

**ARCHAEOLOGICAL IMPACT ASSESSMENT: PROPOSED
PROSPECTING ON REMAINDER OF THE FARM MACARTHY 559
(NEW), OLIFANTSHOEK, NORTHERN CAPE.**

(Assessment conducted under Section 38 (8) of the
National Heritage Resources Act No 25 of 1999)

Prepared for
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EXECUTIVE SUMMARY

The Archaeology Contracts Office at the University of Cape Town was appointed by Coza Mining (Pty) Ltd to undertake an Archaeological Impact Assessment prior to a new prospecting application on the remainder of Macarthy 559 located between Olifantshoek and Postmasburg in the Northern Cape Province.

Very little is known of the archaeology of the area. Prior research in the region, conducted by Webley et al. (2010), Webley & Halkett (2010), Webley & Halkett (2008) confirm the distribution of Middle and Later Stone age artefacts in calcrete deposits around pans.

A baseline archaeological survey was conducted by Lita Webley and David Halkett on 17 & 18 August 2010.

The size of the area meant that we were unable to conduct a detailed foot survey and we had to target specific areas which we considered more likely to contain archaeological sites. This included ridges, pans and river valleys. We are confident that we covered the most sensitive areas and that a detailed AIA is unlikely to produce significantly more sites.

During the survey, scatters of stone artefacts were found in areas below the hill. They are not considered to be significant. The Macarthy farmhouse falls inside the prospecting area but is not considered to be under immediate threat, as the drilling will be concentrated on the hill.

The survey failed to identify any significant heritage resources which will be impacted during the drilling process. However, we advise that prospecting work should cease if any of the following are uncovered:

- Human remains/graves
- Concentrations of stone tools or faunal remains
- Stone walling or any sub-surface structures
- Fossils

If any of the above is uncovered, SAHRA should be notified so that an archaeologist/palaeontologist can investigate further.

Further, if viable deposits of iron ore and manganese are discovered then the Macarthy farmstead is vulnerable. The scale of open cast iron ore mining means that large areas will be impacted by secondary activities related to the mining. For this reason, it is suggested that more detailed mapping of the homestead is undertaken if the application proceeds to mining.

GLOSSARY

ESA:	Early Stone Age – The archaeology of the Stone Age between 700 000 and 2500 000 years ago.
Khoekhoen:	Pastoralist groups, with cattle, sheep and pottery who settled in southern Africa around 2000 years ago.
Khoisan:	Collective term relating to both the Khoekhoen and the San.
LSA:	Later Stone Age – The archaeology of the last 20 000 years associated with fully modern people.
MSA:	Middle Stone Age - The archaeology of the Stone Age between 300 000 – 20 000 years ago associated with early modern humans.
NHRA:	National Heritage Resources Act, No 25 of 1999.
SAHRA:	South African Heritage Resources Agency
San:	Indigenous hunter-gatherer groups who lived in small bands spread across a wide area of southern Africa.

1. INTRODUCTION

The Archaeology Contracts Office at the University of Cape Town was appointed by Coza Mining (Pty) Ltd to undertake an Archaeological Impact Assessment prior to a new prospecting application on the remainder of Macarthy 559 located between Olifantshoek and Postmasburg in the Northern Cape Province (Figure 1).

The Department of Minerals and Energy in Kimberley advised that in terms of the legislation an Archaeological Impact Assessment would be required.

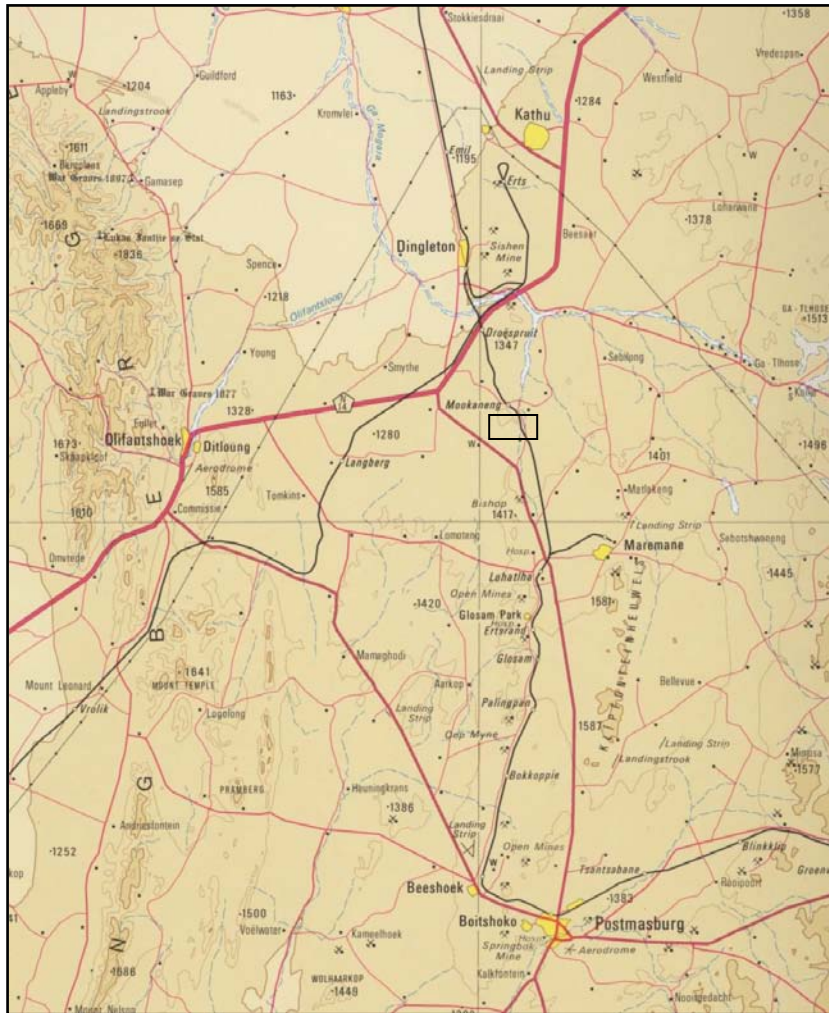


Figure 1: The approximate position of Macarthy 559 located on the R325, between Olifantshoek and Postmasburg.

2. BACKGROUND TO PROSPECTING

Coza Mining (Pty) Ltd intends to conduct a series of drilling programmes to prospect for iron ore and manganese on Driehoekspan 435, Doornpan 445, Jenkins 562 and Macarthy 559 between Postmasburg and Olifantshoek. *This report is concerned with prospecting on the remainder of Macarthy 559 which*

belongs to Assmang Limited. The farms adjoining Macarthy are part of the Assmang Khumani Mine. Drilling will be conducted from truck mounted drilling rigs. Prospecting for iron and manganese ore will be done largely via core drilling of +/- 100mm diameter. While there are existing farm roads providing access directly to, or near by the drilling project areas on some of the farms, there are areas on Macarthy which are difficult to access and new roads may need to be constructed. Drill rigs will be wheel mounted and, thus, any vehicular traffic will produce "twin spoor: tracks.

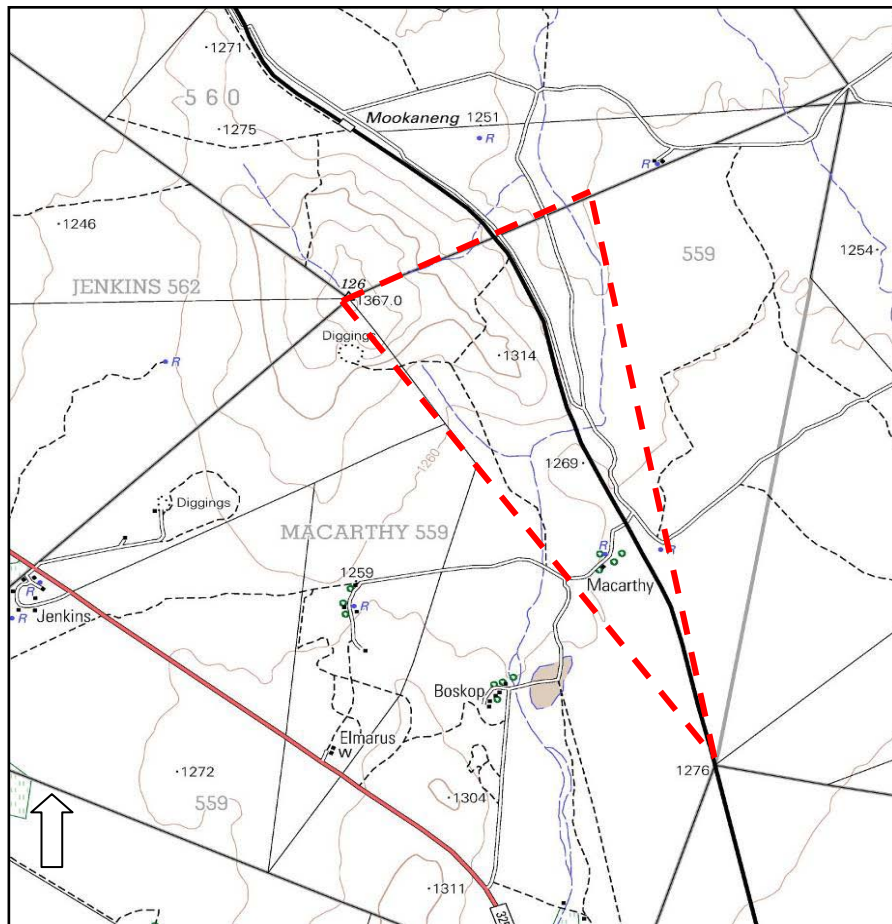


Figure 2: The 1:50 000 map 2623CC Ga-Tlhoze, showing the remainder of Macarthy 559.

The area of interest is the most western boundary with Jenkins, on the kopje visible in Plate 1.

3. TERMS OF REFERENCE

The ACO undertook to undertake a baseline investigation including the following:

- Identification of archaeological sites through a desk top survey and site visit

- Rating of significance of archaeological sites (including the built environment where this was appropriate) on the properties
- Assessment of the impact of prospecting on the archaeology of the properties
- Recommendations for mitigation.

4. LEGISLATION

The basis for all heritage impact assessment is the National Heritage Resources Act 25 (NHRA) of 1999, which in turn prescribes the manner in which heritage is assessed and managed. The National Heritage Resources Act 25 of 1999 has defined certain kinds of heritage as being worthy of protection, by either specific or general protection mechanisms. In South Africa the law is directed towards the protection of human made heritage, although places and objects of scientific importance are covered. The National Heritage Resources Act also protects intangible heritage such as traditional activities, oral histories and places where significant events happened. Generally protected heritage which must be considered in any heritage assessment includes:

- Cultural landscapes
- Buildings and structures (greater than 60 years of age)
- Archaeological sites (greater than 100 years of age)
- Palaeontological sites and specimens
- Shipwrecks and aircraft wrecks
- Graves and grave yards.

Section 38 of the NHRA requires that Heritage Impact Assessments (HIA's) are required for certain kinds of development such as rezoning of land greater than 10 000 sq m in extent or exceeding 3 or more sub-divisions, or for any activity that will alter the character or landscape of a site greater than 5000 sq m.

5. RECEIVING ENVIRONMENT

The remainder of Macarthy is located on both sides of the railway line and rises in the north-west to a hill with a height of 1367m. This is the focus of the prospecting application. The Macarthy farmstead is located in the southern section, on the farm road which passes through Boskop.

The semi-arid area around Postmasburg supports a scrub cover, largely vaalbos (*Tarchonanthus canphoratus*), interspersed with sparse, mainly thorn-bearing bush which includes swarthaak (*Acacia detinens*), kameeldoring (*Acacia giraffae*), soetdoring (*Acacia karroo*), witgatboom (*Boschia albitrunca*) and kareeboom (*Rhus lancea*).



Plate 1: View of the kopje on Macarthy which is the target for prospecting. The railway line runs in the foreground.

5.1. Archaeological Background

There has been no systematic archaeological work undertaken in this immediate vicinity and this discussion is based on consultancy projects from adjoining areas.

Our knowledge of the archaeology of the region is largely dependent on the archaeological research programme undertaken by Humphreys & Thackeray (1983) to the south of Kuruman, in the Kuruman Hills and on the Ghaap escarpment, as well as that of Beaumont (1990).

Kathu Pan is some 5 km north-west of the town Kathu on a tributary of the Kuruman River. In 1974 handaxes and faunal remains were noticed in the walls of a subsidence near the homestead (Kathu Pan 1). In addition to the stone artifacts, fragmentary faunal remains of an extinct buffalo point to very different environmental conditions in the past. Beaumont has excavated numerous sites around the pan and he observed (Beaumont 1990) that a combination of geological conditions resulted in the preservation of a long record of human habitation in the Northern Cape.

Similarly, excavations at Bundu Pan near Marydale in the Northern Cape (Kiberd 2006) have also revealed a sequence including Early, Middle and Later Stone Age assemblages as well as preserved faunal remains. This suggests that the margins of pans need to be investigated for early human habitation. During the Webley et al. (2010) survey, a mix of Middle and Later Stone Age artefact scatters on fine-grained raw material were found around the margins of pans.

A number of open sites around Keimoes in the Northern Cape have been tested in recent years and they suggest two possible Later Stone Age sequences (Parsons 2008). However, the development of a chronological sequence is hampered by the lack of suitably stratified deposits. Morris & Beaumont (1991:119) have described a ceramic Later Stone Age for the site of Renosterkop, also near Keimoes. There is also evidence for early mining in the Northern Cape. Blinkklipkop is a specularite mine some 5 km north-east of Postmasburg which was mined by indigenous communities prior to the arrival of Europeans. Sheep/goat remains were found in the deposit as well, indicating that domestic stock was present in the Kuruman Hills by 1200 AD.

According to Humphreys and Thackeray, Iron Age farmers only settled in the Northern Cape after A.D. 1600. The main area of Iron Age settlement and the only area, in which there is direct archaeological evidence for such settlement in the form of stone walling, are to the north-east of Kuruman. By the time the first European travellers arrived in this area they met only Iron Age Tswana-speaking people such as the Tlhaping. The Tswana settlement of Dithakong was located to the north-east of Kuruman in an area with many large springs. During the Webley et al. (2010) survey, a site on the farm Gaston (to the west of Macarthy) was discovered with pottery and stone tools. The remains could relate to the Koranna, a Khoekhoen group who were active along the Orange River in the 18th century, or conversely the Iron Age Tswana – although they are believed to have settled more to the north-east.

5.2 Historical Background

The area known as Griqualand West was first 'roughly' surveyed by F. Orpen and W. Stow in 1872. During the Webley et al. (2010) survey of 20 farms to the west of Macarthy it was discovered that they were all surveyed and beaconed between the years 1904 – 1911. This is very late when compared to the rest of the country. A Voortrekker Monument (relating to the 1934 "Eeufees") and a school dating to 1933 was identified on Dikeping but the owner of the property had no knowledge of the history of the farm.

The Webley et al. (2010) survey confirmed that the colonial structures and features on the farms to the west of Macarthy all date within the last 100 years. Some houses had been substantially renovated making it difficult to identify the original core of the homestead. Others have been allowed to fall into ruin. Many of the farmsteads were associated with sheds, stone kraals, reservoirs, water furrows and historic rubbish dumps. Some of the older farms contain family graveyards and these are generally fenced. Several of the farms contained graves belonging to the farm workers. These were generally unmarked and unfenced and generally within a few hundred metres of the main farmhouse.

6. METHODS

The boundaries of the site were loaded onto handheld GPS receivers to facilitate the identification of the search area during field work. The site was visited on the 17th and 18th August 2010 by Lita Webley and David Halkett and inspected via a combination of driving and walking. Walk paths and site locations were recorded with GPS (Figure 3) and finds were photographed and described. We were accompanied by drilling contractor, Mr Danie Brand of Washa Drilling. Mr Nick Steyn, who hires the grazing lands on Macarthy and Jenkins, provided valuable oral information on the farmstead.

6.1 Limitations

- The size of the prospecting area means that we were unable to conduct a detailed foot survey and we had to target specific areas which we considered more likely to contain archaeological sites.
- We were unable to access to top of the hill from the Macarthy side due to an absence of any roads, and comparisons have had to be made with the side of the hill included in the adjoining property of Jenkins.

7. RESULTS OF FIELD SURVEY

It was not possible to access the top of the hill which is targeted for prospecting due an absence of farm roads. Although a track is shown winding up the hill on Figure 2, we were unable to trace the road. We attempted to reach the top from various sides (see Figure 3) but were unsuccessful.

7.1 Pre-colonial Heritage

Some pre-colonial remains were recovered around the base of the hill. The site M1 comprised a 'dense' cluster of MSA flakes and blades, heavily patinated, with some notching and retouch. The material covered a large area but was very disturbed as a result of the action of farm animals. A smaller quartz element suggested the presence of a LSA component (Table 1).

A very light scatter of Later Stone Age flakes and cores, predominantly made on fine-grained raw materials, was found distributed over a wide area around the Macarthy homestead. The artefacts represent earlier pre-colonial occupation around the spring. The material has been heavily disturbed.

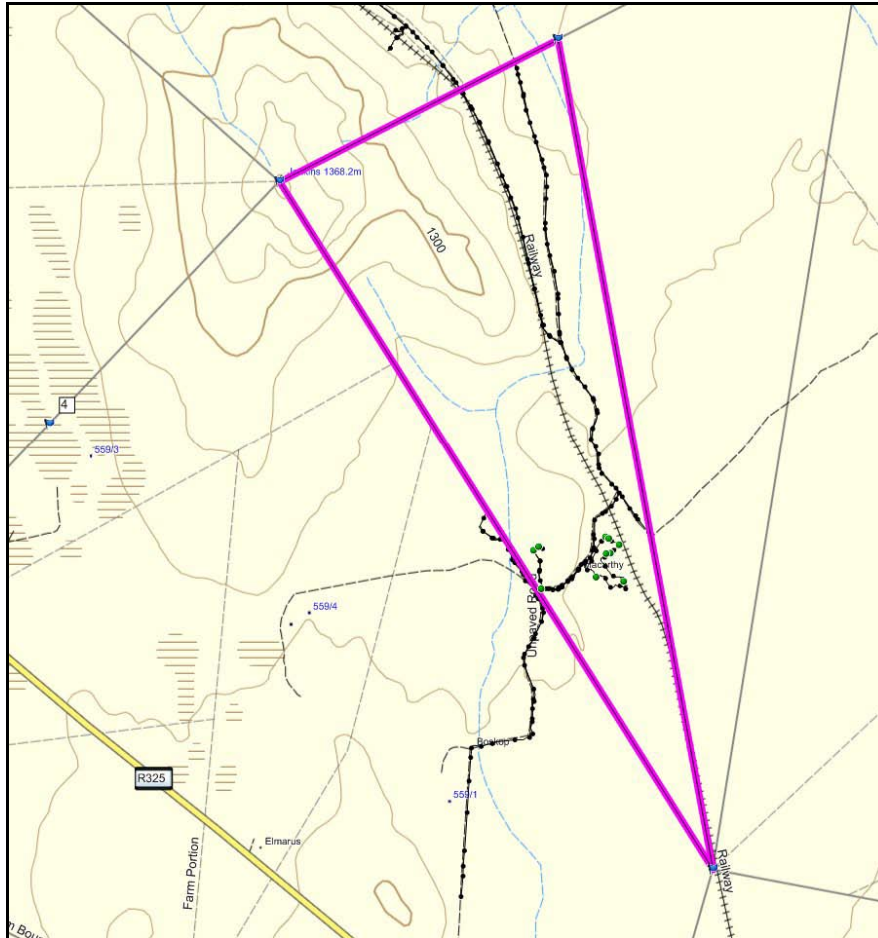


Figure 3: Survey tracks

7.2 Colonial Heritage

The spring at the Macarthy homestead was clearly the most significant attraction for both pre-colonial and colonial settlement in the area. The water appears to flow from the dolomite sub-surface and then runs along a furrow to the dam behind the farm house. From here another furrow runs to an old stone dam (M2) in the veld. This dam supplies the water for the livestock in this area. The dam appears to have been made of the local dolomite and then plastered.

The only building which still stands at Macarthy is a small store house (Plate 2). Nearby is a dipping area for sheep and some kraals of fence poles and wire. Behind the store is a large dam, which still retains some water. This dam is fed by the spring. Immediately to the east of the store is a grove of *Eucalyptus* trees which form a rough right angle. The trees enclose the ruins of a previous structure/s. All that remains are some stone foundations and a large cement block which may be a stoep. However, Mr Steyn had told us that there used to be a school at Macarthy, and the cement block may be the remnants of outside toilets. There is a well next to the house, and a cement block nearby is inscribed with the date: 16/11/46.

Table 1: List of sites discovered on Macarthy.

Site Number	Lat/Lon°	Description	Significance
M1	S27 56 17.3 E23 02 14.8	MSA artefact scatter. Quite dense, over large area. Heavily disturbed. Presence of patinated flakes and blades. Presence of quartz and chert flakes suggests LSA component	Low significance
M2	S27 56 16.7 E23 02 15.8	Old stone dam, cement base, plastered inside. Made of local dolomite stone. Furrow leads to the spring at the farmhouse. In ruinous state	Low significance
M3	S27 56 23.7 E23 02 16.4	More scattered LSA artefacts of indurated shale and quartz.	Low significance
M4	S27 56 15.0 E23 02 29.4	Macarthy - possible old "trapvloer" or threshing floor	Low significance
M5	S27 56 15.3 E23 02 30.1	Macarthy - ash heap	Low significance
M6	S27 56 16.3 E23 02 32.2	Macarthy – stone kraal	Low significance
M7	S27 56 17.7 E23 02 30.4	Macarthy – old well, sunk into calcrete, covered in metal sheeting	Low significance
M8	S27 56 17.8 E23 02 29.5	Macarthy – store house	Low significance
M9	S27 56 22.4 E23 02 33.1	Macarthy – spring enclosed with brick structure	Low significance
M10	S27 56 21.7 E23 02 27.5	Macarthy – ruins of old school? Partially enclosed by Eucalyptus trees.	Low significance

There is an ash heap near the ruins of the school. The ceramics are all clearly of 20th century origin and support the date of the well (Plate 3).

There is a stone kraal to the east of the ruins (Plate 7) and another heap of calcrete blocks to the north-west which *may* point to a grave (Plate 6). Mr Steyn had informed us that there were graves next to the grove of trees, however it would appear that he has mistaken the foundations of the stone house for a graveyard. No obvious graves were discovered during our survey. In addition to the above ruins, we also identified at least 7 rectangular cement slabs which appear to relate to 20th century stores, perhaps built of corrugated iron (Plate 8).

Immediately to the west of the store are two large excavations into the calcrete surface (Plate 9). It is possible that this was the quarry for the building materials used on the farm.



Plate 2: The store on Macarthy; **Plate 3:** Ceramics found on the ash heap near the school.



Plate 4: Ruins of old school at Eucalyptus grove; **Plate 5:** Old well.

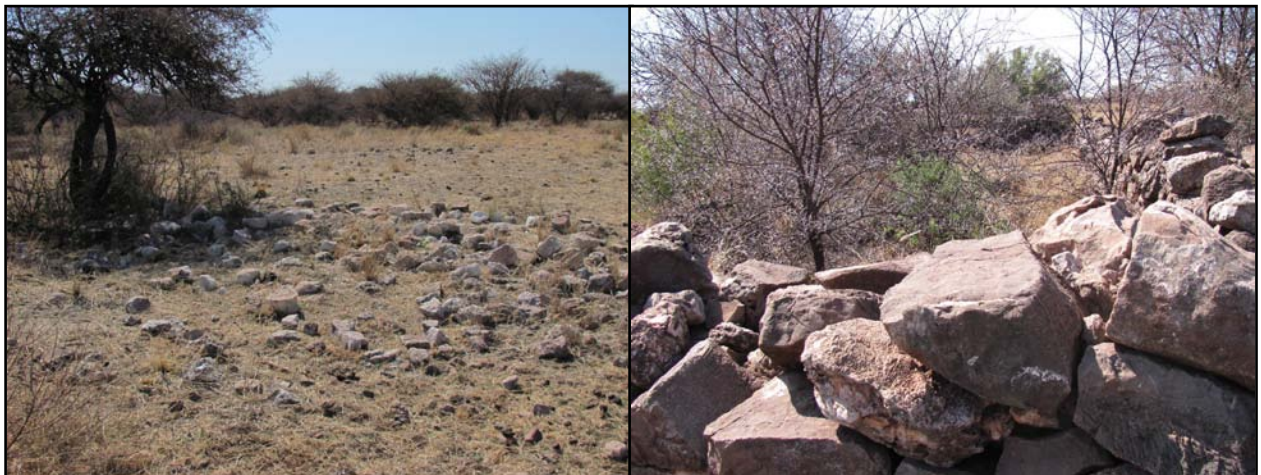


Plate 6: Calcrete blocks near school; **Plate 7:** Stone kraal.



Plate 8: Cement slabs; **Plate 9:** Calcrete excavations near the farmstead.

8. SITE SIGNIFICANCE, IMPACT OF DEVELOPMENT AND MITIGATION

8.1 Loss of Pre-colonial Sites

The aridity of the area suggests that pre-colonial occupation would have been concentrated around sources of water, such as the spring at Macarthy. While we were not able to access the top of the kopje on Macarthy, we did examine the same kopje from the Jenkins side, and found no pre-colonial remains.

Significance: Section 35 of the NHRA prohibits any person, without a permit, from destroying, damaging, excavating, altering, defacing or disturbing any archaeological sites and material, palaeontological sites and meteorites. A few scatters of MSA and LSA artefacts were found on Macarthy. They are of low significance.

Mitigation: No mitigation is required.

8.2 Loss of Colonial Sites

There are a number of indications that the Macarthy farmstead dates to the beginning of the 20th century, perhaps as recently as the 1940s. These include the ceramics, the cement slabs and the date on the concrete base for the well. There is oral evidence that there was a small school at Macarthy and this would fit with a reported farm school on Dikeping, further to the west, also dating from the 1930s (Webley et al. 2010). The only intact structure is a small store. All other structures are in ruins.

Significance: Section 34 of the NHRA stipulates that no person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority. *It is difficult to determine the age of the store. It probably dates*

to the 1940s, like the ruined school, dams, kraal, etc. but should not be destroyed without a permit.

Mitigation: It is unlikely that the store and ruins will be destroyed during prospecting as they are outside the area of interest. However, if viable deposits of iron ore and manganese are discovered then the farmstead is vulnerable. The scale of open cast iron ore mining means that large areas will be impacted by secondary activities related to the mining. For this reason, it is suggested that more detailed mapping of the homestead is undertaken if the application proceeds to mining.

8.3 Loss of Graves

No clearly identified graves were recovered during the survey. A heap of calcrete blocks near the Macarthy farmstead may represent graves but could equally result from excavations for sub-surface water (wells).

Significance: Section 36 (3) (b) of the NHRA clearly stipulates that no person may, without a permit issued by the relevant heritage authority or SAHRA destroy, damage or exhume any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority.

Mitigation: None.

9. RECOMMENDATIONS

Prospecting for iron and manganese ore will be done largely via core drilling of +/- 100mm diameter. The prospecting will be concentrated on the most western boundary of Macarthy, adjoining the farm Jenkins 562. The drill area will be a considerable distance from the farm house and associated farm buildings and these are not threatened in any way. The survey failed to identify any significant heritage resources which will be impacted during the drilling process.

However, we advise that prospecting work should cease if any of the following are uncovered:

- Human remains/graves
- Concentrations of stone tools or faunal remains
- Stone walling or any sub-surface structures
- Fossils

If any of the above is uncovered, SAHRA should be notified so that an archaeologist/palaeontologist can investigate further.

Further, if viable deposits of deposits of iron ore and manganese are discovered then the Macarthy farmstead is vulnerable. The scale of open cast iron ore mining means that large areas will be impacted by secondary activities related to the mining. For this reason, it is suggested that more detailed mapping of the homestead is undertaken if the application proceeds to mining

10. REFERENCES

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11. ACKNOWLEDGEMENTS

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