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FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE PROPOSED PV SOLAR ENERGY FACILITIES ON THE FARM LOSKOP 145, DE AAR IN THE NORTHERN CAPE

EXECUTIVE SUMMARY

Solar Capital from Cape Town is planning the solar energy installation on the farm Loskop 145 near De Aar in the Northern Cape. The solar plant will cover an area of about 300ha. Eco-Compliance from Greenpoint, Cape Town, commissioned the archaeological and heritage assessment for the proposed project. Additional details and technical particulars about the extent and impact of the installation and other developments at the site have not been given.

The proposed areas appear to be unspoilt land. A surface collection of highly patinated Middle Stone Age flakes occurred on the surface adjacent to the N10 main road. The stone artefacts appear to be very old and seem to be a fairly general scatter in the specific area. The flakes are considered as insignificant for closer investigation.

No other historical remains were found. It is assumed that the solar plant developments will have no impact on any cultural heritage or historical remains.

Further planning of the proposed project may continue and no mitigation measures will be needed.

INTRODUCTION & DESCRIPTION

Scope and Limitations

Solar Capital from Cape Town is planning the solar energy installation on the farm Loskop 145 near De Aar in the Northern Cape. The solar plant will cover an area of about 300ha. Eco-Compliance from Greenpoint, Cape Town, commissioned the archaeological and heritage assessment for the proposed

piece of land. Additional particulars about the technical extent and impact of the installation and other developments at the site have not been supplied.

The investigation provided the opportunity to examine the proposed area. The soil surface consists of grass and Karoo shrub covered veld. These features did not have any effect on the survey and no limitations were experienced during the site visit.

Methodology

1. Standard archaeological survey and recording methods applied.
2. Survey of previous HIA reports in the area (SAHRIS).
3. Site inspection on foot and by vehicle.
4. Layout of the area and features plotted by GPS.
5. Surroundings and features recorded on camera.
6. Preparation of maps & literature.
7. Research on the history, archaeology & heritage remains.
8. Prepare map with coordinates transferred to Google Earth.

INVESTIGATION

The topography and natural environment of the Karoo region is mainly determined by the geology. In general, the human impact on the environment is limited to stock farming activities in the form of farm roads, water reservoir dams, fences and windmills. In the particular case of Loskop 145 near De Aar, the building of the N10 main road to Hanover and Prieska could have had a significant damaging effect on the distribution of stone implements on the surface.

The study aims to locate and evaluate the significance of cultural heritage sites, archaeological material, manmade structures older than 60 years, and sites associated with oral histories and graves that might be affected by the proposed developments. In many cases, planted and self-sown trees and other types of vegetation form a major part of the historical environment of human settlements in villages and towns, on farmyards or even deserted places in the open veld. These features are taken into consideration during any cultural investigation.

The land was examined for possible archaeological and historical material and to establish the potential impact on any cultural material that might be found. The Heritage Impact Assessment (HIA) is done in terms of the National Heritage Resources Act (NHRA), (25 of 1999) and under the National Environmental Management Act, 1998 (Act. 108 of 1998).

HISTORICAL BACKGROUND OF THE AREA

By the mid-1700s, the Cape Colony had expanded to the east and north east. In 1800, the north western boundary was officially declared to be the line running from Plettenberg's Beacon to Groot Tafelberg and to the south west, including the Upper (southern) portion of the drainage basin of the Zeekoei River. At the time White farmers were already settled on some of the historic farms in the Field-Cornetcy of Agter Sneeuberg in the Graaff-Reinet district (Webb 1958).

Accounts by early travellers mention the place and farm names in the area, which became fixed points on the land. Historians maintain that after the Nongqawuse catastrophe, which led to the National Suicide of the Xhosa (1856-57), many Xhosa tribesmen fled the Transkei with their families to take refuge on White farms. According to oral traditions, it is assumed that these Xhosa-people were the builders of the stone walls on farms in certain parts of the Karoo and Eastern Cape (Bergh & Visagie 1985).

A BRIEF HISTORY OF DE AAR

The name De Aar means "the artery", referring to the underground water supply. The fist farms in this region were already occupied by 1837, but following the discovery of diamonds in the Northern Cape, there was a need for a railroad connection between Cape Town and the Jagersfontein and Kimberley diamond fields. In 1881 the Cape Colonial Parliament voted to extend the railway line from Beaufort West and Colesberg and to beyond the Orange River. The line was planned to follow the route via the settlement at De Aar. Because of its central location, the town later became a junction for other future railway extensions. The Friedlander brothers, emigrants from Latvia in the Ukraine, landed up at De Aar in 1883. They were to play a major role in the development and history of the town. Travelling by ox-wagon and trading along the way from Cape Town, they were able to negotiate a lease agreement with the land owner at De Aar. By 1884 they were running a general dealer's shop and hotel (also selling liquor), made of wood and corrugated iron, at the junction, with a postal agency and a bank, housed in the same wood and iron shop to follow soon.

During the Anglo-Boer War (1899-1902), the railway junction at De Aar became a centre of particular strategic importance as forwarding depot for troops and supplies to the battle front. The De Aar Hotel was requisitioned as headquarters for the British Military forces, and high ranking officials such as Lord Milner and Lord Roberts stayed there. With up to 20 000 people in town at times, business was outstanding and the Friedlanders made their fortunes. In the same year disaster struck and the brothers suffered a great loss when the hotel and everything burnt down. The military needed the building and fortunately for them (Friedlanders), the British military officials immediately assisted to rebuild the hotel and shop. The reconstruction was done with unbaked bricks and mortar in a Victorian style. Judging by the brick laying methods it is possible that the

builders could have been from England or perhaps some of the soldiers. The postal agency and bank facilities were essential and were soon in operation again. Emblems of the various regiments were displayed on the dining room walls. It is claimed that these badges can still be seen as plaques made of plaster and painted in the official colours of the visiting regiments.

At the end of the war in 1902, the Friedlander brothers used the opportunity to purchase the farm for the establishment of a town. A surveyor from Cape Town was hired to lay out plots, not only for private homes, but for all kinds of public buildings such as schools, a market, hospital, sports grounds, City Hall and municipal buildings, a court building and business plots. Several streets were named after members of the family. The Friedlanders were very generous for all religious denominations received their plots free of charge together with several more plots to sell, in order to raise funds to erect buildings. The town plans made provision for wide streets and broad pavements, and areas were set aside for the European, coloured and black populations. In the same year the first stands were sold by public auction and the Municipality of De Aar was instated in 1904, while the first mayor was elected in 1907. The rapid progress of the town went hand-in–hand with the expansion of the railway network. The surrounding farming community gradually started doing their business here and in a sense De Aar has become the lifeblood of the Karoo through the years (Smit 1963). As in many other cases in the rural areas at present, the town has lost its significance as a railway depot and, despite its strategic placing the rapid deterioration of infrastructure and municipal services in the town is obvious.

CULTURAL BACKGROUND TO THE AREA

Karoo farmsteads usually have large refuse dumps accumulated over the years. The investigation of these features produces a rapid and effective indication about the lifestyle and social habits of the people. It also reveals the availability of household utensils in the 18th and 19th centuries, where finds such as cartridge cases, glass and porcelain fragments, glass bottles, wire, nails, and other metal objects are valuable (Dreyer 2005-2012, Orton & Webley 2013).

It is clear that the cultural environment of the Karoo in general and the De Aar region in particular has already been affected significantly by normal farming activities, road building and the erection of high voltage power transmission lines over many years.

ARCHAEOLOGICAL BACKGROUND TO THE AREA

Information on the pre-colonial archaeology of the area is derived from a number of impact assessments, which have been undertaken in the past number of years (Dreyer 2004-2012, Van Ryneveld 2008, Becker 2012, Booth & Higgett 2010,

Fourie 2012, 2014, Kaplan 2010, Kruger 2012, Morris 2011, Orton 2011, 2012). Previous heritage impact assessments in the Beaufort West, Hanover and Richmond areas and specifically in the Nuweveld Mountains, likewise produced records of unidentified stone heaps and paved areas, trihedral Acheulian or Victoria West I hand axes and a bifacial worked Oldowan chopper with minimum retouch. Small assemblages of Later Stone Age flaked scrapers occur and isolated flakes and core flakes with small, prepared percussion platforms are found scattered in certain areas, with distributions of waste flakes and flaked cores in other places.

A few individual and isolated fragments of ostrich eggshell were found on an alluvial sand deposit along the Leeu River and also near the Sand River. One of the sites produced a single ostrich eggshell bead (Dreyer 2005, 2009, 2010, 2012).

Our main source of archaeological knowledge comes from an intensive research project in the drainage basin of the upper Seacow valley, undertaken by Garth Sampson (1985), an expert archaeologist from the University of Cape Town. Archaeological research along the Orange River and in the upper Seacow Valley over several decades produced a considerable amount of information. These field surveys along Orange River between Vanderkloof Dam and the Gariep Dam, as well as the upper Seacow River Valley in the regions of Hanover, to the north east of our present area, have identified stone artefact assemblages of great archaeological significance. The published records on material finds include a wide range of objects from the excavations, mainly in rock shelters and confirm the richness of archaeological finds in the region.

These papers include reports on stone artefacts (Peace 1993), macro-fauna (Plug 1993), livestock (Plug, Bollong & Sampson 1994), glassware and metalwork (Crass & Sampson 1993a), old European clothing (Crass & Sampson 1993b), European and oriental ceramics (Moir & Sampson 1993), glass trade beads (Saitowitz & Sampson 1992), Bushmen tobacco and cannabis dependency (Sampson 1993), and the role of ostrich eggs in Bushmen existence (Sampson 1994).

Later Stone Age pottery finds were described by Sampson & Sadr (1999.) and the ceramic sequence of the area was compiled (Sampson, Hart, Blagg, & Wallsmith 1989). A radiocarbon chronology of the Later Stone Age pottery decorations was compiled (Sampson & Vogel 1995) and Late Holocene and historical bone midden density in rock shelters were calculated (Sampson & Plug 1993). European livestock in rock paintings were recorded (Voigt, Plug & Sampson 1995), while the acquisition of guns by the Bushmen of the Seacow valley was discussed (Westbury & Sampson 1993).

For the purpose of this report, his “Atlas of Stone Age Settlement” (1985) is extremely valuable. His cultures were amalgamated into three groups, namely,

Early Stone Age, Middle Stone Age and Later Stone Age. The localities where concentrations of Early Stone Age and Middle Stone Age artefacts occur are too few to define a pattern. It is only in the case of the Later Stone Age where a clustering of flakes can be identified in an area ranging from Schanskraal Manor (Roelofsfontein) near Richmond to a position against the slope of the hill one kilometre to the north east.

According to the tourism brochure on Richmond, San rock art is found on Schanskraal Estate. The contention of a Khoikhoi (Hottentot) and San (Bushmen) co-existence here is debatable and somewhat ambiguous. According to early travellers Khoi tribes were settled further away along the base of the Great Escarpment (Dreyer & Loock 2012). San rock engravings were recorded on the farms Nooitgedacht and Brandfontein near De Aar.

Another significant aspect of the Karoo archaeology is the presence of many prehistoric stone structures or kraals. The Seacow River valley, east of our present study area has revealed these kraals (Sampson 1984, 1985, 1986, 2010, Huffman 2013, Orton & Webley 2013). The kraals are typically constructed on sloping ground against dolerite ridges and overlooking water sources. Domestic debris and stone artefacts are seldom associated, but are taken to represent either the pastoralists camping places alongside their kraals or else later re-occupation of the kraals by hunter-gatherer people (Sampson 1985). While no kraals were located during the initial survey, a number of small circular stone features were found (Orton 2011, Fourie 2011; Morris 2012). Although pottery is often taken to signify pastoralist occupation, Sampson (2010) and others, (Bollong et al. 1993, 1997) have shown that in the interior some pottery is tempered with fibre and was made by Bushmen hunter-gatherers rather than Khoi pastoralists.

As a result of the general lack of datable occurrences, the Later Stone Age artefacts found in the Karoo are not well valued. Few rock shelters have been excavated (e.g. Hart 1989) and the majority of occurrences are open scatters of artefacts with no associated organic materials. It appears that the earlier periods of the Later Stone Age are poorly represented in the Karoo, while sites dating to the last few thousand years are routinely found. Most Later Stone Age artefacts in the central Karoo region are made from hornfels (lydianite or indurated shale).

DE AAR DURING THE ANGLO-BOER WAR (1899-1902)

The Anglo-Boer War military history is well represented in the region around De Aar. The British strategy to safeguard the Cape Colony against Boer invasions from the north was to hold the railway line running for up to 60 miles south of the Orange River. De Aar and other main junctions at Noupoort and Stormberg were consequently garrisoned. De Aar, being the most important of the three, was held by the Yorkshire Light Infantry and a locally raised unit of Rimington Scouts. In

December 1899, the garrison at De Aar had been increased by troops of the 2nd Warwickshire Regiment, the 1st Yorkshire Regiment and the 1st Essex Regiment with a further two Companies of Mounted Infantry. Since 4 November 1900, De Aar and Orange River area became a large military warehouse. The defences were further strengthened by regular scouting patrols in the vicinity.

Lord Methuen's preparation for the attack on Magersfontein (11 December 1899) and Lord Roberts's advance on Bloemfontein (March 1900), entailed the concentration of thousands of men, horses, guns, wagons and carts and tons of military stores between the Orange River and Modder River stations. De Aar became the controlling centre of the entire operation, with a large build-up of reserves and rations in the advance supply depot. The junction at De Aar became a major distribution point also comprising remount camps, weaponry and medical supplies as well as an important military hospital centre (De Villiers 2008), with the well equipped Imperial Yeomanry Hospital at Deelfontein siding, 46km south of De Aar (Watt 1987) to play a major role in the British Field Force operations in South-Africa.

From mid-December 1900, De Aar figured in active war operations when Gen Hertzog with his Boer commando, after crossing the Orange River at Zand Drift north of Colesberg, moved south into the Cape Colony. The Boers occupied Philipstown on 19 December, only to have their passage to the south blocked by a strong British force at Hanover Road. Hertzog moved west, engaged an armoured train at Houtkraal on the De Aar–Orange River railway line. Some of his men managed to cross the line at this point, while the remainder had to go over the line south of De Aar. Both sections now converged on Britstown, on their way overwhelmed several companies of Yeomanry which had been sent against them from De Aar.

At the beginning of January 1901, Gen de Wet also crossed the Orange River some distance west of Philippolis in the Free State, and marched westwards to operate in the De Aar – Prieska – Douglas – Hopetown area. Skirting the Orange River until February 1901, when he crossed the river at Botha's Drift south east of Philippolis, Gen Hertzog followed close on his heels to cross the De Aar – Hopetown railway line on the way back to the Free State.

Commandant Edwin Alfred Conroy saw action during the Anglo-Boer War as a Rebel from Britstown in the Cape Colony. He joined the Boer forces in December 1900 and was active in the Britstown, De Aar and Houwater area and operated as far as Petrusburg in the Free State. Conroy later joined forces with Gen Manie Maritz in the Northern Cape, where they refused to surrender when peace was declared in May 1902 (Roodt 1998, Pieterse 1941).

Although rare in some places and abundant in others, food tin cans and lids originating from Anglo-Boer War (1899-1902) period, British army rations could also be found. The cans are characterised by heavy soldering on the seams.

Buried in the Garden of Remembrance at De Aar are 182 soldiers and 7 members of the Imperial Military Railway staff. The remains of six soldiers previously buried at Houtkraal have also been re-entered here.

FIRED CARTRIDGE CASES

According to early travellers, firearms came into use in the Karoo region from about 1770 (Westbury & Sampson 1993). From the mid-19th century onwards, fired cartridge cases produce a vivid narrative of the different kinds and trends in firearms and ammunition. Gunflints, melted lead and copper percussion caps used with muzzle-loading rifles, could also turn up in the area (Loock 2003, Bester 2003).

Cartridge cases and bullets of a later period could be found in the veld and on the ash heaps at the different farms yards. These finds represent a long period of European occupation throughout the 18th and 19th centuries before and during the Anglo-Boer War, and later during the First World War (WWI 1914-1918), Second World War (WWII 1939-1945) and the Angolan Bush War in the 1960s and 1970s. In many other cases, military ammunition has been used for hunting purposes and target shooting practice.

TABLE WARE

The middens on the different farms in the Karoo and the Northern Cape represent a long time span of European occupation. The ash heaps contains fragments of glass, porcelain, stoneware and ash from kitchen fires, bottles, lids and various metal containers. Colourful fragments of Sponge Ware crockery (Fig.8) could also be found (Dreyer 2010). Some of these domestic vessels date back to the 18th century but became very popular from about 1830 to 1880 (Trehaven 1996).

This kind of tableware was manufactured at Staffordshire, in the United Kingdom, where separate designs had been selected for the different British Colonies. It is reported that a specific line was directed to America (known as “spatter ware” in the US), another shipment for South Africa and yet another line to be forwarded to Australia. The porcelain had been described as relatively inexpensive or affordable and was very popular amongst the European immigrants in South Africa, where it was considered to be for everyday household use. Hence the common name of Voortrekker crockery or “Boerenbont” (bont = multi-coloured). Because of the fact that it was handmade, it could be acquired at rather affordable prizes. It is claimed that the same kind of sponge-decorated tableware is still available from Staffordshire at present, but because of the fact that it is hand-made, it is very expensive to buy (Trehaven 1996).

GRAVES

Most farms in the Karoo have sizeable cemeteries with graves of European settlers and their families and farm labourers, sometimes dating back to the 18th and 19th centuries (Dreyer 2005, 2010).

BURNT KRAAL DUNG

The recognition and investigation of vitrified dung from archaeological and historical sites in the Free State and the Karoo started a number of years ago (Dreyer 1992, 1997; Jacobson, Loock, et al. 2003). Field workers and scientists are rapidly becoming aware of this phenomenon in parts of the central regions and new sites with burnt dung from old stock enclosures are discovered constantly. Finds include areas in the Beaufort West (Dreyer 2010), Somerset East, Klaarstroom and Loxton districts in the Eastern and Northern Cape and at the farm Brandkraal near Murraysburg in the Karoo (Van Heerden 1969).

Recent research results have developed into an escalating new source of information on different animal species and their grazing habits (Carrión, Scott, et.al 2000, Jacobson, Loock, et. al 2003). It is anticipated that farms in the De Aar region would be no exception in this regard and any samples of the vitrified material will be analysed at the Geology Department, University of the Free State.

LOCALITY

Solar Capital from Cape Town is planning the solar energy installation on the farm Loskop 145 near De Aar in the Northern Cape (Maps 1&2). The solar plant will cover an area of about 300ha (Map 3). Eco-Compliance from Greenpoint, Cape Town, commissioned the archaeological and heritage assessment for the proposed piece of land. Additional particulars about the technical extent and impact by the installation and other developments at the site have not been supplied.

The following GPS co-ordinates were taken (Cape Scale) (Map 5).

La	30°32’42”S	024°06’09”E. Alt 1283m (Figs.1-3).
Lb	30°34’19”S	024°03’46”E Alt 1239m (Figs.4-6).
Lc	30°33’34”S	024°04’27”E. Alt 1253m (Figs.7&8).

RESULTS

DISCUSSION

The topography and natural environment of the whole Karoo region is mainly determined by the geology (Loock 2005, 2010).

Karoo farmyards generally have large ash heaps. The investigation of these features normally produces a rapid indication of the lifestyle and social habits of the community. It also explains the availability of household utensils during the 18th and 19th centuries. In these cases, finds of glass and porcelain fragments, glass bottles, short strips of wire, nails, and other metal objects are important. The destruction or vandalising of ash heaps on Karoo farms will result in the loss of a significant part of our heritage. It is clear that the early European occupation of the Karoo and the Cape Province south of the Orange River predates the settlements to the north by almost a century. This is also reflected in the cultural remains contained in the house middens.

According to early travellers, muzzle loader firearms came into use in this region round about 1770. From the mid-19th century, fired cartridge cases are found on the ash heaps or in the open veld. These finds produce a vital description of the different kinds and user trends in firearms and ammunition.

Farmsteads in the Karoo are clearly older than sixty years. Most of these structures are well maintained and in a good state of preservation. Farm buildings i.e. wagon houses, stables and kraals, sheep dips and other stone wall enclosures, sometimes represent outstanding examples of excellent stone building techniques.

The lithic assemblages found during the investigation seem to be concentrated on the higher points overlooking the natural water sources.

FINDS

Several heritage impact assessments at De Aar, recorded a variety of Middle Stone Age flakes and cores. The majority of the finds represent heavily patinated stone flakes and scrapers (Becker 2012, Orton 2012, Van Ryneveld 2008).

In the present case, patinated flakes occur as a general spread across the area around Point Lc at Loskop along the N10 main road (Map 3). On the heavily patinated specimens it is difficult to distinguish one preparation technique from the other. Best to say is that the flakes resemble scrapers with flaking visible on the dorsal surface (Figs.4-7). Identical artefacts were found during the heritage impact assessment at De Aar 180/1 (Badenhorst Dam Farm) (Kruger 2013,

Orton & Webley 2013). A heritage impact assessment at Sinclair's Dam 133 near De Aar produced similar patinated Middle Stone Age artefacts. The investigation also brought up a few hand axes from the Fauresmith cultural tradition (Van Ryneveld 2008).

Although the farm Loskop 145 in the De Aar district, is located in a potentially rich cultural and historically area, the archaeological remains are of an insignificant standard. Stone flake occurrences seem to be a distribution of waste flakes and flaked cores. The flakes are unutilised and cannot be described as "tools". The artefacts were made from the local lithic sources of chert and lydianite.

Through the application of standard tool typology and basic characteristics, the material could arbitrarily be classified as originating from the Middle Stone Age.

No other cultural or historical remains were found at the site and no specific manufacturing sites occur.

No graves or possible grave sites were found. We questioned the farm owners about localities of graves, but none were reported to us. It should be kept in mind that pre-colonial graves are often unmarked and can be located at any place where the soil is suitable for digging a grave.

IMPACT ASSESSMENT

This Heritage Impact Assessment report identifies and evaluates the impacts of the proposed developments on the heritage resources of the site.

At present the archaeological material is widespread but seems to be limited to the area next to the N10 main road and could be considered as of limited significance. Although the archaeological material is sparsely scattered and of minor significance, the installation of solar panels will have a notable impact on the archaeological heritage resources during the construction phase.

A visual impact on the local landscape will undoubtedly be the most significant influence left by the construction of the proposed solar panels and similar future developments could have an even greater impact on the surrounding landscape.

RECOMMENDATIONS

The present heritage impact assessment confirms that there will be a small impact on archaeological material at the different sites. As an emotional observation, it is foreseen that there will also be an impact on the cultural landscape of the area. The archaeological sites on the dolerite ridges can be mitigated, but the landscape impacts will be more substantial and cannot easily

be preserved. Given the scale of solar energy generation planned for the region, there is little sense in attempting to shield the presently proposed developments from view.

The construction of the proposed developments seems feasible and there are no obvious reasons strong enough to delay further planning of the developments at the specific site.

I recommend that the planning of the proposed prospecting developments may proceed.

MITIGATION

No mitigation measures will be required in case of the present developments. It is important to remember that development should be placed at least 500m from any heritage sites.

The fieldwork in the Karoo presented a pleasant and rewarding experience of this exceptional and unique part of the country. It is sad though, that the tranquil atmosphere and unspoilt character of the open spaces of the Karoo landscape will ultimately be ruined by the proliferation of fracking and the production of earth gas. The impact of the solar energy installations on the general landscape in the vicinity of De Aar will likewise be severe and a loss of context and sense of place will be obvious. There is little one can do to ease the impact and we can only hope that the major part of the development will be shielded by the surrounding landscape.

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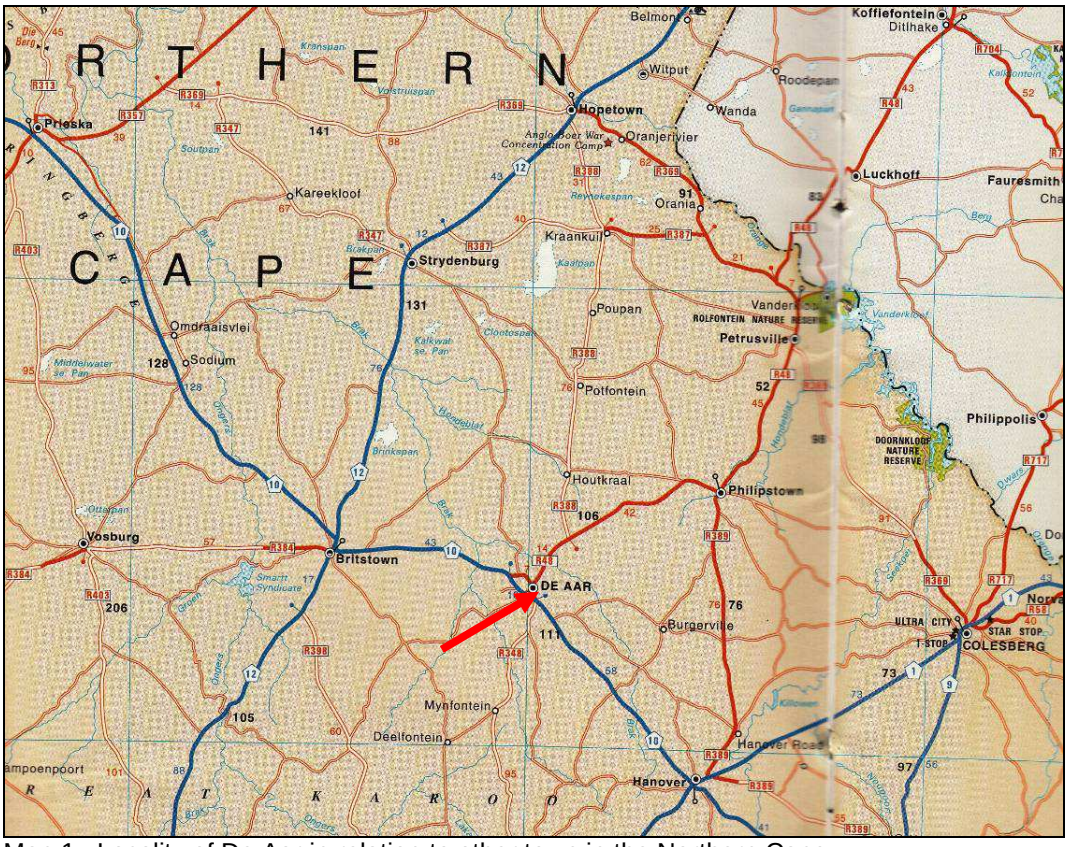
LIST OF ILLUSTRATIONS:



Map 1 Locality of De Aar in relation to other town in the Northern Cape.


Fig.1 Point La at Loskop De Aar.

Map 2 Locality of De Aar in relation to the development sites in the Northern Cape.

Fig.2 Point La at Loskop De Aar.

Map 3 GPS coordinate points at Loskop 145, De Aar.

Fig.3 Point Lb at Loskop De Aar.

Fig.4 Point Lc at Loskop De Aar.

Fig.5 Point Lc at Loskop De Aar.

Fig.6 Scattered patinated stone flakes at Point Lc, Loskop De Aar.

Fig.7 Heavily patinated stone flakes from Point Lc at Loskop De Aar (Pocket knife = 84mm).

Fig.8 Sponge ware bowl with lid dating from pre-Anglo-Boer War (J. Dreyer Private Collection).