ARCHAEOLOGICAL IMPACT ASSESSMENT: PROPOSED PROSPECTING ON THE FARM DRIEHOEKSPAN 435, POSTMASBURG, 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 western corner of the farm Driehoekspan 435, located between Olifantshoek and Postmasburg in the Northern Cape Province.

There has been previous research in the Postmasburg area on the history of prehistoric specularite mining. Recent CRM work 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 and springs.

A baseline archaeological survey was conducted by Lita Webley and David Halkett on 17 & 18 August 2010. There is evidence for previous mining by Samancor in this area and various areas have been already been disturbed.

The survey identified a single Early Stone Age core, some Later Stone Age flakes, and a small, roughly packed stone enclosure. There are no significance heritage resources which will be impacted by 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.

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 western corner of the farm Driehoekspan 435, 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.

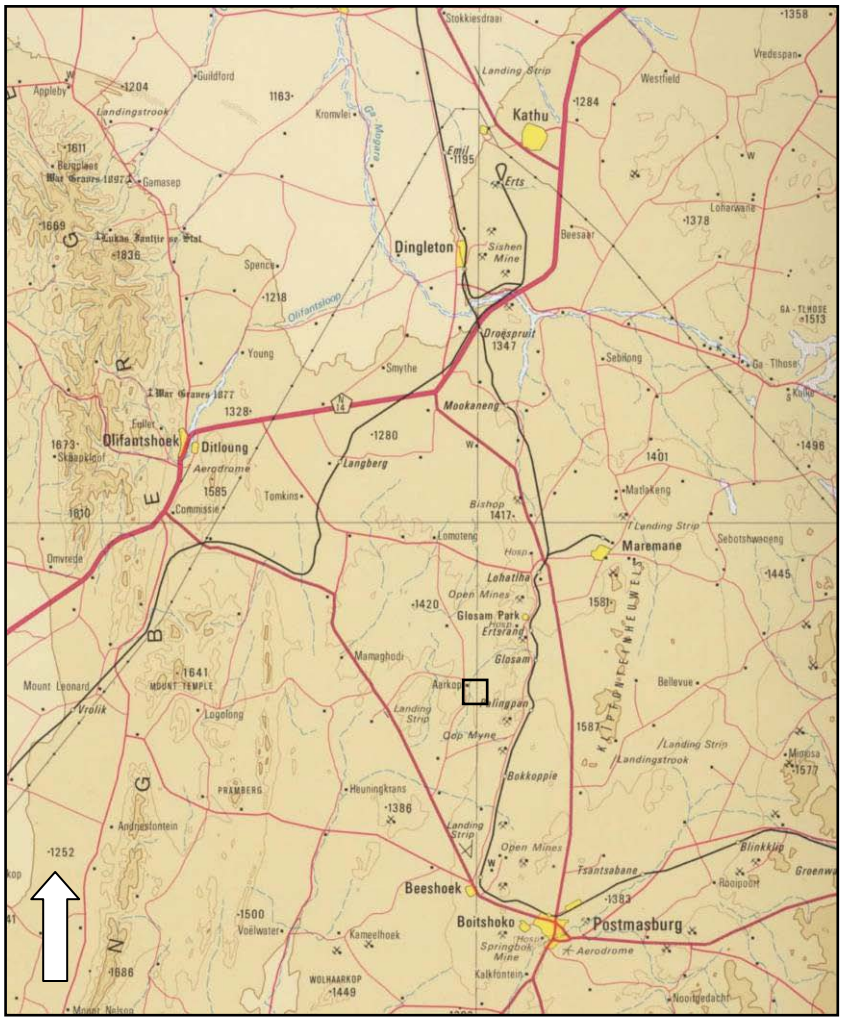

Figure 1: The approximate position of Driehoekspan 435, located on the R325, between Olifantshoek and Postmasburg.

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 western corner of Driehoekspan 435. 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. Drill rigs will be wheel mounted and, thus, any vehicular traffic will produce "twin spoor" tracks.

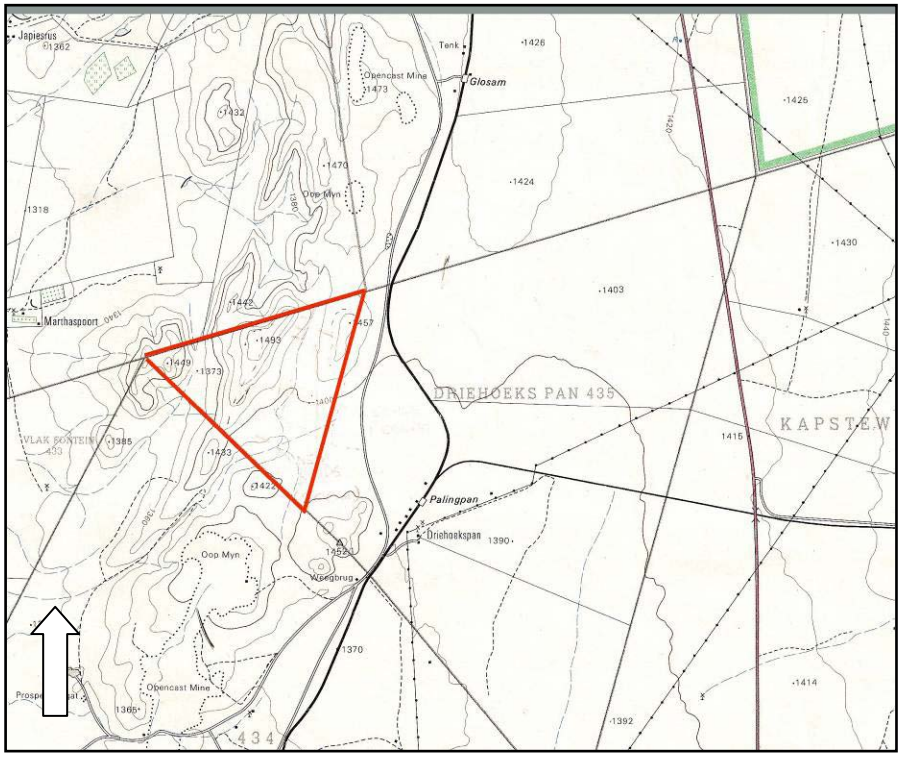

Figure 2: The 1:50 000 map of 2823AA Lohathla – showing the position of the proposed drilling on the most western corner of Driehoekspan 435. The R325 between Olifantshoek and Postmasburg is shown to the east

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 western corner of Driehoekspan rises in a series of hills, reaching a maximum height of 1493m (Plate 1). The main ridge drops steeply into a valley on the western side. There are some recently constructed access roads across the hill but unfortunately none to the most extreme corner.

There is evidence for workings (dumps and trenches) by Samancor on the eastern plains as one approach the hills (Plate 1). Large heaps of unprocessed ore cover the landscape. There is also evidence for extensive mining into the edge of the hill (Plate 2).

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: The ridge running along the western corner of Driehoekspan. Note the evidence for previous mining operations in the foreground. This covers an extensive area below the ridge.

Plate 2: Evidence of earlier Samancor mining into the side of the hill.

5.1. Archaeological Background

Beaumont and Boshier (1974) excavated a prehistoric pigment (specularite) mine four (4) kilometers to the west of Bleskop at Jonas Vlakte on Doornfontein 446. This area appears to be particularly rich in specularite breccia and these deposits were mined in pre-European times. The Doornfontein site represents a number of chambers which have been dug into a hillside. Archaeological excavations resulted in the discovery of large numbers of stone artefacts comprising mainly stone choppers and hammerstones which had been used to mine the specularite. In addition, the archaeologists discovered pottery, decorated ostrich eggshell pieces, beads and bone implements as well as faunal (bone) remains which provide information on the diet of the pre-colonial miners (Beaumont & Boshier 1974: Figure 4). Radiocarbon dates place the mining activities to 1200 years ago or 800 AD. Fragmentary human remains from the Blinkklipkop mine which is 5km

to the north-east of Postmasburg suggest that the early miners were of Khoisan physical type rather than representing Iron Age settlement.

Beaumont and Boshier (1974) also refer to some engraving sites at Paling which is located on Driehoekspan 435, as well as on Beeshoek to the west of Postmasburg. These roughly pecked engravings occur on shale outcrops.

Further to the north, Early Stone Age handaxes have been recorded at Kathu Pan. 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.

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. Many of the farm buildings are made of calcrete blocks and a fair percentage of farms have family graveyards.

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.

6.1 Limitations

- There are a number of roads which run along the ridges from south-west to north-east, but unfortunately none to the extreme corner of the property which hampered effective survey of the entire property.

- We were unable to speak to the previous owner of the property. This means that it was not possible to collect any oral history relating to the occupation of the farm.

7. RESULTS OF FIELD SURVEY

7.1 Pre-colonial Heritage

A single Early Stone Age core was recovered from a heap of stone which had been scraped to one side for the construction of a road (Plate 3).

Plate 3: ESA core from side of road; **Plate 4**: LSA core and flakes made from fine-grained raw material.

This was in close proximity to the stone structure discussed under heritage below. In addition, a further core and some Later Stone Age flakes made on a fine grained raw material (probably CCS) were found on the opposite hill (Plate 4).

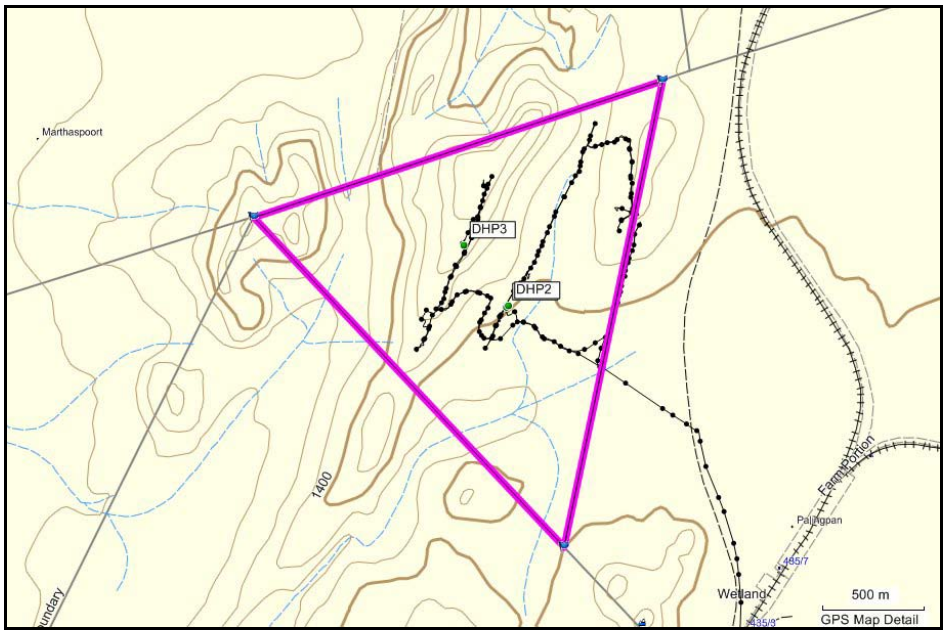

Figure 3: Survey tracks on Driehoekspan. The plains to the north and south of the approach road to the mining area have already been extensively disturbed by previous mining operations.

7.2 Colonial Heritage

A small (1.5m x 1.5m) stone enclosure was discovered in close proximity to the Early Stone Age core. It is a poorly packed cobble structure, partially collapsing, reaching a height of around 1m. There are no windows and a possible entrance facing west. It is too small to be a shepherd's overnight hut, and unlikely to be a hunting blind. Its function is unknown.

Plate 5 & 6: Stone structure

Table 1: List of sites discovered on Driehoekspan.

Site Number	Lat/Lon°	Description	Significance
DHP1	S28 12 30.2 E23 03 50.6	One quartzite Early Stone Age core	Low
DHP2	S28 12 30.2 E23 03 50.6	Roughly packed stone walled structure, 1.5m x 1.5m in size, about 1m in height. No windows. Unknown function. No ceramics or glass in vicinity.	Low
DHP3	S28 08 19.5 E23 01 35.9	Large core and 4 Later Stone Age flakes of CCS material. Perhaps a stone knapping site.	Low

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 spring or pans. There a dry stream bed running between two lines of hills but no archaeological material was recovered here. Both DHP1 and DHP3 are located on the ridges rather than in the valleys.

> **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. *Some ESA and LSA stone artefacts were found on Driehoekspan. They are of low significance.*
>
> **Mitigation:** No mitigation is required.

8.2 Loss of Colonial Sites

There is a single roughly packed stone structure on the main ridge.

> **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. *The function of the stone structure is unknown and there is no evidence of its age. It could be of recent construction. Its heritage significance is considered low.*
>
> **Mitigation:** No mitigation is required.

8.3 Loss of Graves

No graves were discovered on the kopje.

> **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. The prospecting will be concentrated on the ridges in the western section of Driehoekspan 435. The survey identified some stone artefacts and a small stone structure. None are considered to be of any heritage significance and no mitigation is required.

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.

10. REFERENCES

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11. ACKNOWLEDGEMENTS

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