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FIRST PHASE ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT OF THE PROPOSED CONCENTRATED SOLAR THERMAL PLANT (CSP) AT THE FARMS OLYVENHOUTS DRIFT, UPINGTON, BOKPOORT 390 AND TAMPANSRUS 294/295, GROBLERSHOOP, NORTHERN CAPE

EXECUTIVE SUMMARY

Three potential sites for the development of a concentrated solar thermal plant (CSP) and related infrastructure were investigated on the farms Olyvenhouts Drift, Upington, and Bokpoort 390 and Tampansrus 294/295 in the district of, Groblershoop, Northern Cape.

Stone flake assemblages occurred at all the sites. The finds were made from the local lithic sources of chalcedony, meta-quartzite and banded ironstone from the Griekwastad Layer. The artefacts showed convergent sides and flaking on the dorsal side, characteristics of the Middle Stone Age industry. A general distribution of stone tools occurred in the sandy soil of the whole area and no specific manufacturing sites could be found.

A single soldered tin food can, characteristic of the Anglo-Boer War (1899-1902) was found at Site 1 (Olyvenhouts Drift). No other historical material from this period occurred and the context of this isolated find could not be determined.

I recommend that the planned developments will have an insignificant effect on the cultural and historical heritage of the area. Further planning of the proposed project could continue on any of the three selected sites.

INTRODUCTION AND DESCRIPTION

INVESTIGATION

The different sites selected for development of a concentrated solar thermal electricity plant (CSP) are located on the farms Olyvenhouts Drift, Upington, and Bokpoort 390 and Tampansrus 294/295 in the district of Groblershoop, Northern Cape.

The planned installation will eventually cover an area of about 4 km².

SITE 1 OLYVENHOUTS DRIFT (2821AC, 2821CA)

SITE 2	BOKPOORT 390	(2822CA)
SITE 3	TAMPANSRUS 294/295	(2822CC)

The numerical order of the sites was awarded by the applicant and does not imply any site preference by the archaeologist.

The three possible sites were visited on 14 and 15 February 2006 in the company of Joggie van Staden and Ashlea Strong from Bohlweki Environmental, Johannesburg, Ian Smith from ESKOM and other environmental specialists. The sites were investigated on foot and observations and finds were plotted by GPS and recorded on camera.

The area 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 Environmental Conservation Act, (73 of 1989).

LOCALITY

Site 1 is located on the farm Olyvenhouts Drift in the district of Upington, Site 2 at Bokpoort 390 and Site 3 at Tampansrus 294/295, both near Groblershoop, Northern Cape.

SITE 1 OLYVENHOUTS DRIFT (2821AC, 2821CA)

The farm is situated 10km from Upington on the N14 road to Keimoes and another 10km on the D3276 gravel road in a westerly direction (Map 1-4).

The vegetation consists mainly of grass and Driedoring shrubs (*Rhigozum trichotomum*) (Fig.1). There is an alternating occurrence of quartzite scatters, bare patches of red sand (Fig.4) and calcrete outcrops on the surface (Fig.3). Core stone material (Fig.5), occur on the calcrete patches, clearly confirming the availability of material for the variety of core flakes in the area. Water washed lithic material also occur in patches i.e. at the windmill (Fig.11).

The following GPS (Cape scale) coordinates were taken:

10km from N14	28°29'15"S 021°04'03"E	Altitude 841m (Fig.1).
Calcrete outcrop	28°28'59"S 021°04'18"E	Altitude 842m (Fig.3).
Pan	28°28'54"S 021°04'29"E	Altitude 847m (Fig.4).
Stone cluster	28°28'32"S 021°05'02"E	Altitude 862m (Fig.7).
High point	28°28'30"S 021°05'02"E	Altitude 866m (Fig.8).
Border fence N	28°28'25"S 021°05'02"E	Altitude 865m (Fig.9).

Windmill 28°27'58"S 021°04'18"E Altitude 860m (Fig.10).

Fence/Rd D3276 28°29'05"S 021°03'39"E Altitude 850m (Fig.12).

SITE 2 BOKPOORT 390 (2822CA)

The farm is reached from the N10 main road between Groblershoop and Upington (Map 1-3, 5). The land borders on the Sishen-Saldanha railway line (Fig.17). The Gorona Eskom Sub-station is situated on part of the land (Fig.15).

Vegetation is mainly limited to Eragrostis grassland and Witgat (*Boscia albitunca*) shrubs (Fig.15). The soil consists of red sterile sand on the surface. A collection of stone flakes (Fig.18) came from the area towards the power line. Some of the flakes showed convergent flaking characteristic of the Middle Stone Age industry. Some lydianite cores were also found.

The following GPS (Cape scale) coordinates were taken:

South 28°43'57"S 021°59'52"E Altitude 952m (Fig.16).

North 28°43'50"S 022°00'00"E Altitude 952m.

East 28°44'07"S 022°00'06"E Altitude 947m (Fig.17).

West 28°43'47"S 021°59'52"E Altitude 954m.

Gorona 28°44'23"S 021°59'48"E Altitude 951m (Fig.15).

SITE 3 TAMPANSRUS 294/295 (2822CC)

The farm Tampansrus is situated near Groblerhoop and is reached from the R64 road between Kimberley and Griekwastad on the turn-off to Witsand and Olifantshoek (Map 1-3, 6).

Vegetation mainly consists of Eragrostis grassland, thorny shrubs i.e. Swarthaak (*Acacia mellifera*), Driedoring (*Rhigozum trichotomum*) and Asparagus sp. (Fig.19). The area is covered with red sandy dunes (Fig.19). Calcrete outcrops (Fig.21) are alternated by sandy grassy patches and clusters of stone pebbles (Fig.26).

A collection of stone flakes (Fig.22) was made on the dunes, in the area around the Telkom tower (Fig.20). A single potsherd was also found in this area (Fig.22).

More stone flakes were collected to the south towards the foot of the dune (Figs.23-25) and another collection came from the lower area beyond the dunes and amongst the calcrete and stone pebbles.

Some of the flakes show the convergent Middle Stone Age flaking.

The following GPS (Cape scale) coordinates were taken:

Telkom tower 28°48'38"S 022°09'25"E Altitude 963m (Fig.20).

Calcrete 28°48'54"S 022°09'37"E Altitude 948m (Fig.21)

South 28°49'00"S 022°09'32"E Altitude 944m.

Farm house 28°48'27"S 022°07'59"E

FINDS

SITE 1 OLYVENHOUTS DRIFT (2821AC, 2821CA)

A heavily soldered food tin resembling British rations from the Anglo-Boer War (1899-1902) was found (Fig.2). It was anticipated that there could have been a British camp in the vicinity during the War, but nothing else to confirm this expectation was discovered. The context of this solitary find is not clear and it is not possible to explain its presence at the site.

A variety of stone flakes and flaked stone cores occurred on the surface. The material originates from the local geological horizon and is broadly described as chalcedony (Fig.13), meta-quartzite (Figs.5,12,14) and banded ironstone from the Griquastad Layer (Fig.13).

The quartzite flakes are coarse (not smooth) without patination. The flakes form triangular points with no scars or secondary trimming, and are unutilised and cannot be described as "tools".

Points have convergent edges and single or multiple flaking on the dorsal side. Percussion bulbs are clearly recognisable in most cases. Prepared platforms are narrow and bent and are either faceted or plain. Through the application of standard tool typology and basic characteristics, the material could arbitrarily be classified as Middle Stone Age.

SITE 2 BOKPOORT 390 (2822CA)

The investigation at Bokpoort produced a small collection of stone flakes (Fig.18) mainly towards the power line. The material used was also meta-quartzite and chalcedony from the local lithic sources.

SITE 3 TAMPANSRUS 294/295 (2822CC)

The red dunes at Tampansrus produced a diversity of stone flakes. Flakes and flaked cores were made from chalcedony, meta-quartzite and banded ironstone. As in the case of the other sites, no actual stone tools were found amongst the flakes.

ASSESSMENT OF IMPACT

The lithic assemblages found during the whole investigation seem to be in the form of a general distribution of flakes and flaked cores. The impact on the cultural heritage remains of the proposed development sites at Olyvenhouts Drift, Bokpoort and Tampansrus will be of minor significance.

The stone flakes are sparsely distributed on the surface with the intensity of the distribution the same at all the sites.

No other cultural, historical or palaeontological components were found during the investigation, nor were there any buildings, graves or burial grounds in the area.

MITIGATION

No mitigation measures will be required on any of the sites.

RECOMMENDATIONS

The differences in the archaeology and cultural heritage between the three sites are insignificant and there is no clear preference for any one of the three possibilities.

I recommend that, depending on the finds of the other specialists, the most practical site should be selected and that the planning and the development of the installation may proceed.

ACKNOWLEDGEMENTS

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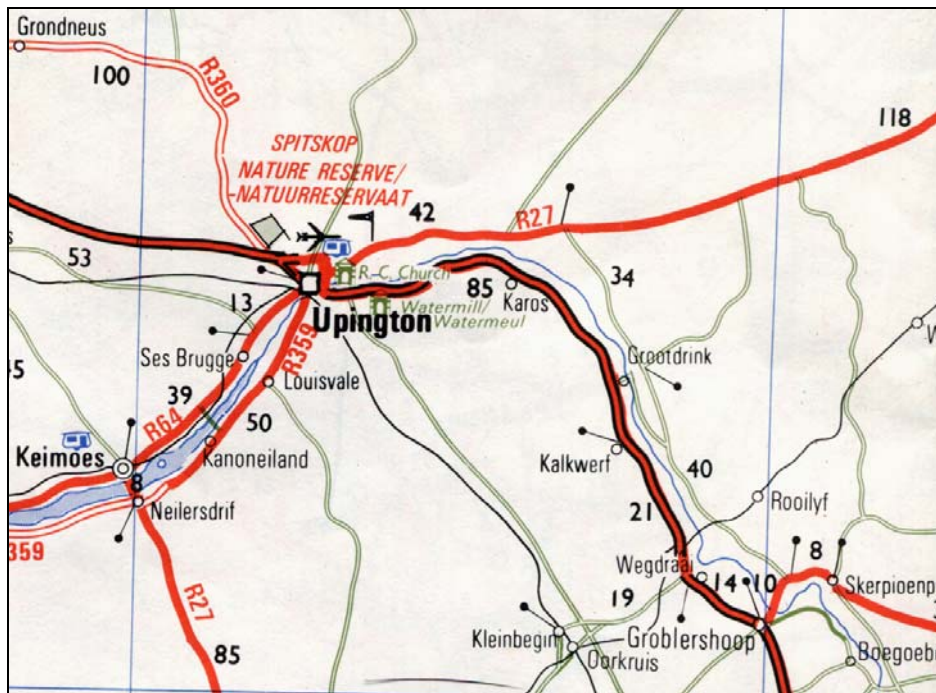
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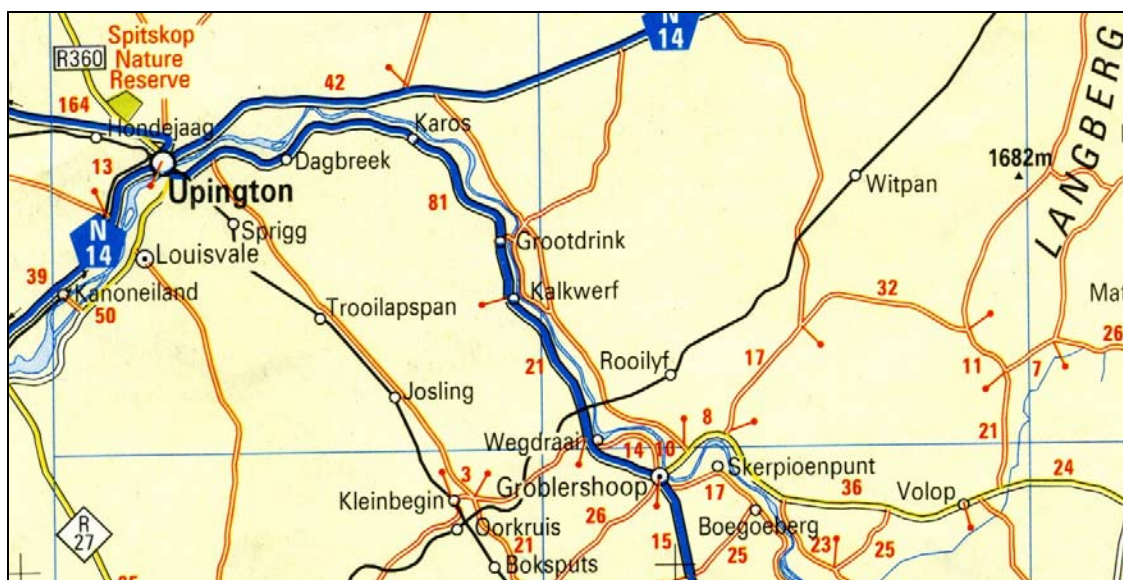
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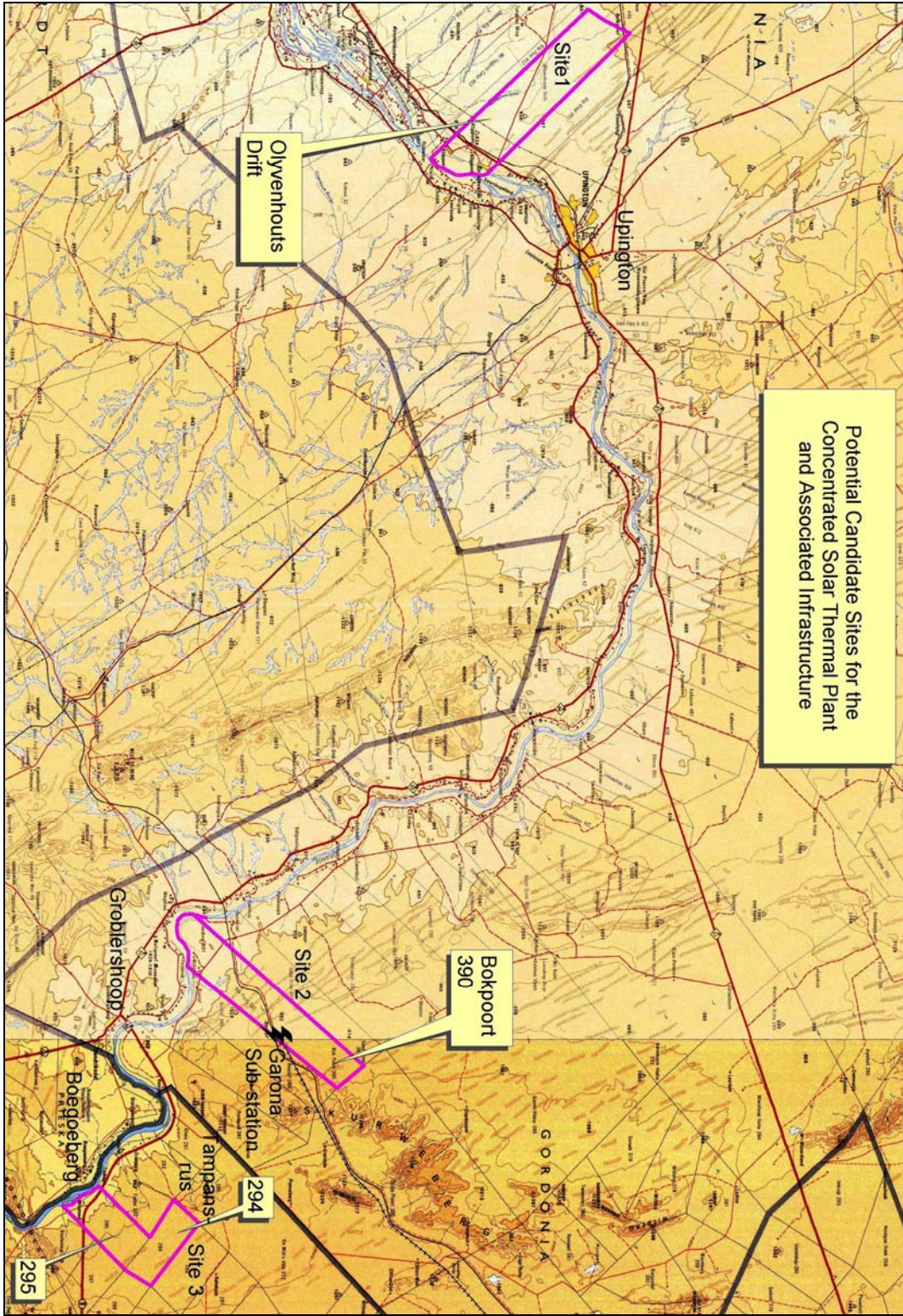
LIST OF ILLUSTRATIONS



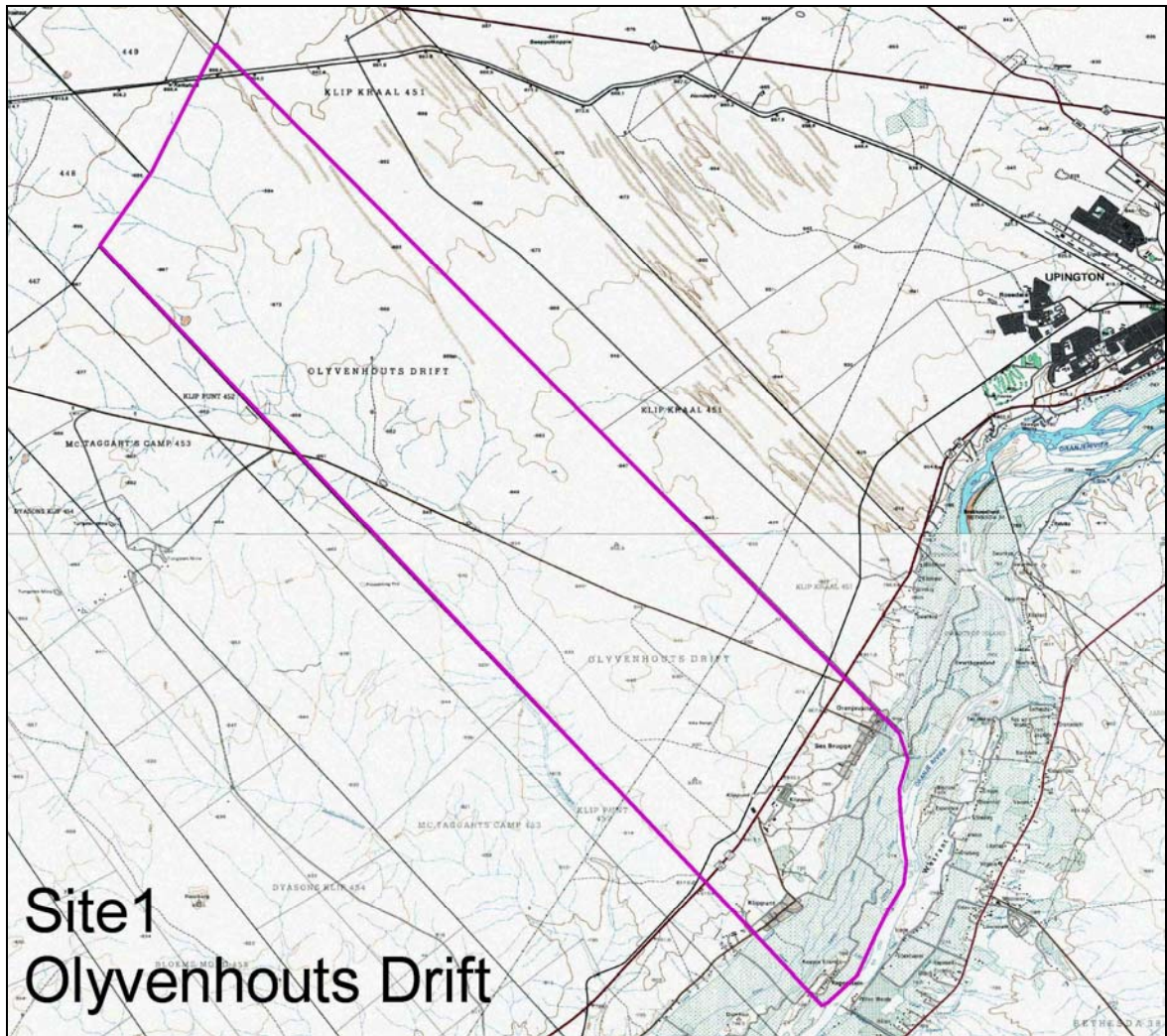
Map 1 Locality of Upington, Groblershoop and Keimoes.



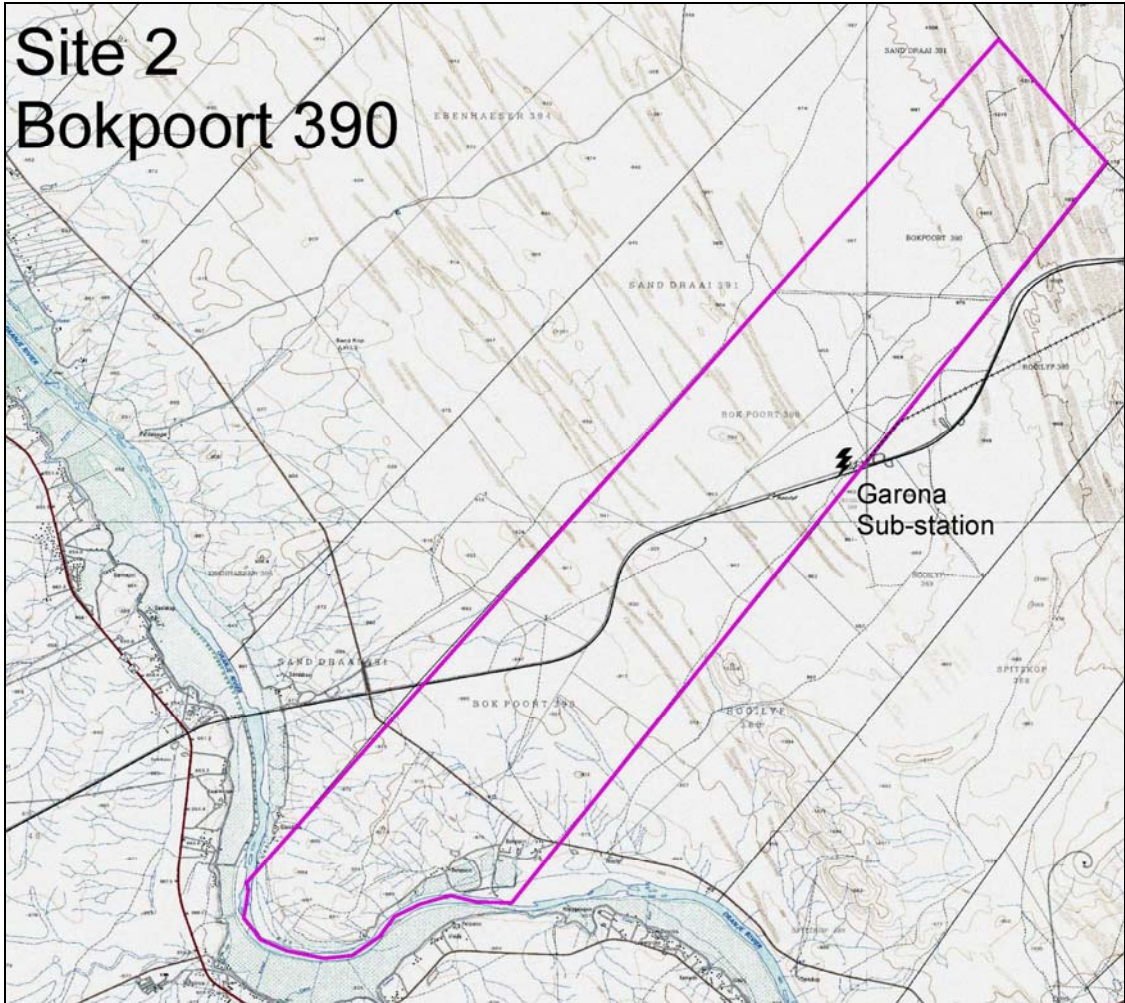
Map 2 Locality of Upington and Groblershoop.



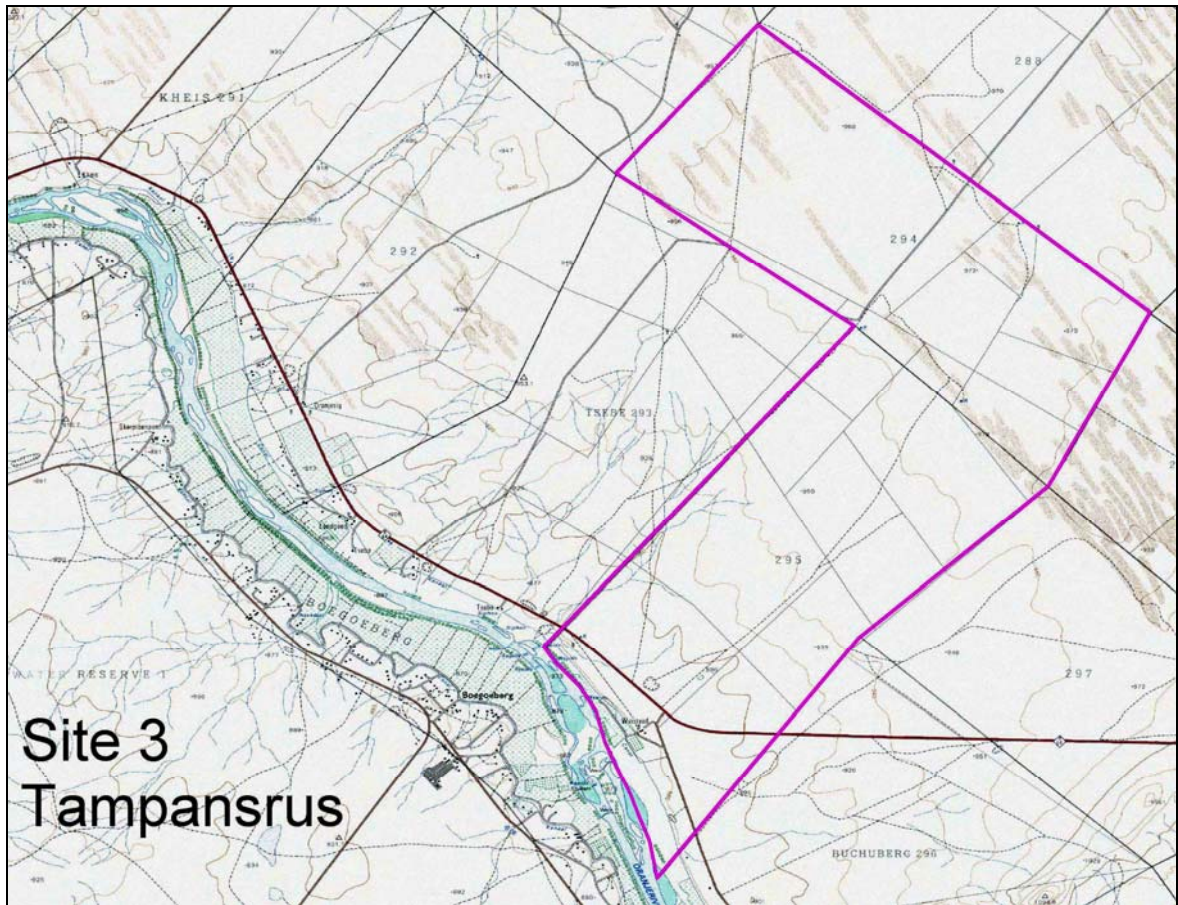
Map 3 Locality of the three sites near Upington, Northern Cape.



Map 4 Site 1 at Olyvenhouts Drift, Upington.



Map 5 Site 2 at the farm Bokpoort 390 near Groblershoop.



Map 6 Site 3 at Tampansrus 294/295 near Groblershoop.



Fig.1 Site 1 at Olyvenhouts Drift. View along the D3276 road facing west.



Fig.2 Heavily soldered tin food can dating from the Anglo-Boer War.



Fig.3 A scatter of calcrete fractions on the surface (Olyvenhouts Drift Site 1).



Fig.4 A sandy dry pan on the farm Olyvenhouts Drift (Site 1).



Fig.5 Quarsite core material on the surface (Olyvenhouts Drift Site 1).



Fig.6 Red sand with Driedoring shrubs and grass (Olyvenhouts Drift Site 1).



Fig.7 A stone cluster of unknown origin (Olyvenhouts Drift Site 1).



Fig.8 View from the highest point on Olyvenhouts Drift facing south.



Fig.9 View along the border fence of Olyvenhouts Drift facing south west.



Fig.10 Windmill on the western border fence (Olyvenhouts Drift).



Fig.11 Water washed core material amongst calcrete near the windmill (Site 1).



Fig.12 Stone flakes made from meta-quartzite material (Site 1).



Fig.13 Stone flakes made from chalcedony and banded ironstone (Site 1).



Fig.14 Stone flakes and core flakes made from meta-quartzite and banded iron stone (Site 1).



Fig.15 General view of the site at Bokpoort (Site 2) facing towards the power line and the Eskom Gorona sub-station.



Fig.16 View across the site. Bokpoort (Site 2) farmhouse is situated against the little hill in the centre.



Fig.17 View at Bokpoort towards the Sishen-Saldanha railway line.
An ore train is visible halfway into the picture from left.



Fig.18 Stone flakes from Bokpoort (Site 2) made out of chalcedony,
banded ironstone and meta-quartzite. Pocket knife = 83mm.



Fig.19 General view of Site 3 at Tampansrus. Note the lush grass cover on the red dune.



Fig.20 Tampansrus (Site 3). Telkom tower on the right.



Fig.21 Calccrete outcrop on red sand. Tampansrus (Site 3).



Fig.22 Collection of stone flakes from the area around the Telkom tower (Site 3). A potsherd is displayed second from right in the middle row. Pocket knife = 83mm.



Fig.23 Core flakes from Tampansfontein (Site 3). Pocket knife = 83mm.



Fig.24 Flakes made from meta-quartzite and chalcedony (Site 3).
Pocket knife = 83mm.



Fig.25 Core flakes made from chalcedony and banded iron stone.
Tampansrus (Site 3). Pocket knife = 83mm.



Fig.26 Concentration of quartzite pebbles (Site 1).