of these had such a large number of stone tools that one would call it a site.

No Early Stone Age tools were identified. The tools identified all date to either the Middle or the Late Stone Age (Figure 13-16). It mostly consists of waste flakes, cores, scrapers and broken points. Most of the tools were made from local volcanic material, but exceptions were notable in tools made from a caramel coloured and shiny volcanic material.



Figure 13 Middle Stone Age artifacts found in the surveyed area.



Figure 14 Middle and Late Stone Age artifacts from the surveyed area.



Figure 15 Late Stone Age artifacts from the Van Roois Vley. Note the shiny material of the one at the top.



Figure 16 More Late Stone Age artifacts from the surveyed area. Again note the shiny material of the two artifacts on the top left.

GPS co-ordinates (see Figure 17, 18 & 19):

2. 28°26.770'S
21°00.953'E
3. 28°26.811'S
21°00.189'E
4. 28°26.973'S
21°00.151'E
5. 28°26.600'S
21°00.065'E
6. 28°26.240'S
21°00.277'E
7. 28°26.107'S
21°00.386'E
8. 28°25.978'S
21°00.503'E
9. 28°26.617'S
21°01.064'E

10. 28°25.062'S
21°02.023'E
11. 28°25.757'S
20°58.344'E
12. 28°26.049'S
20°57.919'E
13. 28°25.287'S
20°59.107'E
14. 28°25.432'S
20°59.233'E
15. 28°25.709'S
20°59.477'E
16. 28°25.777'S
20°59.495'E
17. 28°25.826'S
20°59.492'E
18. 28°25.926'S
20°59.722'E
19. 28°26.213'S
21°00.038'E
20. 28°24.747'S
21°01.402'E
21. 28°24.882'S
21°00.622'E
22. 28°24.868'S
21°00.401'E
23. 28°25.053'S
21°59.644'E
24. 28°27.018'S
20°57.118'E
25. 28°26.460'S
20°57.579'E

26. 28°25.606'S
20°56.114'E
27. 28°27.444'S
20°59.129'E
28. 28°27.802'S
20°59.524'E
29. 28°25.666'S
21°00.607'E
30. 28°25.171'S
21°00.976'E
31. 28°25.770'S
21°00.588'E
32. 28°25.853'S
21°00.304'E
33. 28°26.009'S
21°00.427'E
34. 28°26.937'S
20°59.697'E

The Stone Age material is regarded as having a **medium** cultural significance. There are a reasonably large number of lithic tools in the area making it less unique, but since not much else from this period was recorded in the area it increases the importance. In all the features are of local significance and are given a rating of Grade IIIB (see Appendix C). It should be included in the heritage register and may be mitigated.

Some of the areas where the Stone Age artifacts have been found will not be impacted and others will. Some of the features seem to be reasonably close to each other and may therefore constitute a larger open air site. It is therefore recommended that a collection of surface material be made all over the farm before development may continue and that this be reported on to SAHRA. A permit from SAHRA would be required before collection can be done.

Impact rating before mitigation:

$$\begin{aligned}
 \text{Consequence (C)} &= \text{severity} + \text{duration} + \text{extent} / 3 \\
 &= 3 + 5 + 2 / 3 \\
 &= 10 / 3 \\
 &= 3.33
 \end{aligned}$$

$$\begin{aligned}
 \text{Likelihood (L)} &= \text{frequency} + \text{probability} / 2 \\
 &= 2 + 3 / 2 \\
 &= 5 / 2
 \end{aligned}$$

$$= 2.5$$

$$\begin{aligned} \text{Environmental significance} &= C \times L \\ &= 3.33 \times 2.5 \\ &= 8.325 - \text{Low to medium} \end{aligned}$$

9. CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the assessment of the area was conducted successfully. One site from the Historical Age and 33 Stone Age occurrences were identified. A nearby historical site (the Rebellion tree) and another Stone Age site (rock peckings) were also identified although outside of the area to be affected (Figure 17-19).

The farmer, Mr. Ampie Vlok, who has resided on the farm for more than 40 years, indicated that he does not know of any graves or other historical and prehistorical features on the portion of the farm that was surveyed. However one should always be cautious of such statements.

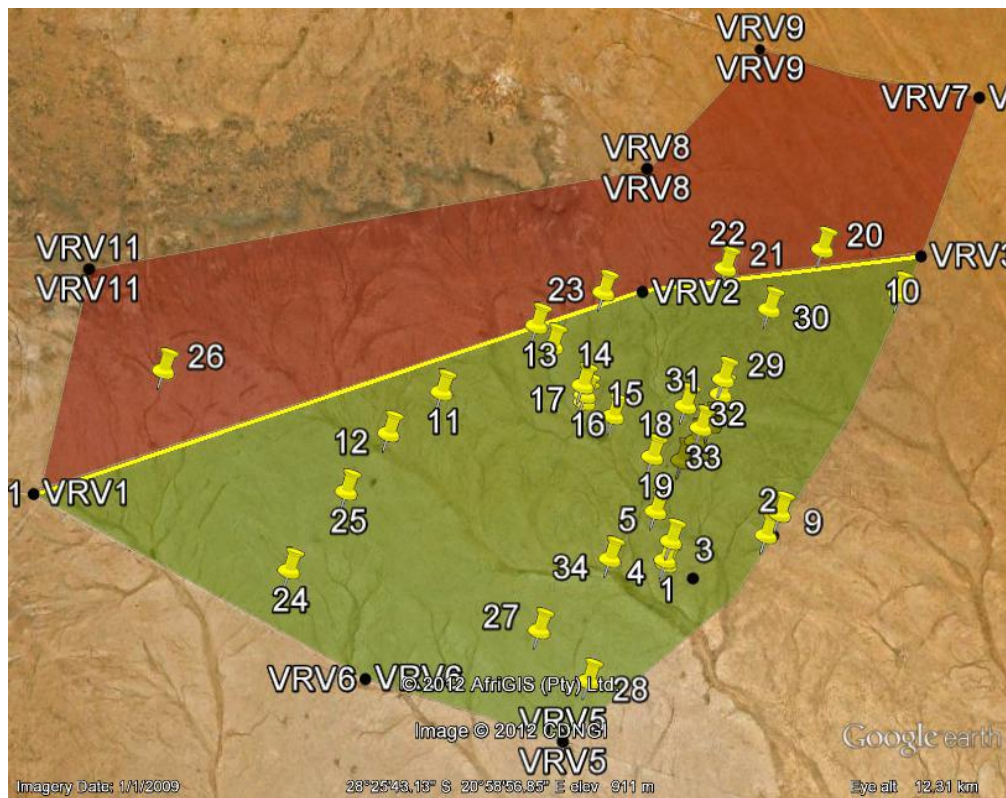


Figure 17 Google image indicating the GPS points of the sites and features found in the surveyed area.

Key:

- 1 – Historical site
- 2 – 34 – Stone Age occurrences
- VRV1 – 11 Points on project boundary

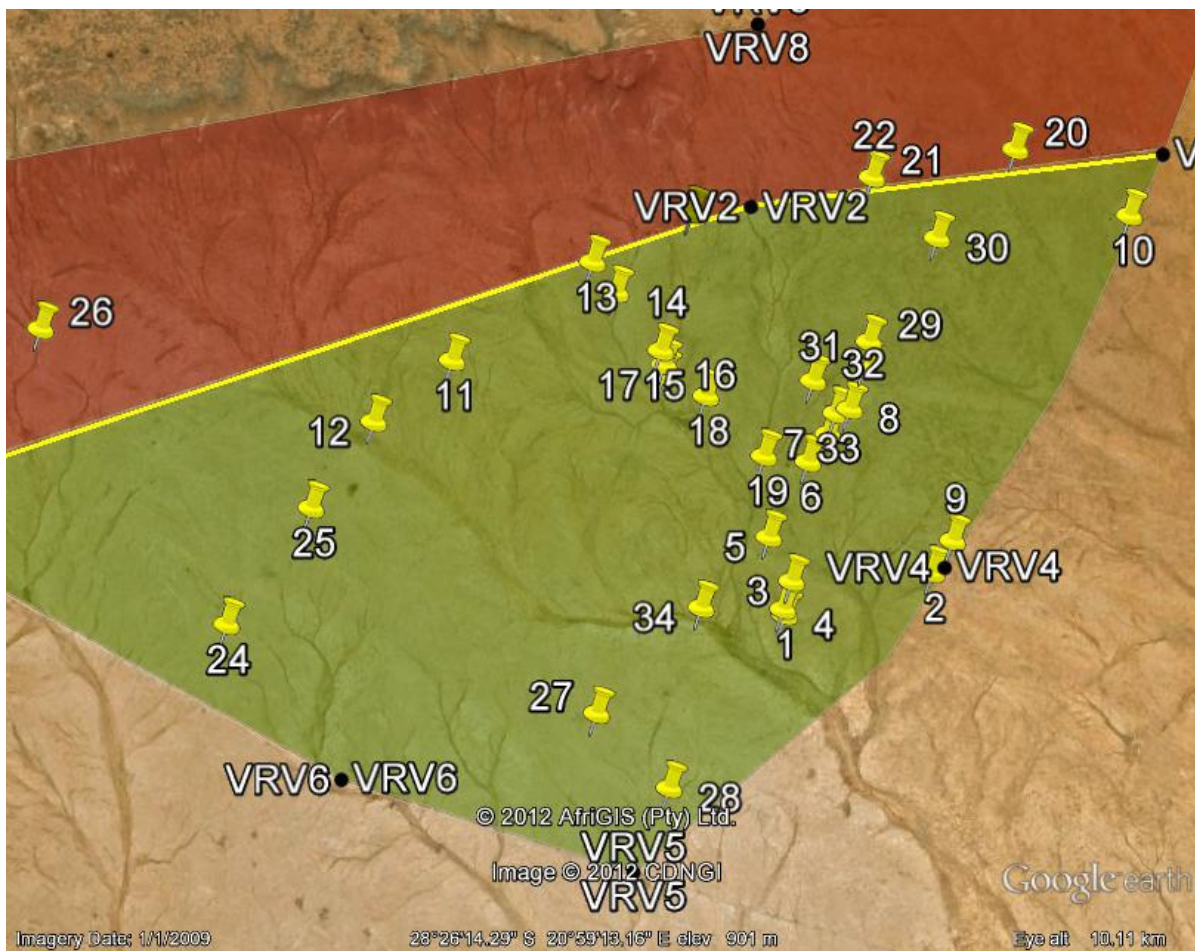


Figure 18 Closer view of the sites and features identified during the survey. Note the reasonably concentration thereof close to the dry river beds especially in the centre of the area.

Key:

- 1 – Historical site
- 2 – 34 – Stone Age occurrences
- VRV1 – 11 Points on project boundary

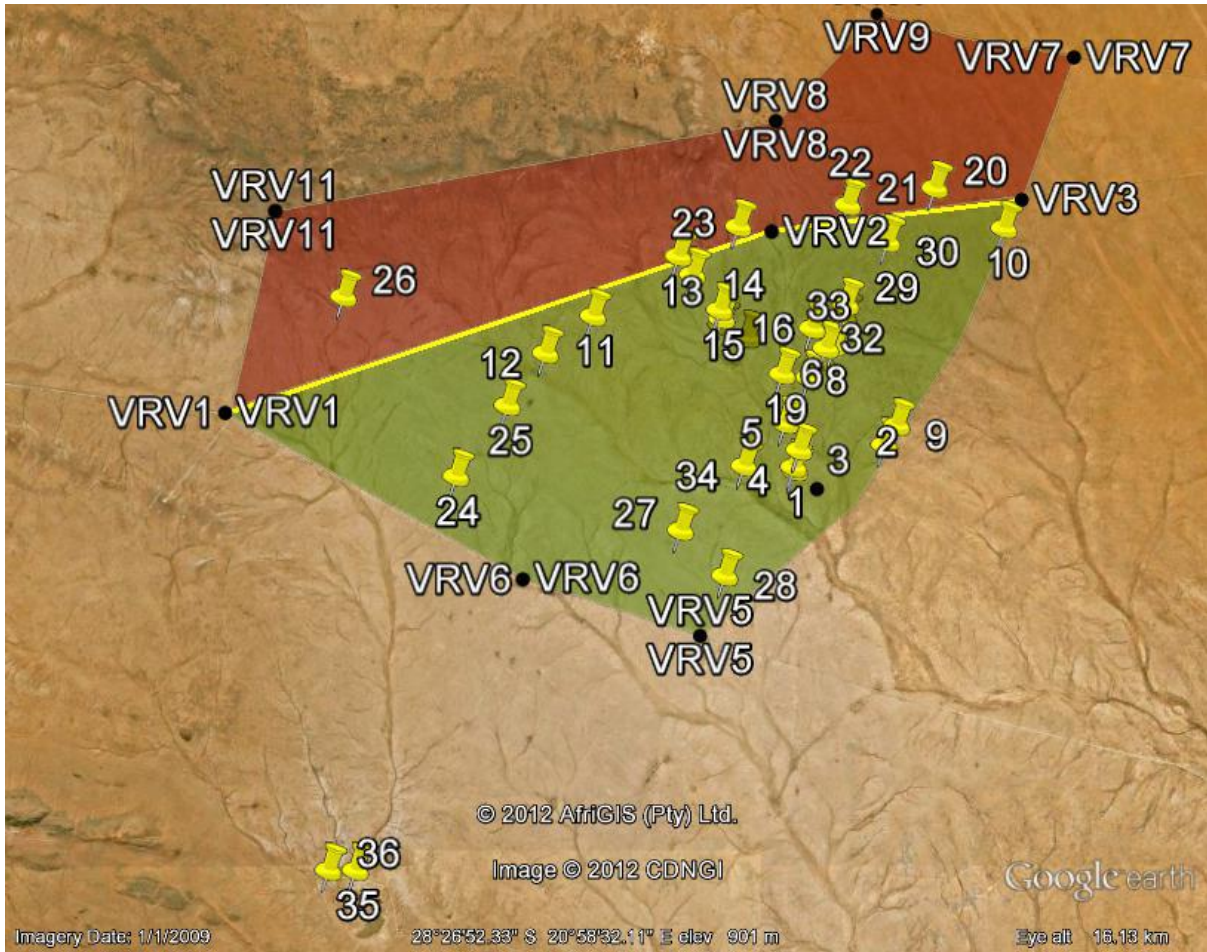


Figure 19 Google image of the sites and features found during the survey in relation to the two sites identified on the other portion of Van Roois Vley. Number 35 is the Rebellion tree and number 36 the rock peckings.

Key to sites not mentioned above:

- 1 – Historical site
- 2 – 34 – Stone Age occurrences
- VRV1 – 11 Points on project boundary

The final recommendations are as follows:

- It seems as if site number one (historical residential site) is outside of the area of direct impact. It is therefore recommended that the site be left as it is. It may however be demolished if the project needs to be expanded. In such a case a permit would be needed from SAHRA. This report is seen as ample mitigation for the site.
- Due to the large number of Stone Age features and the relative lack of information of Stone Age sites in this area as well as the concentration of thereof in the central surveyed area, it is recommended that a permit be obtained from SAHRA for the

collection of a representative sample of Stone Age material from Van Roois Vley, prior to commencement.

- A report on the findings after analyses of the collected Stone Age material should be presented to SAHRA.
- The development may only continue after completion of the Phase II study (collection of Stone Age artifacts).
- It should be remembered that due to the factors indicated in the report, it is possible that all cultural sites may not have been identified. Also the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility. Care should therefore be taken when development work commences that, if any more artifacts are uncovered, a qualified archaeologist be called in to investigate. This basically means stopping all work at that specific point and getting advice from an archaeologist before any work may proceed.

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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).

Midden: Heap of soil intermixed with cultural material

(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.
- 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:

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, paleontological, 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, paleontology 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.

APPENDIX F
IMPACT ASSESSMENT TABLE