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**FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT
OF THE PROPOSED DIAMOND PROSPECTING AT
KALKLAAGTE 32, JACOBSDAL, FREE STATE**

EXECUTIVE SUMMARY

De Beers Exploration is planning to do diamond prospecting at the farm Kalklaagte 32, in the Jacobsdal district. The prospecting will be done on 67ha of land on the farms Kalkwal 23, Rust en Vrede 164 and Uitzoek 35.

Most of the proposed area appears to be unspoilt land. No archaeological or historical remains were found. It is assumed that the prospecting 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

De Beers Exploration is planning to do diamond prospecting at the farm Kalklaagte 32, in the Jacobsdal district. The prospecting will cover 67ha on the farms Kalkwal 23, Rust en Vrede 164 and Uitzoek 35. De Beers Exploration commissioned the archaeological and heritage assessment for the proposed diamond prospecting.

The investigation provided the opportunity to examine the proposed area. The soil surface consists of grass-covered veld and possible old cultivations lands. 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.
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

De Beers Exploration is planning diamond prospecting at the farm Kalklaagte 32, in the Jacobsdal district. The prospecting will be done on 67ha of the farms Kalkwal 23, Rust en Vrede 164 and Uitzoek 35. The site was examined on 22 August 2014. Officials from De Beers Exploration supplied the particulars on the locality of the sites.

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 represent 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).

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

MIDDLE STONE AGE

The area is exceptionally rich in terms of Stone Age material and rock art sites (Morris 1988, 1990). The Fauresmith stone tool industry, named after the town of Fauresmith, is characterized by small hand axes and cleavers and by numerous flake tools, including triangular projectile points of the classic Levallois or prepared core stone-flaking technique (Clark 1959, Mitchell 2002). The type sites are at Brakfontien 321 and River View Estates (Sohnge, Visser & Van Riet Lowe 1937).

The Fauresmith stone tool industry is often defined as a transitional stage or intermediate phase between the Early Stone Age (Acheulian) and the Middle Stone Age (MSA). It can also be taken as the end of the Acheulian or the beginning of the Middle Stone Age (Mitchell 2002). The Fauresmith industry is found at a number of other archaeological sites such as Wonderwerk Cave near Postmasburg and at Kathu Pan where it is potentially dated to at least 420,000 years ago. The Fauresmith industry consists of characteristics of the Middle Stone Age lithic technology such as exceptionally long blades, points and prepared core technology as well as retaining hand axes from the Acheulian. The Fauresmith industry dates from about 75,000 to 100,000 years ago and is largely contemporaneous with the Sangoan industry from sub-Saharan Africa. The two industries apparently correspond to different habitats, with Fauresmith having been used in open steppe areas and Sangoan in forested regions. These differences suggest that the two tool traditions may have been in use by two distinct cultural groups, a plains-dwelling people and forest-dwelling people. It is generally considered to have begun around 280,000 years ago and ended around 50 000-25 000 years ago. The beginnings of particular Middle Stone Age tools have their origins as far back as 550 000-500 000 years ago and as such some researchers consider this to be the beginnings of the Middle Stone Age, which is associated with anatomically modern human beings (*Homo sapiens*).

LATER IRON AGE

Certain Later Iron Age sites have produced important archaeological information (Maggs 1976). These Iron Age sites date between 1660 AD and 1810 AD.

The Later Iron Age archaeological phase brought people to the central interior who cultivated crops, kept livestock, produced an abundance of clay pottery in a variety of shapes and sizes and who had knowledge of the smelting copper and iron. Extensive stone walled enclosures characterised the permanent settlements. These living places are known from the prominent Sotho/Tswana settlements at Viervoet (Tihela) near Clocolan, Biddulpsberg (Kurutlele) near Senekal and Marabeng near Ficksburg. A number of Taaibos Korana and Griqua groups, remnants of the Later Stone Age peoples, managed to survive the assimilation by Sotho/Tswana tribes in the region.

Dramatic climate changes resulted in a rapid population growth along the east coast of South Africa. Increased pressure on natural resources and attempts to control trade during the early 19th century brought the emergence of powerful leaders in the area. The subsequent struggles for dominance resulted in a period of instability in the central parts of Southern Africa. This period of strife or wars of devastation, known as “difaqane” (Sotho/Tswana) or “Mfecane” (Nguni), affected many of the Black tribes in the interior. Attacks from east of the escarpment initiated by the AmaZulu impis of King Chaka in about 1822, were carried on by the AmaNdebele of Mzilikazi and the AmaNdwane of Matiwane into the Free

State, thus uprooting among others, the Batlokwa of Sekonyela and Mantatise and various smaller Sotho/Tswana tribes. On their turn, the Batlokwa drove off the Bafokeng of Sebetoane from Kurutlele (Biddulphsberg) near Senekal, who, in their effort to escape the pursuit by the AmaNdebele forces, eventually landed up in the Caprivi (Kilby 2001, Dreyer & Kilby 2003).

This period of unrest directly affected the peoples of the Free State and Northern Cape, resulting in the displacement of scores of tribesmen, women and children. The stronger tribal groups, such as the AmaNdebele of Mzilikazi, assimilated many of these refugees.

Early European missionaries and travellers ventured into the interior of the country during the 19th century (Dreyer 2001) and the Rev James Archbell established the missionary at Thaba Nchu by 1834. Several of the marauding hordes affected the lives of the Batswana people living at Dithakong near the mission station of Robert and Mary Moffat near Kuruman.

RIET RIVER STONE WALL SETTLEMENTS (TYPE R)

In our present area the stone wall settlements along the lower parts of the Riet River (Type R) are very distinct in geography and culture from the settlements described and classified in the western, central and eastern parts of the Free State (Maggs 1971, Humphreys & Maggs 1970, Humphreys 1970, Humphreys 1972, Maggs 1976).

The layout of Type R living sites follow a specific pattern and are mainly limited to dolerite outcrops within 3km from the Riet River, the only constant water source (Map 8). (This is in contrast to the Later Iron Age sites in the central, northern and eastern Free State, where settlements are concentrated up to 3 or 4km from the main rivers). All the Type R settlements are either on top of or next to dolerite sills where sufficient natural building material is available close by. Settlement units are grouped in clusters of up to 7 settlements, with two larger units of 10 and 13 individual structures respectively. Names of farms where settlements are found occur in the list given by Maggs (1971) (Fig.12). Securely established units occur between Jacobsdal and Kalkfontein, where individual clusters are positioned 5 to 10km apart. This spacing is clearly intended to release pressure on grazing pastures and the constant natural water supply. In the region of Afvallingskop and Pramberg (cf. Brink, Dreyer & Loubser 1992), small clusters are found on the opposite side of the river arranged about 1km apart. Type R units are normally placed at the base of hills, on about the same level as the river bank. (Iron Age sites elsewhere in the Free State are found on top of hill plateaus or ridges well above the valley floors below).

The type site of the Type R settlement pattern (OFD1) is located on the farm Oudefontein, 12km north-west of the town of Koffiefontein on the north bank of

the Riet River (Fig.13). The Oudefontein site (OFD1) contained a cluster of thirteen settlement units, with another group of ten units on Wintershoek farm, across the river. The stone walls are made of weathered dolerite and are mostly in a collapsed state at present. Walls were probably only 60-80cm high. Some walls have an irregular appearance, giving the impression of a careless or inexperienced building technique. Individual entrances are difficult to recognise, but on smaller structures the openings tend to face the large central enclosure. The settlement pattern of the units consists of larger central circular or oval shaped enclosures surrounded by smaller structures. Smaller enclosures tend to be in the region of 14m diameter, up to 21m in the case of the larger features, with 41m for the largest central enclosure at OFD1. At Afvallingskop the central enclosure measures 70m. Due to the size and placing within the context of this layout, it is accepted that they were used as stock kraals. Enclosures in the size range between 6m to 12m diameter are accepted as byres for small stock.

With a ratio of 10m² per head of cattle and 1,5-2m² per small stock unit as used by Dreyer (1992:371), for the calculation of stock byre capacity, the following numbers of cattle and small stock are arrived at in this case. (See also Humphreys 1972:102-):

Diameter	Area m ²	Cattle	Small Stock
6m	28,2	3	14
10m	78,6	8	39
12m	113,1m	10	56
14m	153,94	15	75
21m	346,1	35	173
41m	1319,6	132	660
70m	3846,5	385	1923

As an addition to the site layout of the Type R settlements, semicircular structures occur. It is likely that these features could have been erected as a screen for some domestic activity around the living place (Maggs 1971:44). Small enclosures are found some distance away from the settlement units against the steeper slopes. The semicircular and smaller structures have household material on the surface around them. With one exception, the surrounding walls at OFD1 are poorly developed, but could have been placed there merely to define the living area of the settlement unit. In some cases these features are only placed on the uphill side of the settlement. Connecting walls between structures are rare and is not considered as a characteristic feature of the Type R settlement pattern. In some cases short walls form secondary enclosures, attached either to the inside or outside of the main byre.

Small stone mounds appear inside the larger enclosures. These features may have been graves, as other burials from the area, had been described from the same position (Humphreys & Maggs 1970, Humphreys 1970).

Rock engravings had been reported by Wilman and Battiss from as far back as the 1930s and 1940's. Two sites were discovered at Oudefontein (OFD1), where highly patinated specimens of quagga, human figures and -footprints, hippo, springbok, ostrich, blesbuck, jackal, eland, fat-tailed sheep, rhino and not least, several elephant are depicted in various techniques. The presence of rock gongs is also mentioned (Maggs 1971:44-45).

Excavations at OFD1 produced well fired, but highly fragmented pottery representing specimens of bowls, vessels and pots, probably from Later Stone Age origin. There is variety in the range of round bases and size, necks with rounded, slightly rolled over or flattened rims. Most sherds have tempering of fine mudstone grit, sand or grass. An insignificant number of sherds show a herringbone decoration motif in shallow grooves on a rim with comb-stamping impressions.

Excavated stone artefacts include Middle Stone Age stone borers, a variety of scrapers, some with secondary trimming, double end-scrapers, a grooved stone made from serpentine stone and a single bored stone from greenish lava. Grinding stones with prominent pecking marks were made from dolerite. Manu-ports with peck and scratch marks were probably carried in to the site.

Metal objects include a fairly large cylindrical copper bead, a small bangle and a curved band that could be the remains of a 2,5cm diameter ring. It is argued (Maggs 1971:55), that these copper objects could have been carried to the site by Later Iron Age people. A small number of ostrich egg-shell beads and one bone splinter with polished tip were recovered. Other bones show deep chop marks possibly made by an iron tool.

The limited distribution of Type R settlements confirms its occurrence as a local cultural development for over 130km along the Riet River. The prominent stone walling suggests a more settled way of living, with the main form of survival concentrated on stock farming, supported by hunting and gathering of veld food. The lack of information on their hut type indicates a fragile construction of perishable material. It is possible that the huts could have had reed mats supported by a light pole frame work.

A short review on the possible occupants of the sites during the late 18th and early 19th century, records various pastoral and hunting groups along the Orange and Vaal River confluence as far back as 1779. The Griqua, for one, had extended contact with the colonists and have learnt to speak Dutch. From the early 19th century the names of the Griqua and Korana had been applied randomly to all Khoikhoi groups of the Orange River flood basin. The Kora is mentioned in the area around the confluence of the Riet and Vaal Rivers. It is stated that by 1822, the Bushmen between the Orange and Riet Rivers, were keeping many sheep and goats until they fell prey to some marauding group of "Nguni speakers". Another group of Bushmen who were keeping countable

numbers of cattle are mentioned along the Riet and Vaal Rivers. At about that time, Burchell met Bushmen at the Riet-Vaal confluence, which appeared to be of mixed descent, showing physical features of Bushmen, Kora and Batswana people. They kept sheep, goats and cattle, which they declared they have raided from several unidentified Bantu-speaking tribes (Maggs 1971:57).

By 1835, Dr Andrew Smith found the area around the Riet-Vaal River junction under Griqua (Waterboer and Kok) and Tswana control (Wannenburgh n.d.). He mentions various Kora, San and mixed groups in the area with other Griqua-parties regularly travelling by. At the time European farmers and several Sotho and Tswana tribesmen, which became displaced during the unrest caused by the Difaqane (1822-±1830) moved into the area. This could explain the presence of the Tswana villages along the lower Riet River. These settlements have not been mentioned by Burchell in 1811 and must have been established afterwards. There is record of a complaint by Adam Kok about the Kora, who raided cattle from the Bushmen along the Riet River in 1829. With time, the Kora seem to have gradually moved away to mission stations further inland, for after 1845 there is no longer mention of them being in the Riet-Vaal River region (Maggs 1971:58, Smith 1995). According to Stow (1905) some of the semi-pastoral groups remaining with their chief Kousob (Skeel Koos?) who, by 1850 claimed rights over the area along the Riet, Modder and Vaal Rivers.

It is accepted that the Sotho/Tswana cattle herders did not enter the area along the Riet River before 1829. Historical records have no evidence of any of the Sotho/Tswana peoples present in the Riet River area, before the Difaqane. Sotho/Tswana tribes, such as the Tlhaping, Rolong and Southern Sotho groups are mentioned living some 150-200km distant from the Type R settlements. It appears that the Later Iron Age tribes were not moving further southwards, probably halted by the limits enforced by ranging environmental and climate conditions. It is alleged that the people along the Riet and Vaal Rivers were engaged in trade relations with the Sotho/Tswana tribesmen to the east, but there is no resemblance between the material culture of the Type R units and other Later Iron Age sites in the Free State (Maggs 1971:59).

Several decades later (1854 to 1868), during the outbreak of the border wars between the Basotho Nation of Moshoeshe and the Burghers of the Free State Republic along the Caledon River in the east, the Taaibosch-Korana of Skeel Koos and other wandering Batswana tribesmen under Mankurwane, exploited the disorder to perform stock raids along the Orange River in the western Free State (Van Heerden 1908).

HISTORY OF THE JACOBSDAL DISTRICT

Jacobsdal was established in 1859 on the farm Kalkfontein and obtained municipal status in 1860. The town was named after the farm owner, Christoffel

Johannes Jacobs. The administrative district boundaries date back to 1834. Located near the Orange Free State and Cape Colony border, the Jacobsdal region was one of the largest districts in the Orange Free State Republic, at that time (Jacobs 1952, Raper 1989). In 1866 when the first diamonds were discovered in South Africa (Beet n.d., Rosenthal n.d., Dreyer 2013), the most important alluvial diamond diggings were in the Jacobsdal district. In 1871 the Government of the Cape Colony claimed the largest part of the diamond fields and the Orange Free State Republic were given £90 000 from the British Crown in compensation for the land.

Because of the relative closeness to the strategic towns of Kimberley and Mafeking, Jacobsdal saw much of the military action during the Anglo-Boer War (1899–1902). British soldiers who had been wounded on the western front in the battles of Belmont, Graspan, Modder River, Magersfontein and Paardeberg were nursed in the town. Magersfontein, the famous battlefield site where General Piet Cronjé blocked Lord Methuen's advance on Kimberley in December 1899, is situated 20km north west of Jacobsdal. Two months after this incident, General French, on his way to relieve Kimberley, outflanked Cronje and forced the Boers to retreat to Jacobsdal. On 15 February 1900 Cronje's commando again had to flee before the British advance, to allow the enemy to capture the town, and making Jacobsdal the first Orange Free State town to be occupied. On 27 February 1900, during a siege by a large force of British troops and after enduring 9 days of heavy shelling, Gen Cronje surrendered to the British forces at Paardeberg, about 34km north east of Jacobsdal.

During the occupation of Jacobsdal, the British forces were surprised by an unexpected attack by the Boers, killing British soldiers. The British retaliated by burning down houses and by taking the women and children to a concentration camp at Kimberley. Captured burghers from Jacobsdal were banished to prisoner of war camps abroad. To defend the town the British military forces erected a blockhouse on the road to Paardeberg in 1900.

For the duration of the Second World War (1938-1945), Italian prisoners of war were interned and Koffiefontein near Jacobsdal. As skilled craftsmen these foreigners were employed to extend the existing Riet River irrigation scheme.

LOCALITY

De Beers Exploration is planning diamond prospecting at the farm Kalklaagte 32, in the Jacobsdal district. The prospecting will be done on 67ha of the farms Kalkwal 23, Rust en Vrede 164 and Uitzoek 35 (Map 3). The farms are located about 18km east of Jacobsdal and are reached from Petrusburg via the S577 gravel road turn-off from the N8 main road to Kimberley (Map 1).

The following GPS co-ordinates were taken (Cape Scale) (Surveyor-General 1973): (Map 2&3).

La Kalkwal 23	29°06'11"S	024°59'02"E. Alt 1156m (Figs.1&2).
Lb	29°06'10"S	024°59'52"E Alt 1158m (Figs.3-4).
Lc	29°05'24"S	024°59'50"E. Alt 1155m (Fig.5).
Ma Rust & Vrede	29°07'37"S	024°58'10"E. Alt 1164m (Fig.6).
Mb	29°07'18"S	024°58'07"E Alt 1163m (Fig.7).
Na Uitzoek 35	29°09'07"S	024°58'40"E. Alt 1171m (Fig.8).
Nb Wagon house	29°09'23"S	024°58'13"E Alt 1178m (Figs.9-11).

FINDS

Several heritage impact assessments on residential developments at Petrusburg and borrow pit mining along the N8 main road to Kimberley recorded a variety of Middle Stone Age lithic material (Dreyer 2003, 2006, 2010, 2012, 2013, 2014). The finds include individual hand axes (± 10 cm in length) from the later phase of the Early Stone Age (Acheulean) and collections of Middle Stone Age flakes and cores. The majority of the finds represent heavily patinated stone flakes and scrapers, together with a single well-used upper grinding stone.

An old wagon house and several kraals, built out of calcrete blocks, were found at Point Nb on the farm Uitzoek 35 (Map 7). The main structure, do not have a roof any more, but the walls are still in a fairly stable condition (Figs.9-11). It is sad to realise that this fine specimen of an exceptional building technique had been abandoned and will rapidly deteriorate into ruins.

Although the farms Kalkwal 23, Rust en Vrede 164 and Uitzoek 35 in the Jacobsdal district, are located in a potentially rich cultural and historically area, no archaeological, cultural or historical remains were found at the site.

IMPACT ASSESSMENT

There will be no major impact caused by the prospecting developments on any heritage resources.

RECOMMENDATIONS

The impact resulting from the new developments on the archaeological and heritage resources is considered to be of minor significance.

There are no obvious reasons 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.

ACKNOWLEDGEMENTS

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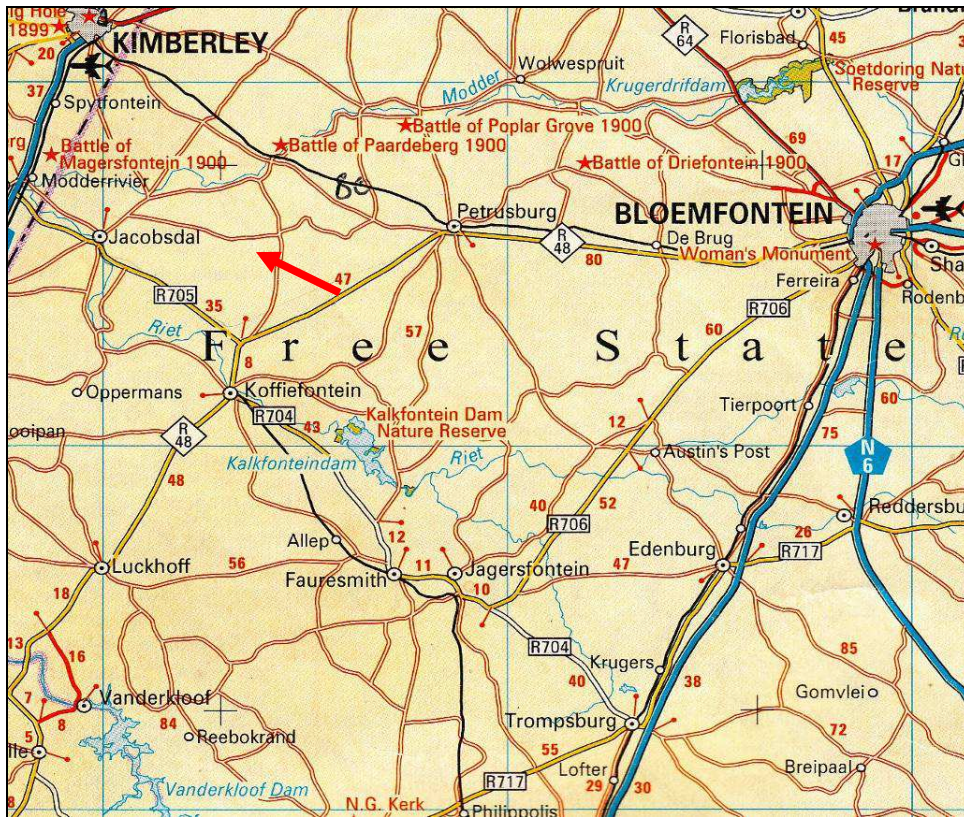
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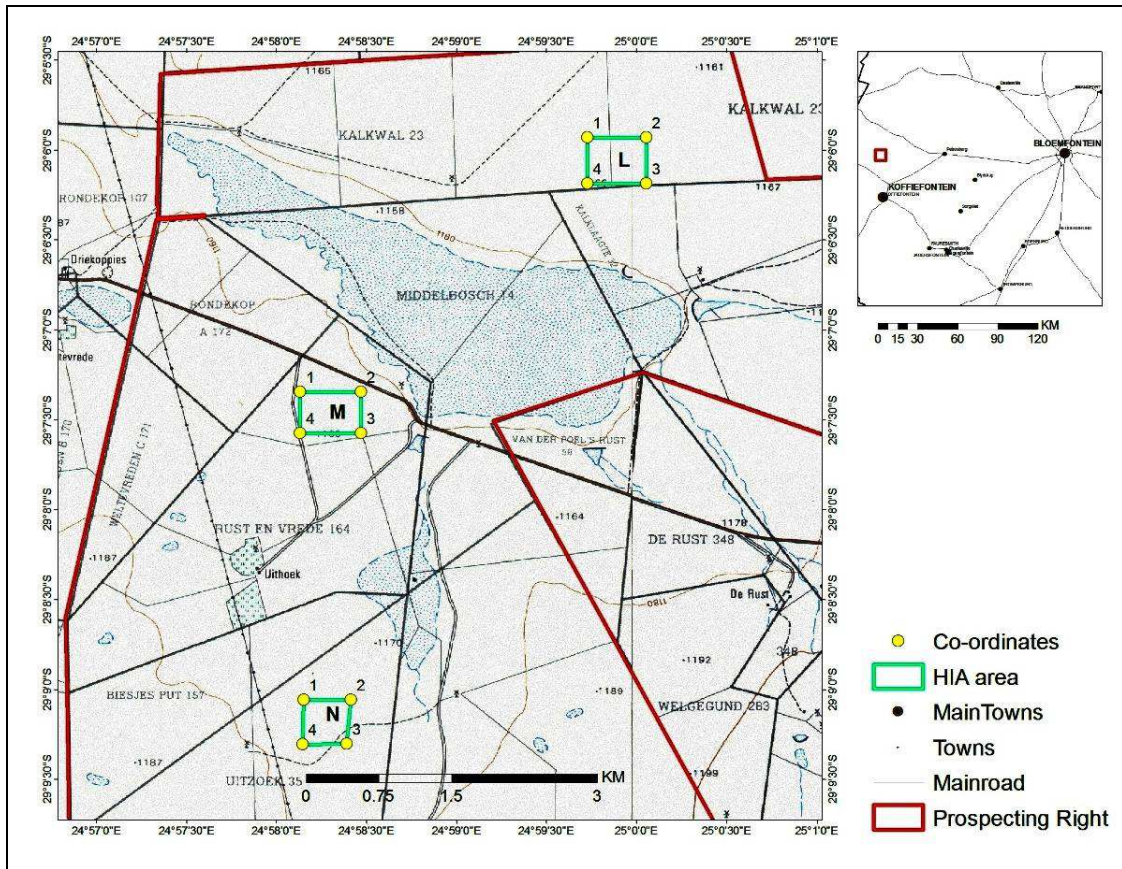
LIST OF ILLUSTRATIONS



Map 1 Locality of Petrusburg, Jacobsdal and Fauresmith in relation to Bloemfontein.



Fig.1 Point La at Kalkwal 23, Jacobsdal.



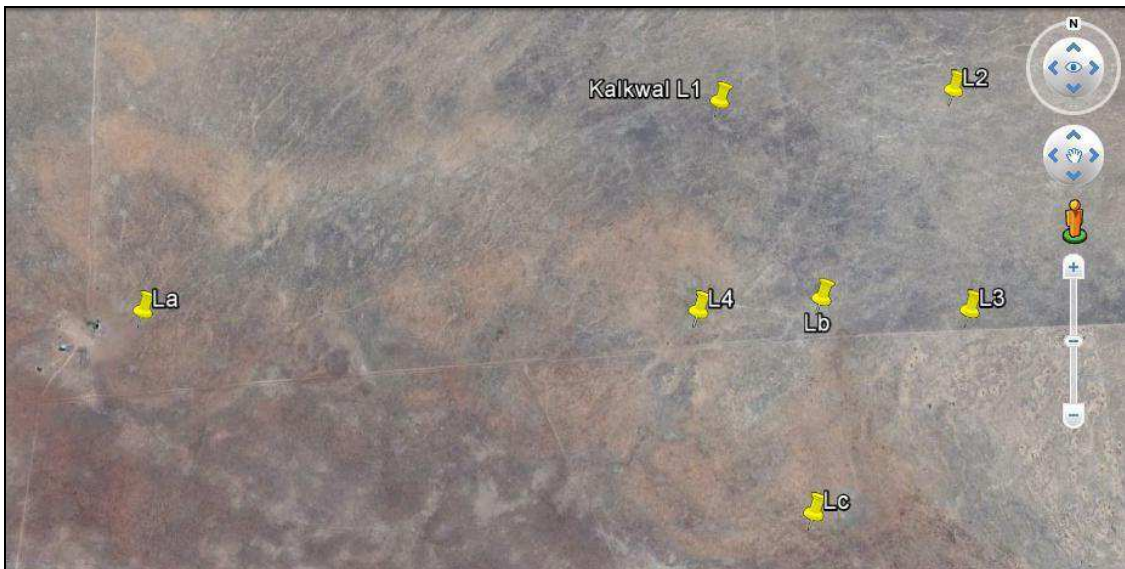
Map 2 Areas L, M & N (67ha) at Kalkwal 23, Rust & Vrede 164 & Uitzoek 35, near Jacobsdal.



Fig. 2 Point La at Kalkwal 23, Jacobsdal.



Map 3 The proposed areas at the farms Kalkwal 23 (L), Rust & Vrede 164 (M) & Uitzoek 35 (N), in relation to Jacobsdal & the Riet River.



Map 4 Kalkwal 23 showing GPS coordinate points.



Fig.3 Point Lb at Kalkwal 23, Jacobsdal.



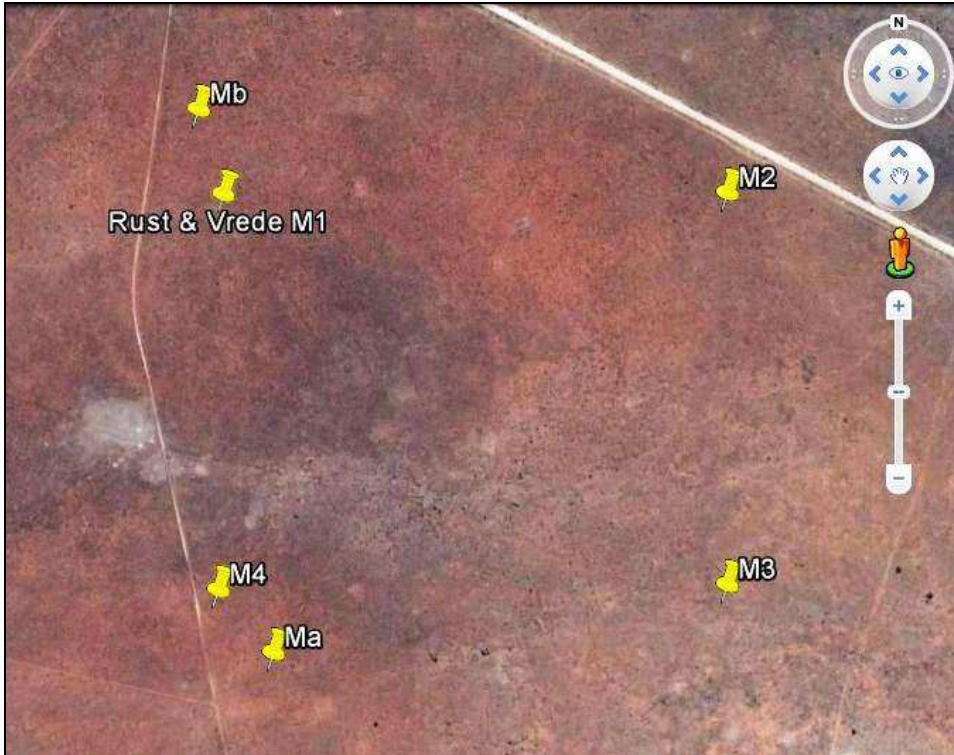
Fig.4 Point Lb at Kalkwal 23, Jacobsdal.



Fig.5 Point Lc at Kalkwal 23, Jacobsdal.



Map 5 Proposed areas at the farms Kalkwal 23 (L), Rust & Vrede 164 (M) & Uitzoek 35 (N).



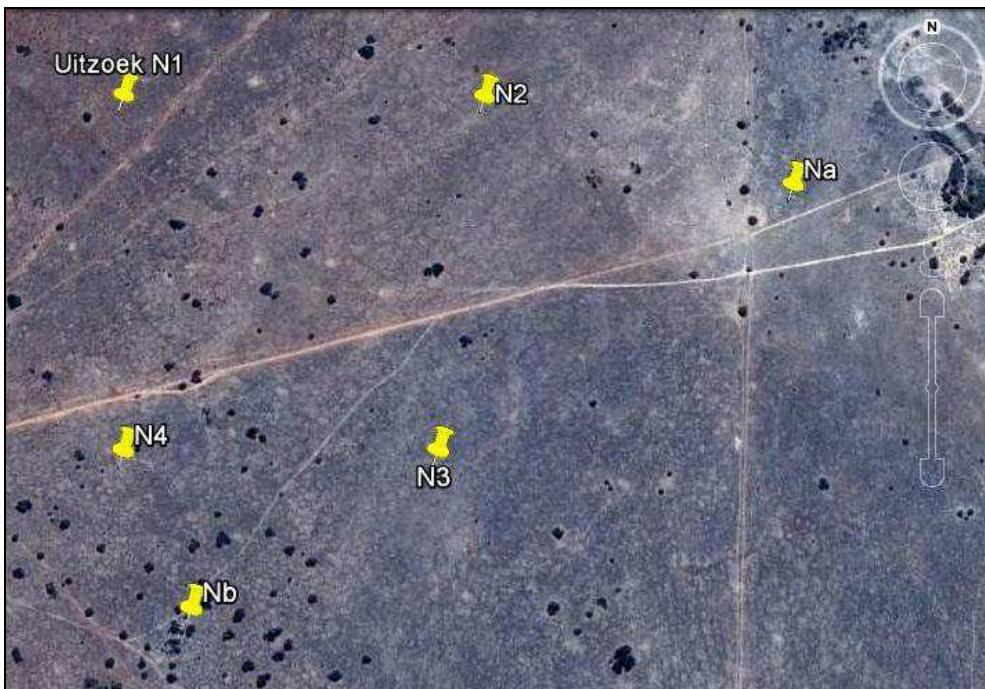
Map 6 Rust & Vrede 164 (M) showing GPS coordinate points.



Fig.6 Point Ma Rust & Vrede 164.



Fig.7 Point Mb Rust & Vrede 164.



Map 7 Uitzoek 35 (N) showing GPS coordinate points.



Fig.8 Point Na at Uitzoek 35.



Fig.9 Old wagon house and kraals at Point Nb, Uitzoek 35.



Fig.10 Old wagon house and kraals at Point Nb Uitzoek 35.



Fig.11 Old wagon house and kraals at Point Nb Uitzoek 35.

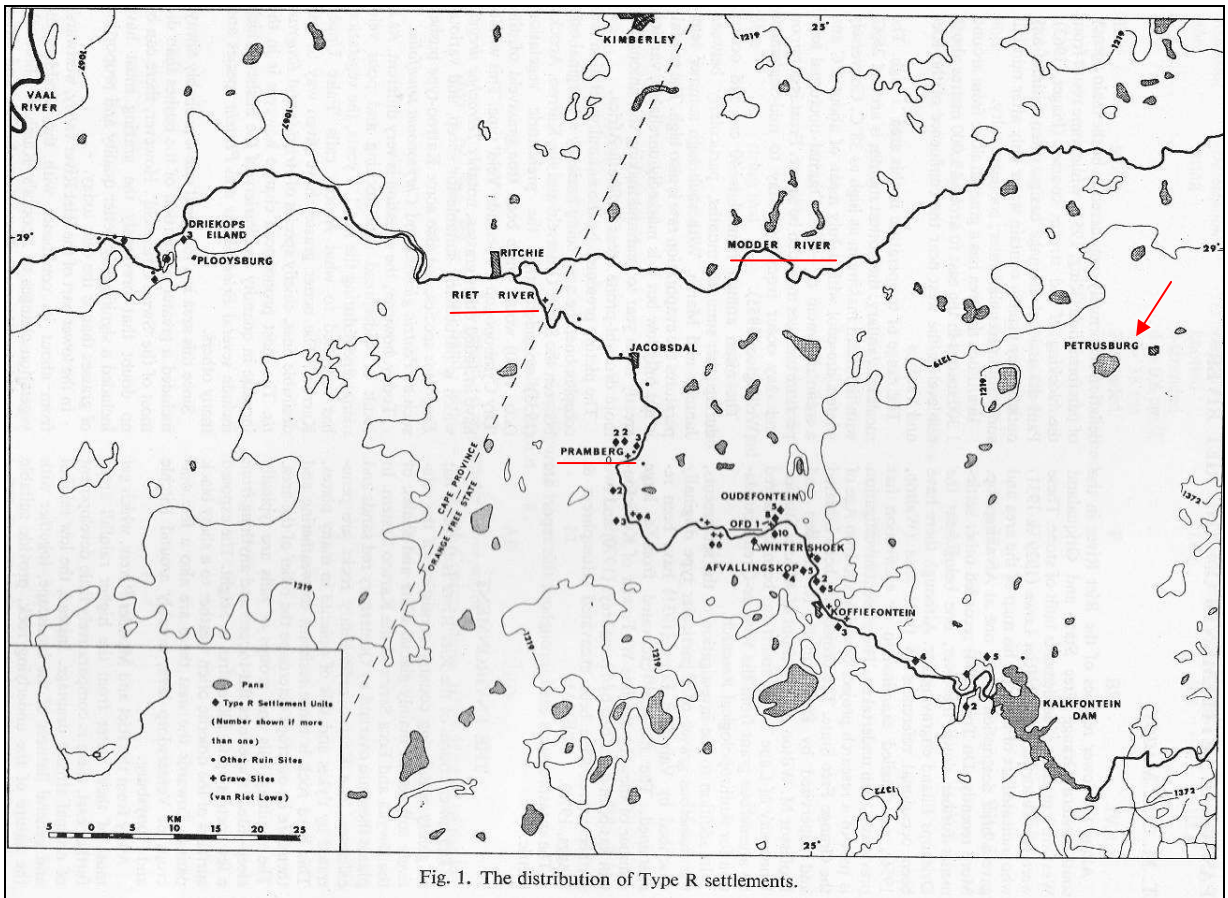


Fig. 1. The distribution of Type R settlements.

Map 8 Distribution of Type R settlements along the Riet River (After Maggs 1971).

Location of Type R Settlement Units							
<i>Farm Name from I: 50 000 series maps</i>	<i>No. of units on farm</i>	<i>No. of units in cluster</i>	<i>Hollow between hills</i>	<i>Flat ground beside hill</i>	<i>Gentle rocky hill slope</i>	<i>Natural terrace on hillside</i>	<i>Flat hilltop</i>
Kalkfontein	5	5	1	1	3		
Bergfontein	1	1		1			
Telegraaffontein	2	2	1	1			
Poortjie	4	4				4	
Koffiefontein	3	3		3			
Rooidraai	7	7	4	3			
Leeuwarden	1	1	1				2
Afvallingskop	9	5	3				
Afvallingskop		4	2	1	1		
OFD 1 (Oudefontein)	13	13	10	1	2		
Wintershoek	11	10	9	1			
Wintershoek		1	1				
De Kiel	6	6	6				
De Aar	4	4	4				
Waterval	3	3	2	1			
Khartoum	2	2	2				
Pramberg		2	2				
Pramberg	7	3	3				
Pramberg		2	2				
Pramberg		2		2			
Driekops Eiland	3	3	3				
Mierkraal	1	1	1				
Weltevrede	1	1					1
Christian Drift	1	1					1
Totals	84	84	55	15	6	4	4

Fig.12 Type R settlements on farms along the Riet River (After Maggs 1971).

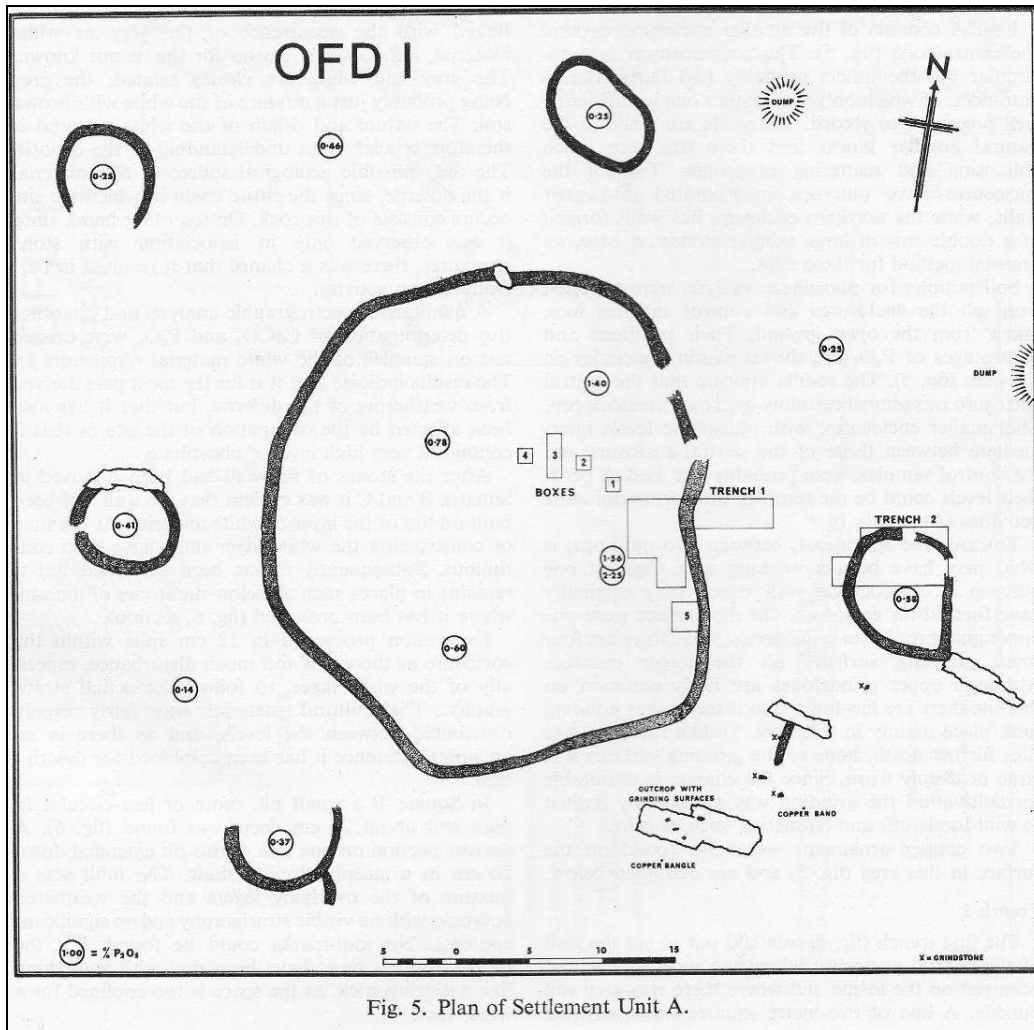


Fig. 5. Plan of Settlement Unit A.

Fig.13 Layout of Type R settlement OFD1, Oudefontein on the Riet River (After Maggs 1971).