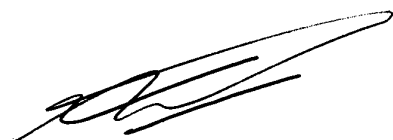


KALAHARI MANGANESE MINES

HERITAGE ASSESSMENT

ON
UMTU 281
OLIVE PAN 282
GAMA 283



Wouter Fourie

BA (Hon) Archaeology (UP)



Jaco van der Walt

BA (Hon) Archaeology (WITS)

Reference: KMM-001

Compiled by: Wouter Fourie &
Jaco vd Walt

Date: 31 March 2006



Matakoma Heritage Consultants (Pty) Ltd

P.O. Box 431

Paardekraal, 1752

Tel: +27 11 954 6871

Fax: +27 11 954 3568

E-mail: info@matakoma.co.za

EXECUTIVE SUMMARY

As we know from legislation the surveying, capturing and management of heritage resources is an integral part of the greater management plan laid down for any major development or historic existing operation. With the proclamation of the National Heritage Resources Act 1999 (Act 25 of 1999) this process has been laid down clearly. This legislation aims to underpin the existing legislation, which only addresses this issue at a glance, and gives guidance to developers and existing industries to the management of their Heritage Resources.

The importance of working with and following the guidelines laid down by the South African Heritage Resources Agency cannot be stressed enough.

The following outline the findings of the report:

During the survey the portions on the farms Umtu, Olive Pan and Gama produced one site of cultural significance and an area of sensitivity.

As with previous surveys in the Hotazel area, the only archaeological sensitive areas occurred in where the property is characterised by a dry riverbed that exposed limestone and pebble deposits. The area is however restricted to a zone of approximately 50 meters from the centre of the river bed that extends north towards Vlermuislaagte in which the Ga-Mogara perennial river runs.

Previous reconnaissance of Vlermuislaagte confirmed localised occurrences of low density Stone Age scatters along the exposed lime stone areas. These lime stone outcrops and the dune areas can be marked as archaeological sensitive areas.

In the vicinity of **2722BB-MHC001**, a large exposed area of pebble deposit contains a low density of lithics consisting of minimal cores, chunks, retouched and backed scrapers, unfinished blades, and rough cores. The raw material was sourced from the area and consists mainly of chert and dolomite. The pebble deposit varies from 20 – 40 cm and occurs between the sand and lime stone deposits. This area is earmarked for prospecting drilling for the identification of the underground ore reserve extent. Three sites have been listed in the maps provided, all within a 100 metre radius from **2722BB-MHC001**.

Refer to Section 10 for proposed management guidelines.

Index

EXECUTIVE SUMMARY

1. INTRODUCTION	4
2. APPROACH AND METHODOLOGY	5
3. WORKING WITH LEGISLATION.....	6
4. ASSESSMENT CRITERIA.....	6
5. ARCHIVAL STUDY	8
6. SITES OF SIGNIFICANCE	26
7. ASSUMPTIONS AND LIMITATIONS.....	32
8. LEGAL AND POLICY REQUIREMENTS.....	32
9. RECOMMENDATIONS AND CONCLUSION.....	35
10. MANAGEMENT GUIDELINES	35
11. LIST OF PREPARES.....	37
12. REFERENCES	37

Annexure

Annexure A – Legislation extracts

Annexure B – Maps of area

1. INTRODUCTION

Matakoma Heritage Consultants (Pty) Ltd was contracted by Strategic Environmental Focus to conduct a Heritage Assessment for the proposed Kalahari Manganese Mines on sections of the farms Umtu 281, Olive Pan 283 and Gama 284 in the Hotazel area of the Northern Cape Province. The study forms part of the Environmental Management Program currently being compiled for Kalahari Manganese Mines.

The aim of the study is to identify all heritage sites, document, and assess their importance within local, provincial, and national context. From this we aim to assist the developer in managing the discovered heritage resource in a responsible manner to protect, preserve, and develop the heritage resources within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilised before and during the survey, which includes in Phase 1: Archival research, information collection from various sources and public consultations; Phase 2: Physical surveying of the area on foot and vehicle; and Phase 3: Reporting the outcome of the study.

During the survey, a few areas of heritage value were identified. The section under Recommendations provides broad management guidelines for the discovery of cultural heritage sites or objects for inclusion into the Management Program.

This report must also be submitted to SAHRA's provincial office for scrutiny.

2. APPROACH AND METHODOLOGY

The aim of the study is to extensively cover all available data to compile a background history of the area. This was done by means of the following phases.

2.1 Phase 1

The first phase comprised of a desktop study with the aim of gathering data to compile a background history of the area. This desktop study covered the following:

2.1.1 Archival research

Utilising data stored in the National as well as Transvaal Archives for information gathering. The aim is to compile a data list of archaeological sites, historical sites, graves, architecture, oral history, and ethnographical information on the inhabitants of the area.

2.2 Physical Surveying

Due to the nature of cultural remains that occur below surface, a physical walk through of the study area was conducted.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area were studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. The mining authorisation is over the above mentioned farms spanning some 6000 hectares. The area of impact by surface infrastructure and mining is however approximately 600 hectares, this area was surveyed over three days, by means of vehicle and extensive surveys on foot by archaeologists. All sites discovered inside the mining lease areas were plotted on 1:50 000 maps, and their GPS co-ordinates noted. 35mm photographs on digital film were taken of all the sites found.

Time was also taken to evaluate current and historic drilling activities occurring in the mining lease area. No Stone Age artefacts or fossils were present in the fine matrix of the drill core fragments.

During the survey numerous local inhabitants were consulted on the presence of graves and old settlements in the survey area.

3. WORKING WITH LEGISLATION

It is very important that cultural resources be evaluated according to the National Heritage Recourse Act. In the absence of any Cultural Resources, please refer to Section 10 for Management Guidelines.

4. ASSESSMENT CRITERIA

This chapter describes the evaluation criteria used for the sites listed below.

The significance of archaeological sites was based on four main criteria:

- **site integrity** (i.e. primary vs. secondary context),
- **amount of deposit, range of features** (e.g., stonewalling, stone tools and enclosures),
- **uniqueness** and
- **potential** to answer present research questions.

Management actions and recommended mitigation, which will result in a reduction in the impact on the sites, will be expressed as follows:

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C - Preserve site, or extensive data collection and mapping of the site; and

D - Preserve site

Impacts on these sites by the development will be evaluated as follows

4.1 Impact

The potential environmental impacts that may result from the mining activities for the Kalahari Manganese Mines.

4.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

4.2 Evaluation

4.2.1 Significance

The significance rating scale is as follows:

HIGH: Site must not be disturbed at all.

MEDIUM: The site will require mitigation before development proceeds.

LOW: The site might require mitigation before development commence.

VERY LOW: The site does not require mitigation and development can proceed with out any further action.

4.2.2 Certainty

DEFINITE: More than 90% sure of a particular fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a particular fact, or of the likelihood of impact occurring.

POSSIBLE: Only over 40% sure of a particular fact or of the likelihood of an impact occurring.

UNSURE: Less than 40% sure of a particular fact or likelihood of an impact occurring.

4.2.3 Duration

SHORT TERM: 0 to 5 years

MEDIUM: 6 to 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

Example

Evaluation

Impact	Significance	Certainty	Duration	Mitigation
Negative	high	> 90% sure	long: > 20 years	A

5. ARCHIVAL STUDY

5.1 INTRODUCTION

An archival / desktop study was done on the farms Umtu 281, Olive Pan, 282 and Gama 283

5.2 METHODOLOGY

As heritage surveys deal with the locating of heritage resource in a prescribed cartographic landscape, the study of archival and historical data, and especially cartographic material, can represent a very valuable supporting tool in finding and identifying such heritage resources.

Material from the following institutions was consulted:

- National Archives, Pretoria
- UNISA Library, Pretoria

5.3 ARCHIVAL/HISTORICAL MAPS

A number of maps depicting the study area were located. Enlarged sections of these maps are presented below. A short discussion on each of these maps is also made.

5.3.1 Merensky Map, 1887

(National Archives, Maps, 3/302)

The map depicted in **Figure 1** below is titled "*Original Map of South Africa*". It was compiled by Reverend A. Merensky and dates from 1887. The map does not appear to be all that accurate, but provides some idea as to the characteristics of the study area at the time (refer **Figure 1**).

It is evident from the enlarged map component below that many of the settlements in the general vicinity of the study area were located on the existing rivers. See for example 'Ga Maperi', 'Batlaros', 'Old Lattaku' and so forth.

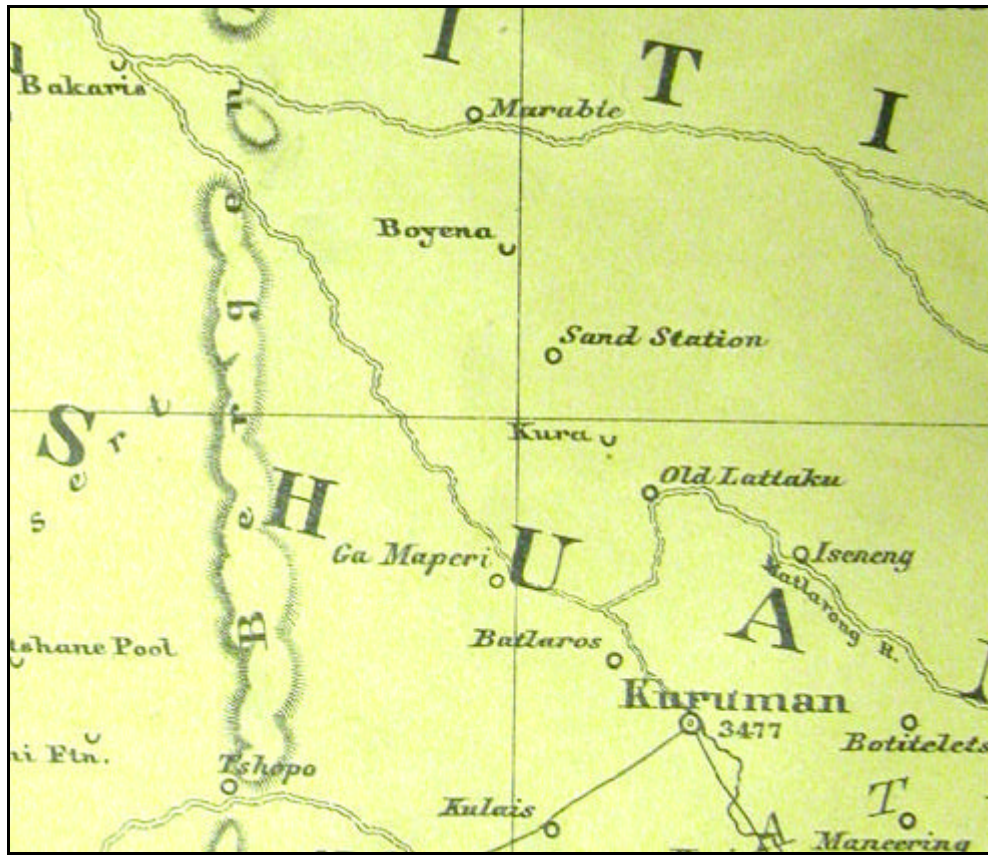


Figure 1 Map depicting the study area and surrounding region. Note that almost all the towns are situated on or near the main rivers (National Archives, Maps, 3/302).

5.3.2 “Kuruman”, Undated

(National Archives, Maps, 3/533)

This map is simply titled “Kuruman”, with no further information depicted thereon. Though undated, it seems to be contemporary to the map depicted in **Figure 4**.

An important observation to be made from this map, and something that is supported by the other data, is that the proclaimed farms at the time stretched only to the vicinity of the Kuruman River, with no proclaimed farms to the west of it. Although settlements are shown to the west of the said river, these are all located on the banks of the rivers.

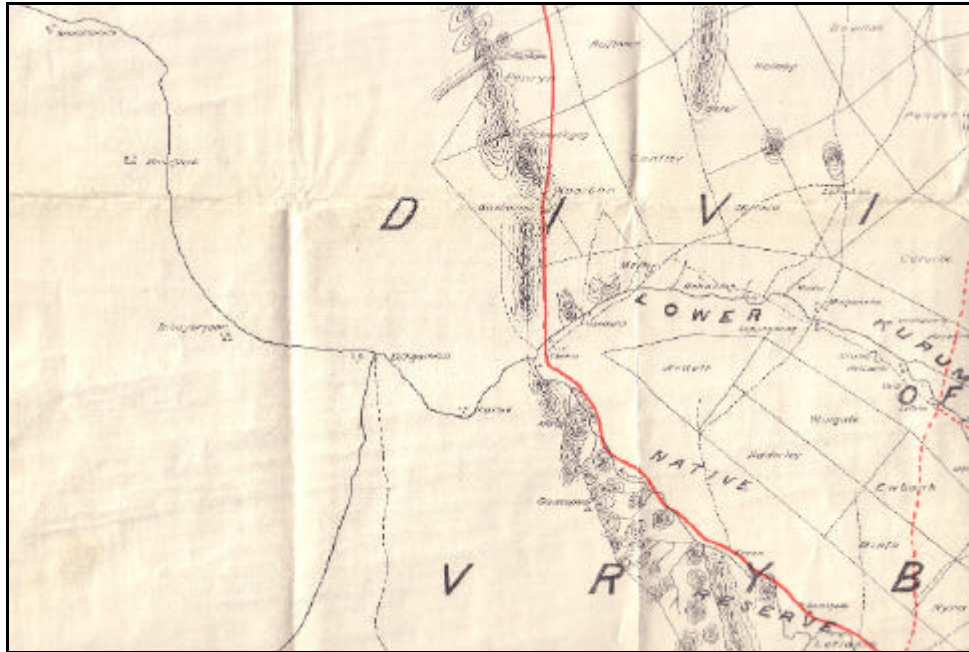


Figure 2 Depiction of the wider landscape surrounding the study area (National Archives, Maps, 3/533). The so-called *Lower Kuruman Native Reserve* is shown on the right.



Figure 3 Closer view on the study area and surroundings. Note the location of the towns close to river courses (demarcated in black line). A road (stippled line) can also be seen crossing over the vicinity of the study area from Dikgathlon southwards. (National Archives, Maps, 3/533).

5.3.3 British Bechuanaland Map, 1894

(National Archives, Maps, 1/441)

"Map of the Surveyed Portion of British Bechuanaland" was compiled by the Surveyor-General's Office in Vryburg. It is a relatively accurate map and importantly indicates the extent to which farms in the area have been proclaimed and demarcated. Note that the entire section in which the study area is located was still unsurveyed at the time with no farm boundaries shown. Refer **Figure 4**.

No settlement features or human activity centres are shown for the areas in which the farms under discussion are located. Almost all the settlements shown on this map are located on or near the rivers.



Figure 4 Map of wider landscape surrounding the study area (National Archives, Maps, 1/441). The *Lower Kuruman Native Reserve* is again shown to the east of the study area.

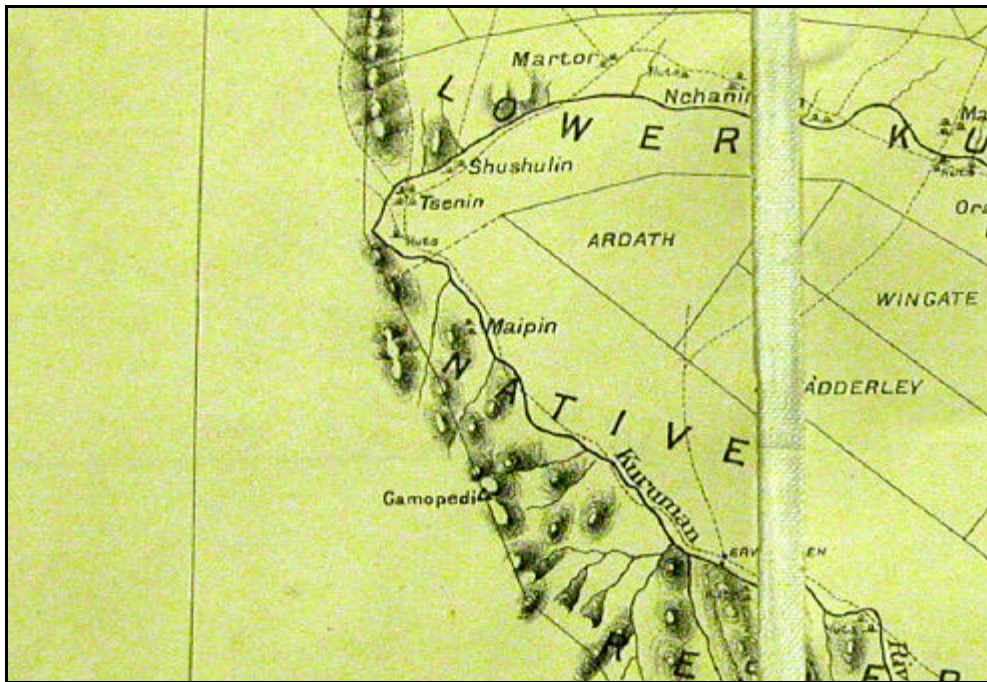


Figure 5 Enlarged view of study area and surroundings (National Archives, Maps, 1/441).

5.3.4 Geological Map, 1925

(National Archives, Maps, 2/304)

This map was made in 1925, and is titled the "*Geological Map of the Union of South Africa*". It was produced by the Geological Survey of the Department of Mines and Industries.

No settlement features or human activity centers are shown for the areas in which the farms under discussion are located. In the wider region, note that all the indicated settlements are located adjacent to the rivers. These include settlements such as Dikgatlon, Batlaros and Gamopedi. Another interesting aspects shown on the map is the indication of the Lower Kuruman Native Reserve.

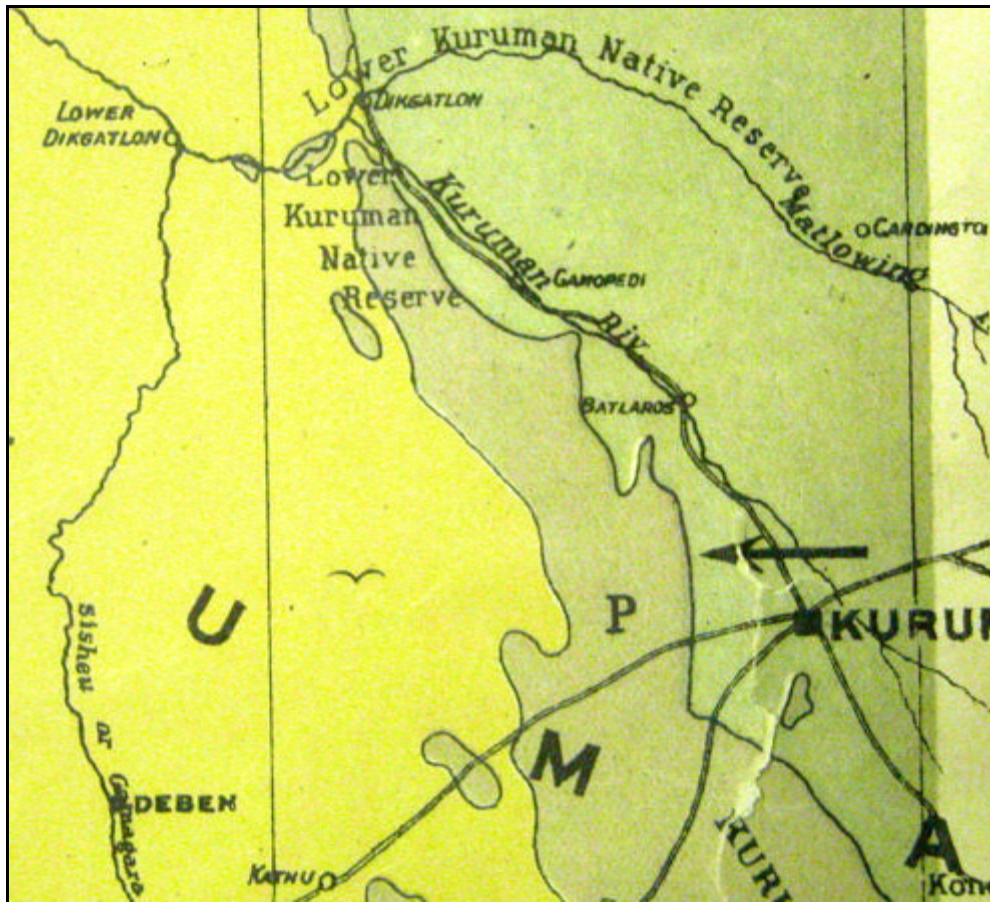


Figure 6 Geological map of the study area and surrounding region (National Archives, Maps, 2/304).

5.3.5 Orange River Sheet 3, 1945

(National Archives, Maps, 2/1085)

This map is titled "Orange River Sheet 3", and dates from 1945. It was produced by the Union Defence Force (U.D.F.), and although the edition looked at is dated 1945, it appears to have been drawn during 1942. The map provides a general view on the study area and surrounding region (refer **Figure 7**).

No settlement features or human activity centres are shown for the areas in which the farms under discussion are located. Note the way in which the secondary road (thin brown line) follows the rivers. Only the smaller roads (brown stippled line) cross over the waterless areas. Furthermore, three Post

Offices are shown, all located on the rivers. Although three mines are shown, these are all situated closer to Kuruman. No mines are shown for the areas under discussion.

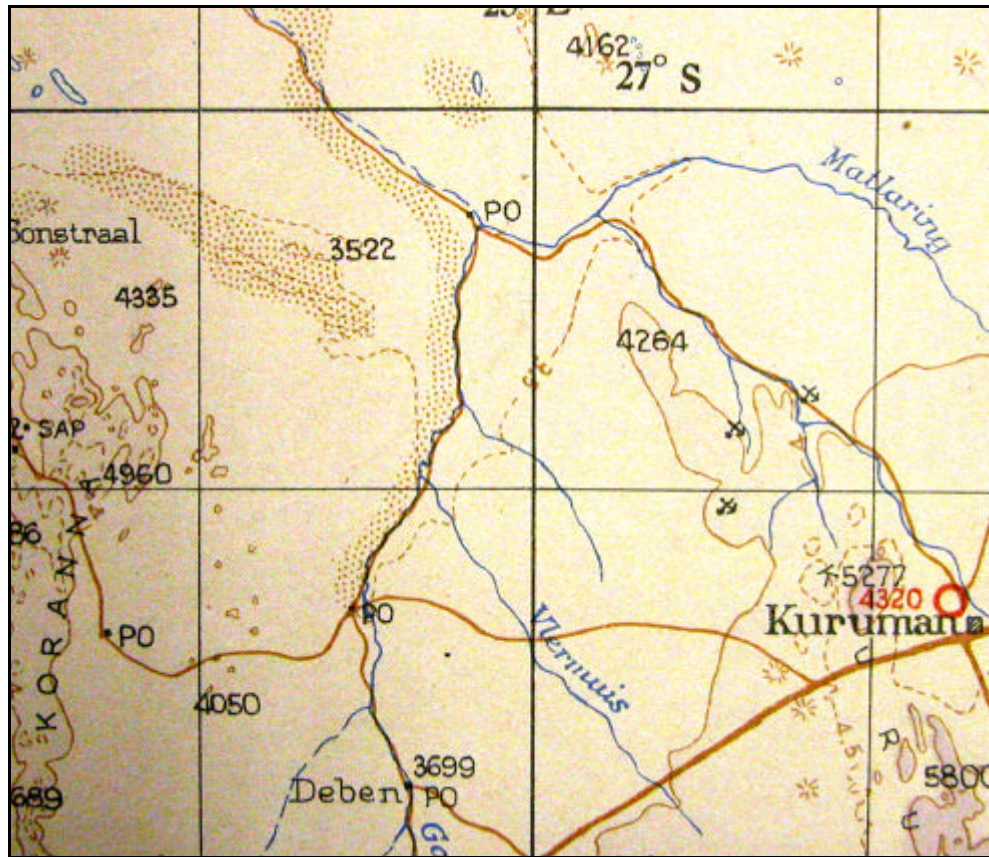


Figure 7 Map depicting the study area and surrounding region (National Archives, Maps, 2/1085).

5.4 ASPECTS OF THE AREA'S HISTORY AS REVEALED BY THE ARCHIVAL/DESKTOP STUDY

5.4.1 Settlement during the Later Stone Age

A number of Stone Age sites are known for the area surrounding Kuruman as well as along the Kuruman River. Some of these sites contain rock engravings as well, such as Nchwaneng and Tsineng.

As the wider landscape became increasingly inhabited, the San were forced to move further west and northwest to remain in the vicinity of wild game (Snyman, 1992).

5.4.2 Early Black Settlement during the Late Iron Age and Historic Period

The Tlharo seems to have been the first Tswana group to enter the Kuruman area. They originated from the Hurutshe further to the north-east, and after splitting from this group during the end of the 17th century, moved in a southern direction down the Molopo River. Their early settlements included Khuis, Madibeng, Heuningvlei, Langeberg and Tsineng (Snyman, 1992). As mentioned earlier, the town of Tsineng (Tsenin) is located in the general vicinity of the present study area.



Figure 8 *"Tlharo of the Kalahari Desert"* A sketch that appeared in Dr. Andrew Smith's travel journal (Lye, 1975:171).

The second important Tswana group from the wider area is the Tlhaping. They originated from the Rolong and during the mid-1700s moved southward along the Harts and Vaal Rivers to the vicinity of Campbell from where they traveled westwards into the area falling between Tsantsabane and Majeng on the edge of the Kalahari Desert. The Tlhaping established a capital on a perennial river known as Nokaneng. Their ruler during this time was king Maswe. Although the exact locality of Nokaneng is not known, one possibility is that the present non-perennial river Ga-Mogara used to be the Nokaneng River. This possibility was supported by the missionary John Campbell who in 1820 referred to the Ga-Mogara River as the Nokaneng (Snyman, 1992). Interestingly, Robert Moffat indicated Nokaneng to have been situated to the east of the

Langeberg. This said, it is important to note that Breutz (1992) stresses the point that the actual capital Nokaneng was in fact located in the direct vicinity of Postmasburg.

During the reign of Molehabangwe, who had succeeded his father Maswe in 1775, a confederation was formed which consisted of a stratified society comprised of the Tlhaping, Rolong, Tlharo, Kgalagadi and San. While the Tlhaping was seen as the ruler class, the Kgalagadi and San were viewed as vassals (Snyman, 1992).

The Tlhaping conducted extensive trading activities with the Korana to the south and the Tswana to the north. During 1770 some of the Korana groups crossed the Orange River and came to the land of the Tlhaping. Although the initial contact was peaceful, conflict soon erupted. The better-armed Korana managed to force the Tlhaping out of the area in approximately 1790. This move was further augmented by the fact that the Nokaneng River had dried up. The Tlhaping first moved to Kathu and then to Ga-Mopedi on the Kuruman River. The Tlhaping eventually established themselves at Dithakong on the Moshaweng River (Snyman, 1992).



Figure 9 “Tlhaping women cultivating gardens and singing” One of the sketches appearing in Dr. Andrew Smith's journal (Lye, 1975:171).

5.4.3 European Explorers and Visitors

Two of the more well known early European explorers to these areas were Dr. Hinrich Lichtenstein in 1805 and Dr. Andrew Smith during 1835.

5.4.3.1 The journey of Lichtenstein (1805)

After crossing the Orange River in the vicinity of present-day Prieska, Lichtenstein's party visited present-day Danielskuil, and by June 1805 they were at Blinkklip (Potsmasburg). From here they traveled further north and reached the Kuruman River where they met Tswana-speaking people. They followed the river downstream for three days, after which they followed a tributary to reach Lattakoe. From here they turned south and reached the Orange River on 11 July 1805.

While on their way to the Kuruman River (and to the south thereof), Lichtenstein and his fellow travelers visited a small settlement consisting of *"...about thirty flat spherical huts."* Although the people who stayed here were herdsmen who looked after the cattle of richer people living on the Kuruman River, they indicated that San (Bushmen) were also present in the area.

Lichtenstein's party subsequently traveled further north to visit the capital of King Muliawang located on a plain in the vicinity of the Kuruman River. He described the town as consisting of six hundred houses with 5000 inhabitants. The individual dwellings were described as follows: *"The houses were all of a circular form, with the roof running up to a point; the roof rests on a circle of poles, which are united together below by thin walls of loam; above, for a little way below the roof, they are left open to admit light and air."* (Lichtenstein, 1930:373). Lichtenstein also indicated that hedges were used as cattle enclosures.

5.4.3.2 Andrew Smith's journey (1835)

Dr. Andrew Smith's expedition into the interior of Southern Africa can be seen as one of the highlights of the era of exploration and travel into these regions of Africa. After some traveling, which included a visit to Mosjesj, Smith's party crossed over the Vaal River and after reaching this river's confluence with the Harts, followed it to Boetsap and subsequently reached Kuruman (Bergh, 1999).

Smith met Robert Moffat at Kuruman, and during this time made a journey all along the Kuruman River to Tsineng from where he traveled south to the Langeberg. Returning to Tsineng, Smith traveled north to Heuningvlei before returning back to Kuruman (Bergh, 1999).

For the aims of the present study, it is especially Smith's journey from Tsineng to the Langeberg and back which is most interesting. The route followed by Smith seems to have been the Ga-Mogara River, and as such his route crossed over portions of the present study area.

In the vicinity of Tsineng Smith found a number of springs which the local people called Malichana. He observed a small group of Tswanas (*Bituanas*) as well as a Griqua family staying near the springs, and indicated that the Tswana group conducted agricultural activities in gardens laid out near the springs.

From Tsineng Smith's party traveled all along the bank of the Kuruman River, presumably to the confluence of the Ga-Mogara River. On this stretch of the journey Smith observed "*...a number of almost naked natives in the distance carrying ostrich shells and something resembling leather sacks upon their shoulders...*" (Lye, 1975:181). These people were on their way to a water hole, which had been excavated some seven meters deep. Anyone wishing to obtain water had to climb down the hole making use of footholds along the sides.

5.4.4 British Protectorate

On 23 March 1885 Britain declared a Protectorate over Bechuanaland and the Kalahari. On 30 September 1885 the Protectorate was divided into two parts. The area north of the Molopo River remained the Bechuanaland Protectorate and up to 1895 was administered from Vryburg, after which the capital was moved to Mafeking. The area south of the Molopo became the Crown Colony of British Bechuanaland with its capital at Vryburg (Tlou & Campbell, 1997). This area included the present study area as well as Kuruman.

In accordance to Act 31 of 1895 the area south of the Molopo River, namely British Bechuanaland, was included in the Cape Colony. This took place during November 1895 (Smit, 1966).

5.4.5 Historic Black Settlement

5.4.5.1 Situation at the beginning of the 19th century

When Reverend Robert Moffat first arrived in the Kuruman area in 1819 he found the Tlhaping settled at Maropin in the Kuruman Valley under their ruler Mothibi. They subsequently moved upstream to the vicinity of present-day Kuruman.

During the same time Moffat found the BaTlharo established at Tsening.

In a document written by the Superintendent of Natives on 3 November 1921, it is indicated that before the farms to the west of the Lower Kuruman Native Reserve were surveyed and ceded to different white farmers, the black people of the area "*...had the run of the whole country to the Moshewing River on the one side and the Gamagara River on the other...*" and grazed their

livestock and conducted agricultural activities over these vast tracts of land. In an associated petition document drawn up by the Thlaro people of Bathlaros, they indicated that their agricultural lands and cattle posts used to stretch in a westward direction all the way to the "Dibeng" River, which appears to be the present-day Ga-Mogara River (NTS, 7752, 22/335).

5.4.5.2 Lower Kuruman Native Reserve

On 4 May 1895 the Lower Kuruman Native Reserve as well as a number of other so-called native reserves was established by virtue of Bechuanaland Proclamation No. 220 of 1895. These reserves were demarcated as part of a commission which investigated land claims and land settlement in British Bechuanaland. A subsequent report titled *"Report of the Commissioners appointed to determine land claims and to the effect of a land settlement in British Bechuanaland"* and published in 1896, contained all the findings of the commission (Breutz, 1963).

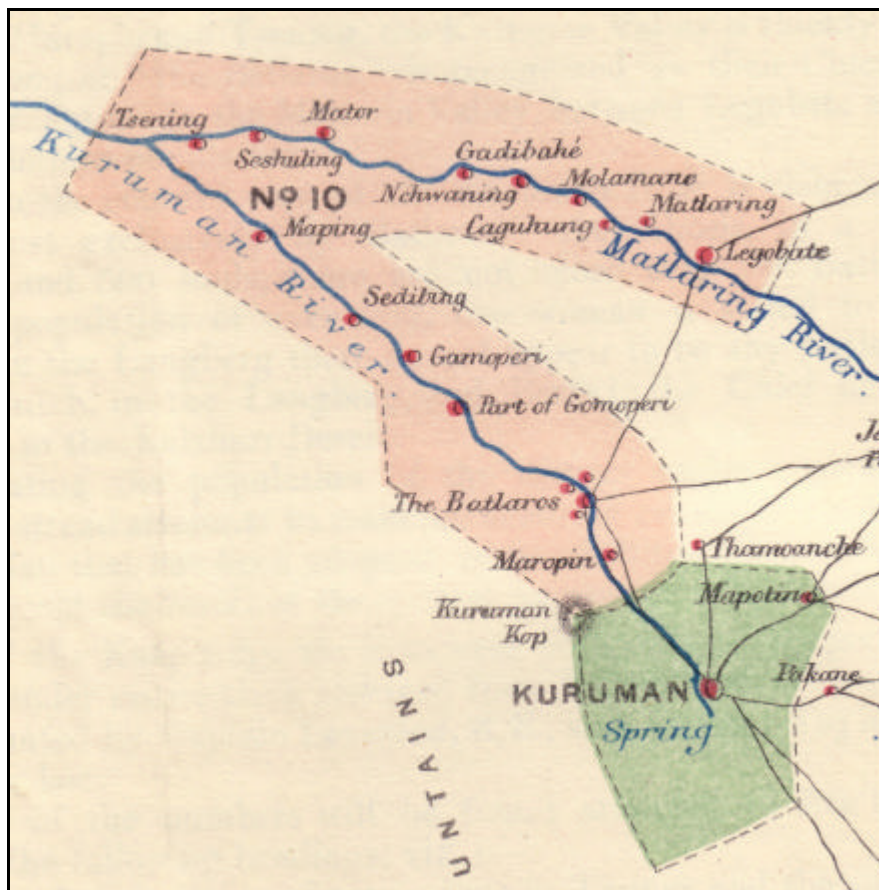


Figure 10 Map showing the original demarcation of the Lower Kuruman Native Reserve.

At the time of its establishment, the Lower Kuruman Native Reserve had a population of 5425, and being 225 square miles in extent, had a population density of 26.5 acres per individual. With time, the population density increased. Livestock numbers also increased drastically. As a result of these pressures the size of the reserve was subsequently extended.

During negotiations and discussions on such an expansion of the reserve, it was indicated that a number of black people were residing outside the boundaries of the reserve. In a police report dated 22 January 1908 a list is provided of all the people, white and black, residing “...on the banks of the Kuruman River north of the surveyed farms in the Sishen Valley.” (refer Figure 12). This document provides an indication of human habitation in the direct vicinity of the study area during the early 1900s. One interesting observation to be made from the document is that some of the persons who acted as borehole watchmen were black. For example, Hans Gaboerkwe had been living at Dibiachomo since 1899 and was tasked with keeping the well open (NTS, 7752, 22/335).

5.4.6 The Langeberg Rebellion

During 1897 conflict broke out between the authorities and a Thlaping leader from Taung, Galeshiwe. The conflict arose after some of Galeshiwe's cattle that were infected by Rinderpest had to be destroyed. After killing an officer, Galishewe fled to the Thlaro leader Toto of the Langeberg. A full-scale rebellion broke out that was eventually suppressed (Breutz, 1963).

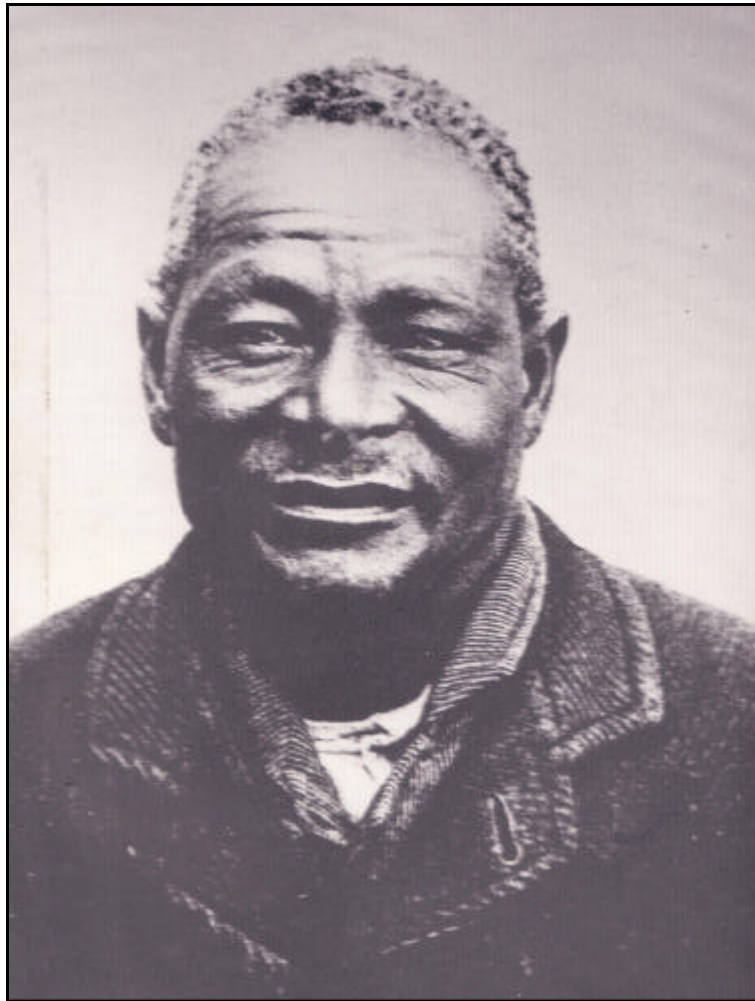


Figure 11 Galeshiwe (National Archives, TAB, 36277).

Although most of the activities associated with the rebellion took place away from the study area and surrounding region, it is evident from the historical records documenting the rebellion that some activities did take place in the vicinity. On 13 June 1897, for example, a battle took place between Inspector Berrangé's Cape Police and a large force under Galishiwe at Tsineng (Dalgerty, 1898). Another incident which took place in the area was the killing of J.P. and Edward Drotskie in the vicinity of Boeredraai (Snyman, 1992). It can be expected that the movement of military units must have taken place a number of times in the area as well. From the British records, for example, it is known that military patrols traversed the area between Kuruman and Tsineng, as well as along the Ga-Mogara river. Furthermore, on 20 June 1897 a large force of "rebels reinforcements" were observed between Upper and Lower Dikgathlong on their way to the Langeberg.

5.4.7 Settlement of White Farmers

5.4.7.1 Background information on the settlement of white farmers in the area

According to Smit (1966) the farm Boerdraai 228, which is adjacent and to the west of the farm Wessels 227, was always seen as situated on the edge of the real desert.

Although some white farmers did travel down the Kuruman River to settle in the vicinity of Boeredraai during the latter part of the 19th century, by 1897 most of them had moved away again.

The first white people to settle on a permanent basis in the area were the Le Roux family who established themselves at Dikgathlon. More families followed and subsequently also settled in the area. During a period of great drought between 1907 and 1908 many farmers of the then Cape Colony moved into these areas along the edge of the Kalahari Desert in search of better grazing for their cattle (Smit, 1966).

Schedule of persons living on banks of the Kuruman River north of surveyed farms in Sishen Valley.				
Name of spot	Name of occupier	Nation-ality	Resident since what date	Authority
Gasese	F.von Kradenberg	E	Sept. 1907	Grazing licence
"	J. Thomas	E	Sept. 1907	"
"	J. Drotski	E	March 1904	"
Rucheon	B.L.Drotaki	E	1893	"
Upper Dikgatlon	Z.P.le Roux	E	March 1905	"
"	J. le Roux	E	Aug. 1906	"
"	B. Korsens	E	Aug. 1907	"
"	P. Jacobs	E	Dec. 1907	In charge of Z.P. le Roux's stock, Z.P. le Roux (Grazing licensee) absent temporarily
"	40 Natives		1894	Occupying 10 huts. Pay hut tax.
Dibeakgomo	Hans Gaboerkwe	N	1899	Permission to live there to keep wells open.
Boerdraai	Hans Goliath	N	May 1906	
Mmphepha	Poleal and 59 others	N	1894	Permission to live there to keep water open
Lower Dikgatlon (Latlhakane)	Kanyan and 69 others	N	1894	Permission to reside there pending the surveying of a Native Reserve. Pay hut tax.
Matlapaning	30 persons	N		Squat there during rainy season, 3 to 4 months in each year. Pay hut tax.

Figure 12 Police document listing all the people who resided on the banks of the Kuruman

River at the time of an inspection in 1908. The names of a number of the early white pioneers in the area are also listed here.

When the First World War (1914-1918) broke out, and the South African Union Government decided to attack German South West Africa, the Union troops needed water to sustain them along the way. As a result a number of boreholes were dug all along the banks of the Kuruman

River. These boreholes were erected at places such as Eensaam, Kameelrus, Murray, Springputs and Van Zylsrus (Smit, 1966; Van der Merwe, 1949).

After the war, farmers established themselves at these localities as borehole watchmen, and in exchange for these duties were allowed free grazing rights on the surrounding land. Subsequently, even more boreholes were sunk by the Department of Lands (Smit, 1966; Van der Merwe, 1949).

Since the formulation of the Land Settlement Act No. 12 of 1912 as amended by Act No. 23 of 1917, numerous farms in the vicinity of the study area had been allocated to white farmers. By 1921 almost all of the land surrounding the *Lower Kuruman Native Reserve* had become occupied.

At the end of the First World War the Department of Lands started distributing the farms on application under very lenient conditions. Many of the people who was already established as borehole watchmen and tenants were given first choice to apply for the farms on which they were residing (Smit, 1966).

Many farms were distributed during this time, so much so that by 1929 all the farm up to Vanzylsrust was already handed out (Smit, 1966).

5.4.7.2 Farm Surveys

During the 1910s a full scale survey of large portions of the region was undertaken by Dirk Roos and Hendrik Wessels. While Wessels was concerned with the surveying of the farms from Dingle and Sishen up to Cobham and Shirley, Dirk Roos was responsible for the surveying of the farms from Mamatwan in the south to areas further north of the Kuruman River (Samangan, 1977).

Many stories are told about these two pioneering characters. As they were allowed to name the farms they surveyed, most of the farms names appearing on maps of the area were created or thought of by them. The farm Wessels, for example, was named by Dirk Roos in honour of his colleague Hendrik Wessels. Mamatwan, another farm forming part of this study, was derived from the Tswana name for a bat.

One of the more well-known stories relates to the naming of the farm Hotazel. Dirk Roos was assisted at the time by Veldcornet J.U. Waldeck. One evening, after a long day's work in the hot Kalahari sun Roos sat down at the camp and remarked: "*What about a name for the farm? Phew!*"

What a day! What a place! Hot as hell." Waldeck replied with the words *"That's it. The perfect name for it – hot as hell"* (Samangan, 1977:19 & 20). The wording was slightly changed and *"Hotazel"* was written as the farm name on the survey diagram.

5.5 POSSIBLE HERITAGE SITES

As mentioned elsewhere, a number of old houses are shown on the old survey diagrams for the farms Wessels and Middelplaats. Should any of these houses be located today, they would be quite old. These houses represent some of the earliest white settlement in the area and as such can be seen as quite important.

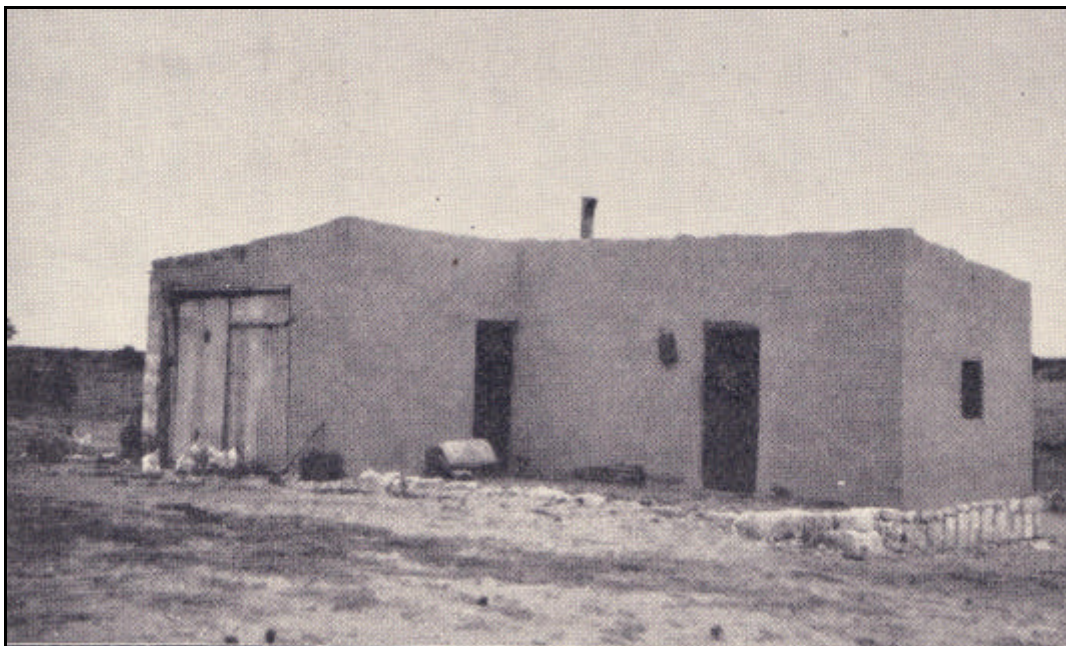


Figure 13 Historic photograph of an early farmer's dwelling along the Kuruman River (Van der Merwe, 1949).

Many of the archival maps show an old road following the Ga-Mogara River. This road seems to at least have existed during the 1890s. It is possible that the old road transects some of the properties included in this study.

5.6 CONCLUSIONS

This archival study has revealed important aspects about the history of the area. Certainly some of the key things that came out of the study is firstly the relative low human presence for the dry

regions surrounding the study area and secondly the tendency for human settlements in these areas to be located on or near the water courses.

6.SITES OF SIGNIFICANCE

The following section outlines the sites identified in the development area, and evaluates them according to the evaluation criteria of the National Heritage Resources Act.

6.1 2722BB-MHC001

The site is characterised by a small cemetery consisting of two graves of the Boshoff family. The graves date between 1938 and 1946 and have headstones.



Figure 14 – Cemetery viewed from the east

The site is highly significant

Impact	Significance of site	Certainty	Duration	Mitigation
Negative Low	High	Probable	Short	A

Mitigation

A 10 metre protection buffer must be kept around the graves during drilling in the vicinity. Due to the fact that only underground mining will take place in the area of the graves no further mitigation will be required, except for keeping the current fence intact.

6.2 Archaeological Sensitive areas

As with previous surveys in the Hotazel area, the only archaeological sensitive areas occurred in where the property is characterised by a dry riverbed that exposed limestone and pebble deposits. The area is however restricted to a zone of approximately 50 meters from the centre of the river bed that extends north towards Vlermuistlaagte in which the Ga-Mogara perennial river runs.

Previous reconnaissance of Vlermuistlaagte confirmed localised occurrences of low density Stone Age scatters along the exposed lime stone areas. These lime stone outcrops and the dune areas can be marked as archaeological sensitive areas.

In the vicinity of **2722BB-MHC001**, a large exposed area of pebble deposit contains a low density of lithics consisting of minimal cores, chunks, retouched and backed scrapers, unfinished blades, and rough cores. The raw material was sourced from the area and consists mainly of chert and dolomite. The pebble deposit varies from 20 – 40 cm and occurs between the sand and lime stone deposits. This area is earmarked for prospecting drilling for the identification of the underground ore reserve extent. Three sites have been listed in the maps provided, all within a 100 metre radius from **2722BB-MHC001**.

Impact	Significance of site	Certainty	Duration	Mitigation
Negative Low	High	Probable	Short	A

Mitigation

- It is recommended that this area be avoided during prospecting operations.
- No further mitigation will be required during mining as this area will not be impacted on.



Figure 15 – Exposed pebble and sand terracing



Figure 16 - Pebble deposit thickness



Figure 17 – Lithic assemblage found in study area



Figure 18 – Bi-polar flake



Figure 19 – Lithic assemblage found in study area

7. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Although Matakoma Heritage Consultants surveyed the area as thorough as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

8. LEGAL AND POLICY REQUIREMENTS

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter or disturb them. People who already possess material are required to register it.

The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place.

The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the developer's cost. Thus developers will be able to proceed without uncertainty about whether work will have to be stopped if a heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;
- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1 (xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

If it is necessary to refer to any of the above-mentioned objects, the National Heritage Act (Act 25 of 1999 Sections 31-38) are included in Appendix 2.

Under the new National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection, to all historic and pre-historic cultural remains, including graves and human remains.

- Graves younger than 60 years fall under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the Office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning or in some cases the MEC for Housing and Welfare. Authorisation for exhumation and reinterment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. In order to handle and transport human remains the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

- Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act) as well as the Human Tissues Act (Act 65 of 1983) and are the jurisdiction of the South African Heritage Resource Agency (SAHRA). The procedure for Consultation Regarding Burial Grounds and Graves (Section 36(5) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years over and above SAHRA authorisation. If the grave is not situated inside a formal cemetery but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws set by the cemetery authority must be adhered to.

Refer to **Annexure A** for further information on legislation.

9. RECOMMENDATIONS AND CONCLUSION

A map of the surveyed areas are provided in **Annexure B**.

Site 2722BB-MHC001

A 10 metre protection buffer must be kept around the graves during drilling in the vicinity. Due to the fact that only underground mining will take place in the area of the graves no further mitigation will be required, except for keeping the current fence intact.

Archaeological Sensitive areas

- It is recommended that this area be avoided during prospecting operations.
- No further mitigation will be required during mining as this area will not be impacted on.

10. MANAGEMENT GUIDELINES

1. The National Heritage Resources Act (Act 25 of 1999) states that, '
any person who intends to undertake a development categorised as-
(a) *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
(b) *the construction of a bridge or similar structure exceeding 50m in length;*
(c) *any development or other activity which will change the character of a site-*
(i) exceeding 5 000m² in extent; or
(ii) involving three or more existing erven or subdivisions thereof; or
(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) *the re-zoning of a site exceeding 10 000m² in extent; or*
(e) *any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,*

must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

In the event that an area previously not included in an archaeological or cultural resources survey, is to be disturbed. The South African Heritage Resources Agency (SAHRA) needs to be contacted. An enquiry must be lodged with them into the necessity for a Heritage Impact Assessment.

2. In the event that a heritage assessment is required it is advisable to utilise a qualified heritage practitioner preferably registered with the Cultural Resources Management Section (CRM) of the Association of Southern African Professional Archaeologists (ASAPA). *Refer to subsection 8.*

This survey and evaluation must include:

- (a) The identification and mapping of all heritage resources in the area affected;
 - (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7 of the National Cultural Resources Act;
 - (c) an assessment of the impact of the development on such heritage resources;
 - (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
 - (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
 - (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
 - (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.
3. It is advisable that an information section on cultural resources be included in the SHEQ training given to contractors and mine employees involved in surface earthmoving activities and prospecting drilling. This sections must include basic information on:
 - a. Heritage
 - b. Graves;
 - c. Archaeological finds; and
 - d. Historical Structures;

This module must be tailor made to include all possible finds that could be expected in that area of construction.

4. In the event that a possible find is discovered during construction, all activities must be halted in the area of the discovery and a qualified archaeologist contacted.
5. The archaeologist needs to evaluate the finds on site and make recommendations towards possible mitigation measures.
6. If mitigation is necessary, an application for a rescue permit must be lodged with SAHRA.
7. After mitigation an application must be lodged with SAHRA for a destruction permit. This application must be supported by the mitigation report generated during the rescue excavation. Only after the permit is issue may such a site be destroyed.
8. If during the initial survey sites of cultural significance is discovered, it will be necessary to develop a management plan for the preservation, documentation or destruction of such site. Such a program must include a watching brief, timeframe and agreed upon schedule of actions between the company and the archaeologist.
9. In the event that human remain are uncovered or previously unknown graves are discovered a qualified archaeologist needs to be contacted and an evaluation of the finds made.
10. If the remains are to be exhumed and relocated, the relocation procedures as accepted by SAHRA needs to followed. This includes an extensive social consultation process

Matakoma Heritage Consultants can be contacted on the way forward in this regard.

11. LIST OF PREPARES

Wouter Fourie, BA (Hon) Archaeology (UP)

Jaco van der Walt, BA (Hon) Archaeology (WITS)

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- National Archives, Maps, 3/533

Archival Photographs

- National Archives, TAB, 16396
- National Archives, TAB, 36277

ANNEXURE A

Legislation extracts

[36]36 Burial grounds and graves

(1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

(3) (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-

(a) destroy, damage, alter, exhume or remove from its original position or 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, 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 equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3) (a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3) (b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority-

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56 (2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

[37]37 Public monuments and memorials

Public monuments and memorials must, without the need to publish a notice to this effect, be protected in the same manner as places which are entered in a heritage register referred to in section 30.

[38]38 Heritage resources management

(1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000m² in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)-

(a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or

(b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2) (a): Provided that the following must be included:

(a) The identification and mapping of all heritage resources in the area affected;

(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7;

(c) an assessment of the impact of the development on such heritage resources;

(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;

(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;

(f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

(g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide-

(a) whether or not the development may proceed;

- (b) any limitations or conditions to be applied to the development;
- (c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;
- (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
- (e) whether the appointment of specialists is required as a condition of approval of the proposal.

(5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.

(6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who-

- (a) must consider the views of both parties; and
- (b) may at his or her discretion-
 - (i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority; and
 - (ii) consult SAHRA; and
- (c) must uphold, amend or overturn such decision.

(7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act 73 of 1989), or the integrated environmental

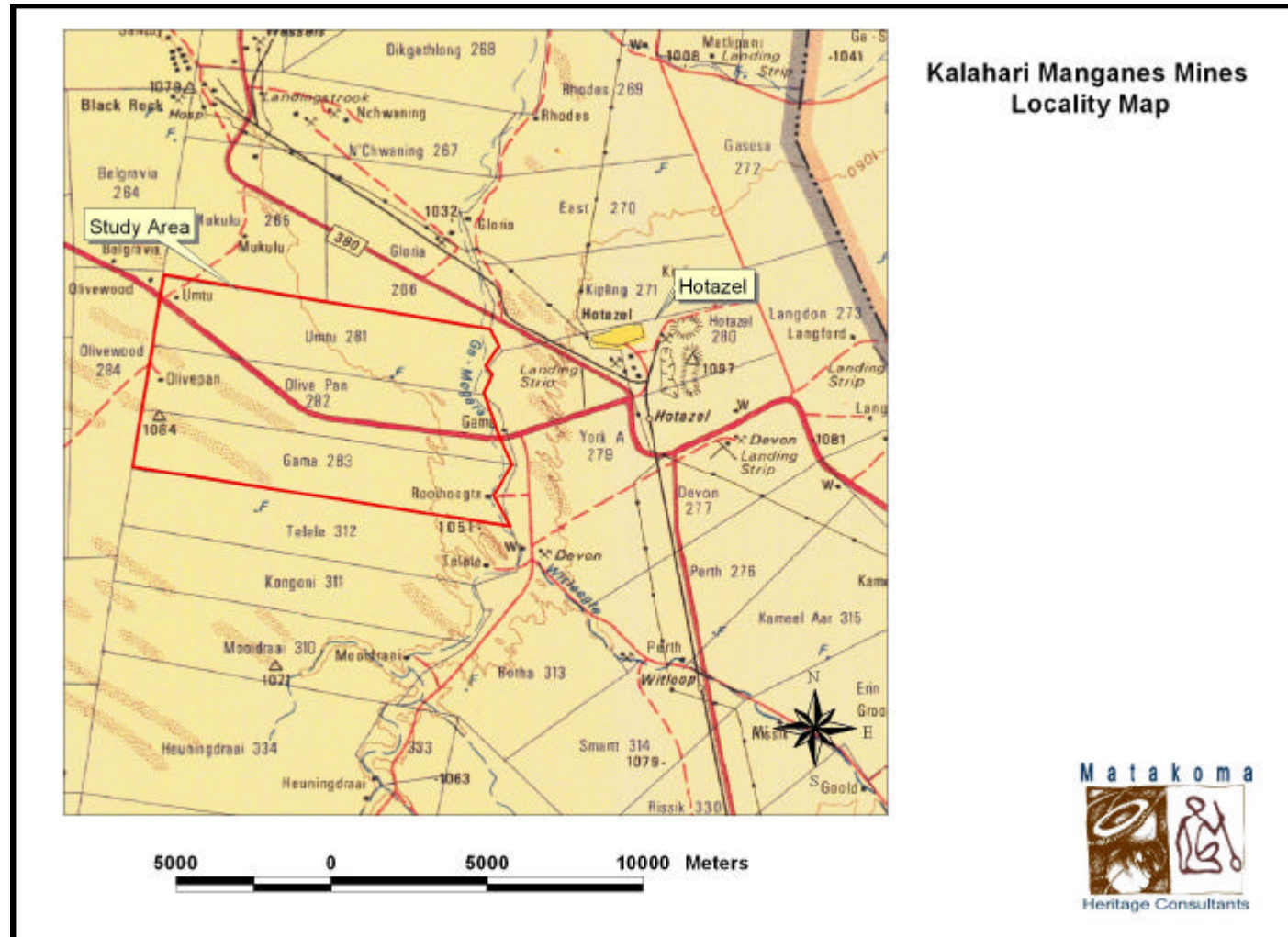
management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

(9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the Provincial Gazette, exempt from the requirements of this section any place specified in the notice.

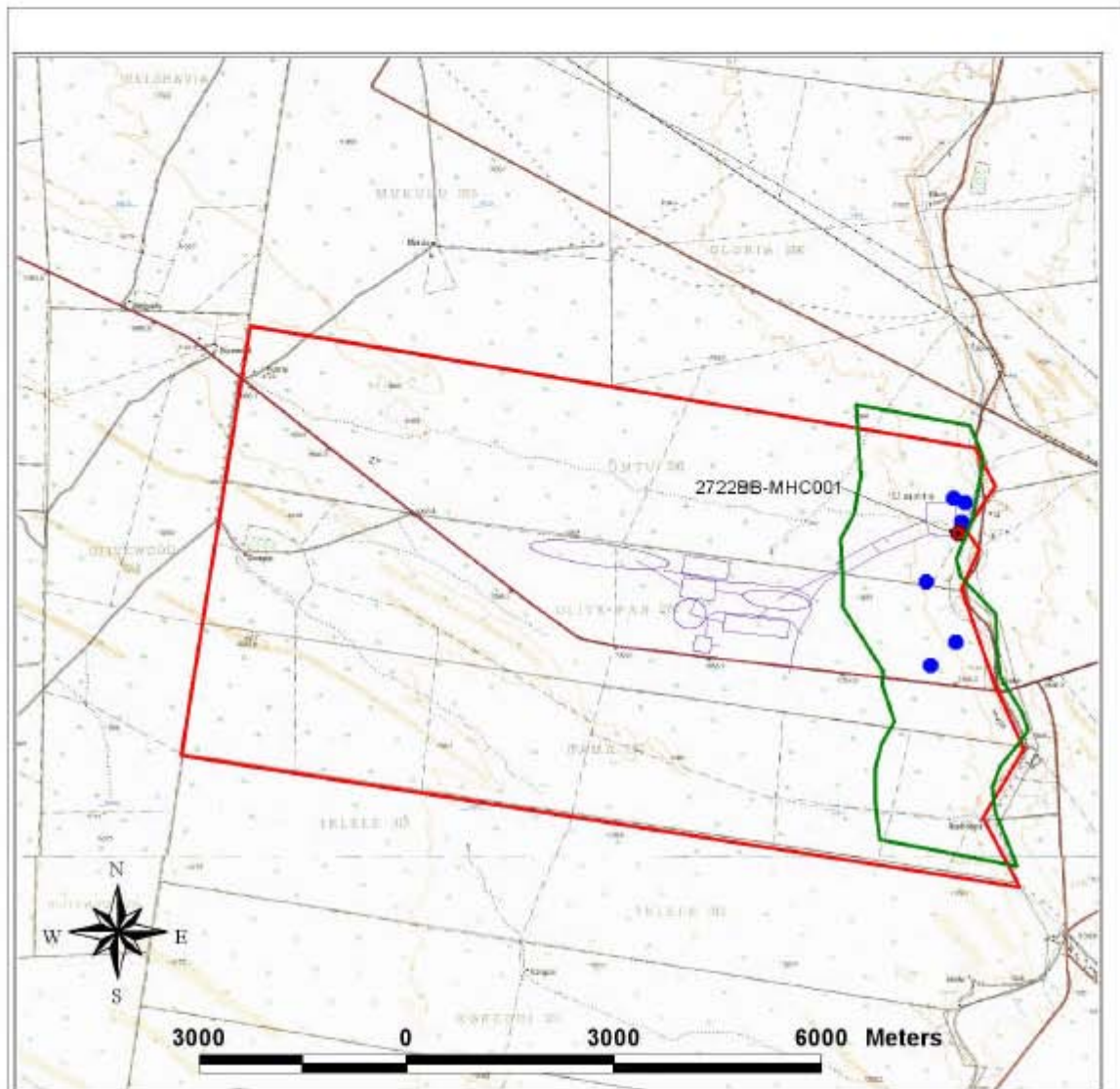
(10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any existing heritage agreements made in terms of section 42 must continue to apply.

ANNEXURE B

Map of study areas



Heritage Sensitive Areas and Sites



Kalahari Manganese Mines Heritage Sites

