



(AHSA) Archaeological and Heritage Services Africa (Pty) Ltd

Reg. No. 2016/281687/07

**PHASE I HERITAGE IMPACT ASSESSMENT (INCLUDING
PALAEOLOGICAL ASSESSMENT) REQUESTED IN TERMS OF SECTION
38 OF THE NATIONAL HERITAGE RESOURCES ACT NO 25/1999 FOR THE
PROPOSED MINE PROSPECTING ON A PORTION OF FARM 393, BARKLY
WEST DISTRICT, NORTHERN CAPE PROVINCE**

Prepared by

Edward Matenga

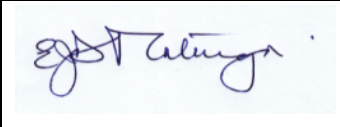
(MPhil, Archaeology; PhD Archaeology & Heritage, Uppsala/Sweden)

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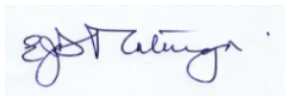
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DECLARATION OF INDEPENDENCE

AHSA is an independent consultancy: I hereby declare that I have no interest, be it business, financial, personal or other vested interest in the undertaking of the proposed activity, other than fair remuneration for work performed, in terms the National Heritage Resources Act (No 25 of 1999).

DISCLAIMER

All possible care was taken to identify and document heritage resources during the survey in accordance with best practices in archaeology and heritage management. However it is always possible that some hidden or subterranean sites are overlooked during a survey. AHSA will not be held liable for such oversights and additional costs thereof.



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ABBREVIATIONS

ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
HIA	Heritage Impact Assessment
LSA	Late Stone Age
LIA	Later Iron Age
PHRA	Provincial Heritage Resources Authority
MSA	Middle Stone Age
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency

DEFINITIONS

Archaeological material: remains resulting from human activity left as evidence of their presence which, as proscribed by South African heritage legislation, are older than 100 years, which are in the form of artefacts, food remains and other traces such as rock paintings or engravings, burials, fireplaces and structures.

Artefact/Ecofact: Any movable object that has been used, modified or manufactured by humans.

Catalogue: An inventory or register of artefacts and/or sites.

Conservation: All the processes of looking after a site/heritage place or landscape including maintenance, preservation, restoration, reconstruction and adaptation.

Cultural Heritage Resources: refers to physical cultural properties such as archaeological sites, palaeontological sites, historic and prehistorical places, buildings, structures and material remains, cultural sites such as places of rituals, burial sites or graves and their associated materials, geological or natural features of cultural importance or scientific significance. This include intangible resources such religion practices, ritual ceremonies, oral histories, memories indigenous knowledge.

Cultural landscape: “the combined works of nature and man” and demonstrate “the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both internal and external”.

Cultural Significance: is the aesthetic, historical, scientific and social value for past, present and future generations.

Early Stone Age: Predominantly the Acheulean hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.

Early Iron Age: Refers cultural period of the first millennium AD associated with the introduction of metallurgy and agriculture in Eastern and Southern Africa

Later Iron Age: Refers to the period after 1000AD marked by increasing social and political complexity. Evidence of economic wealth through trade and livestock keeping especially cattle

Excavation: A method in which archaeological materials are extracted, involving systematic recovery of archaeological remains and their context by removing soil and any other material covering them.

Grave: a place of burial which include materials such as tombstone or other marker such as cross etc.

Historic material: means remains resulting from human activities, which are younger than 100 years and no longer in use, which include artefacts, human remains and artificial features and structures.

Intangible heritage: Something of cultural value that is not primarily expressed in a material form e.g. rituals, knowledge systems, oral traditions, transmitted between people and within communities.

Historical archaeology: the study of material remains from both the remote and recent past in relationship to documentary history and the stratigraphy of the ground in which they are found; or archaeological investigation on sites of the historic period. In South Africa it refers to the immediate pre-colonial period, contact with European colonists and the modern industrial period.

In situ material: means material culture and surrounding deposits in their original location and context, for instance archaeological remains that have not been disturbed.

Later Iron Age: The period from the beginning of the 2nd millennium AD marked by the emergence of complex state society and long-distance trade contacts.

Late Stone Age: The period from ± 30 000-yr. to the introduction of metals and farming technology

Middle Stone Age: Various stone using industries dating from ± 250 000 yr. - 30 000 yrs. ago

Monuments: architectural works, buildings, sites, sculpture, elements or structures of an archaeological nature, inscriptions, cave dwellings which are outstanding from the point of view of history, art and science.

Place: means site, area, building or other work, group of buildings or other works, together with pertinent contents, surroundings and historical and archaeological deposits.

Preservation: means protecting and maintaining the fabric of a place in its existing state and retarding deterioration or change, and may include stabilization where necessary.

Sherd: ceramic fragment.

Significance grading: Grading of sites or artefacts according to their historical, cultural or scientific value.

Site: a spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

EXECUTIVE SUMMARY

This report provides a heritage impact evaluation in terms of Section 38 of the National Heritage Resources Act (25 of 1999) in respect of an application by Sedibeng Mines (JV) for prospecting and mining rights on a Portion of the Farm 393, Barkly West District, Northern Cape. The report is based on a scoping ground survey and understanding of the significance and heritage attributes of the cultural heritage resources found on the property and recommends an overall approach to the conservation of the resources.

It is to be noted that in November 2016, the Client, Sedibeng Mines (JV) commissioned a Phase I Heritage Impact Assessment on adjacent properties **(Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393)** for the same purpose, to pave way for minerals prospecting.¹ It is therefore necessary to adopt an integrated area overview and consider the outcomes of the current survey and mitigation strategies proposed in tandem with the findings and recommendations of the 2016 survey.

Thirty-eight (38) heritage sites were recorded. The attributes of the sites have been documented with photo illustrations included in a Catalogue in Section 8 of this report. In addition the Site Inventory in spreadsheet with a summary of site attributes is presented in this Executive Summary.

¹ Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV)).

A ranking system is used to indicate to general remedial actions (mitigation) that must be taken to protect the heritage resources:

Ranking of Findings

	RANKING	SIGNIFICANCE	No of sites
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Significant footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	1
3	Medium B	Sites exhibiting archaeological and historical characteristics of the area, but do not warrant further action after they have been documented.	31
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	6
		TOTAL	38

STONE AGE SITES

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S1	28° 4'43.10"S	24°22'57.70"E	MSA/LSA	Core and flake material (2 pieces)	Medium B
S2	28° 3'47.80"S	24°22'56.80"E	MSA/LSA	Core or waste material (one piece)	Medium B
S3	28° 4'58.94"S	24°22'50.17"E	MSA/LSA	2 flakes	Medium B
S4	28° 4'58.60"S	24°22'48.40"E	MSA/LSA	1 scraper	Medium B
S5	28° 4'57.90"S	24°22'45.10"E	MSA/LSA	1 scraper	Medium B
S6	28° 4'59.90"S	24°22'44.40"E	MSA/LSA	1 chert scraper	Medium B
S7	28° 4'58.00"S	24°22'41.00"E	MSA/LSA	Flakes / waste material (2 pieces)	Medium B
S8	28° 4'59.20"S	24°22'30.70"E	MSA/LSA	1 chert scraper	Medium B
S9	28° 4'56.60"S	24°22'29.80"E	MSA/LSA	1 scraper	Medium B
S10	28° 4'53.74"S	24°22'30.82"E	MSA/LSA	2 lithics.	Medium B
S11	28° 4'55.20"S	24°22'36.10"E	MSA/LSA	Possible blade (1 piece)	Medium B
S12	28° 4'45.02"S	24°22'40.46"E	MSA/LSA	1 core / waste material	Medium B
S13	28° 4'43.60"S	24°22'44.70"E	MSA/LSA	2 lithics/ waste material	Medium B
S14	28° 4'43.90"S	24°22'48.90"E	MSA/LSA	Scraper and waste material (2 pieces)	Medium B
S15	28° 4'43.50"S	24°22'50.90"E	MSA/LSA	2 scrapers	Medium B
S16	28° 4'43.20"S	24°22'53.40"E	MSA/LSA	Lithics (scraper and waste material).	Medium B
S17	28° 4'42.80"S	24°23'1.40"E	MSA/LSA	2 lithics, possible core and scraper	Medium B
S18	28° 4'46.50"S	24°22'59.50"E	MSA/LSA	2 small flakes	Medium B
S19	28° 4'48.90"S	24°22'57.50"E	MSA/LSA	2 flake tools/ waste material.	Medium B
S20	28° 4'59.00"S	24°22'56.90"E	MSA/LSA	4 lithics, core / flake / waste material.	Medium B
S21	28° 6'9.40"S	24°23'19.40"E	MSA/LSA	4 lithics, core / flake / waste material	Medium B
S22	28° 3'25.10"S	24°24'0.20"E	MSA/LSA	1 lithic (waste material)	Medium B
S23	28° 3'12.50"S	24°24'1.00"E	MSA/LSA	2 lithics (1 chert, 1 greenstone possibly foreign to the area)	Medium B
S24	28° 5'15.50"S	24°22'54.30"E	MSA/LSA	3 lithics including chert	Medium B

S25	28° 5'15.50"S	24°22'54.30"E	MSA/LSA	Calcretic surface. 1 chert scraper	Medium B
S26	28° 5'13.60"S	24°22'52.40"E	MSA/LSA	5 lithics including a blade	Medium B
S27	28° 4'17.00"S	24°22'56.40"E	MSA/LSA	4 lithics (scrapers, one with a nick).	Medium B
S28	28° 4'20.60"S	24°22'52.98"E	MSA/LSA	3 lithics (scrapers / waste material)	Medium B

MINING HERITAGE

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S29	28° 5'13.50"S	24°23'17.60"E	Early/Modern Mining	Fissure mining, a "Big Hole" and abandoned head gear (Shaft No 1)	Medium B
S30	28° 5'2.90"S	24°23'27.90"E	Mining	Abandoned head gear (Shaft No 2) following the fissure (same as S29).	Low
S31	28° 4'36.80"S	24°23'47.30"E	Mining	Abandoned headgear and Shaft No 3 following the fissure	Low
S32	28° 4'9.40"S	24°23'54.30"E	Mining	Boshoff Skag. Abandoned headgear and Shaft No 4 following the fissure	Low
S33	28° 3'54.60"S	24°24'1.30"E	Mining	Twin holes which followed pipes and evidence of fissure mining	Low
S34	28° 4'1.50"S	24°24'21.70"E	Mining	Evidence of fissure mining, abandoned head gear (Shaft No 5) (Appears to be the oldest headgear)	Medium A
S35	28° 3'17.60"S	24°24'3.20"E	Early/Modern Mining	Old mine claims peg. 3 pegs within a distance of 70m.	Medium B

BUILDINGS

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S36	28° 3'58.50"S	24°23'0.80"E	Modern	Isolated farm building, earthen bricks, white plaster, gabled, asbestos roof	Low
S37	28° 5'1.43"S	24°23'23.91"E	Modern	3 abandoned staff houses, gabled with a veranda. All buildings in a poor state.	Low
S38	28° 4'22.70"S	24°23'51.20"E	Modern	Staff houses, group of buildings. 2 distinct types: hipped roof and gabled roof	Medium B

The Stone Age

Twenty-eight (28) Stone Age Sites were recorded, all of which have a low density of lithics. The Stone Age finds are scattered mainly over the edge of Plateau and none of the sites demonstrate concentrated or regular activity. Thus no localised settlement activity could be defined to warrant further investigation. A study conducted in 2016 by the same author in the adjacent properties located a significant number of such MSA/LSA sites², and all the studies that have been conducted in the area confirm the extent of the Stone Age remains.

The Iron Age

No Iron Age sites were found on the property.

Early Modern Mining

Three early mining claim pegs (iron plaque standing in a concrete base) (S35) exemplify the many small claims during the minerals “rush” of the pioneering period. The claim pegs are movable and if it becomes necessary they can be relocated to a park or garden.

Evidence of early open fissure mining have been recorded at three places (S30, S32 and S35). In a report of 2016 by this author, recommendations were made to preserve one or two fissure openings wholly or partially on the **Remaining Extent of Farm 84** (Sites 5 & 6).³ We therefore do not find it necessary to recommend preservation of other old fissure openings in the area.

Old mine headgears

Five abandoned head gears have been recorded, of which one (Site 34) associated with a line of worked dyke fissures appears to be the oldest more than 60 years old. Recommendations are made that the metal structure could be preserved either *in situ* or after relocation to a park. The structure is rusted and it is to be cautioned that

² Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV)).

³ Matenga, E. 2016. Ibid. Pp8, 28.

preservation as a “museum relic” can be an expensive undertaking for the Mine if a public museum or other public institution cannot to take such a responsibility.

With the above findings and recommendations, the mine prospecting can go ahead. In the event of discovery of other heritage resources in future phases of the project, the Provincial Heritage Resources Authority or SAHRA must be alerted immediately and an archaeologist or heritage expert called to attend.

1. INTRODUCTION

This document provides a Phase I Heritage Impact evaluation in compliance with Section 38 of the National Heritage Resources Act (25 of 1999) (NHRA) for the proposed mine prospecting on a Portion of the Farm 393, Barkly West District, Northern Cape Province.

1.1. Nature of Development

Prospecting on a large scale is planned on the above property. Diamonds have been mined for more than 70 years⁴ in an eastern portion of the property called Bellsbank until recent times when many of operational shafts were closed. The aim of the new initiative is to re-assess some of the closed shafts and to extend the minerals survey over the entire property. Prospecting generally has a low surface impact, but it may involve excavation of test pits and drilling with potential destructive impacts on heritage resources. Heritage resources are likely to be affected more significantly during the extraction phase as both opencast and drilling methods may entail the following:

- Large scale open excavations;
- Underground mining (shaft method)
- Placement of mine plant;
- Construction of buildings for offices/workers accommodation;
- Road and / or installation of conveyor belts;
- Stockpiling (topsoil, tailings and discards)
- Waste management (including slimes dam).

The requirement to protect heritage resources in light of such physical works is enacted in Section 38 of the NHRA, which calls for Heritage Impact Assessments. This report is a preliminary identification and documentation of heritage resources on the above property and suggests appropriate measures to protect them or mitigate potentially harmful impacts of the proposed development.

⁴ Bellsbank Operation, South Africa, at: <http://www.miningweekly.com/article/bellsbank-operation-2007-09-14> (Consulted 5 May 2017)

2. GEOGRAPHICAL SETTING

2.1. Physical setting

Portion of the Farm 393 (hereinafter the property) is located 45km west of Barkly West in the Northern Cape Province (Figs 1-2). The property is situated on Ghaap Plateau, a high plain 1200m AMSL. As the ground rises from the Harts River Valley in the east it breaks into a series of steps or benches before levelling out to an extensive plain (Fig 3). The bedrock is dolomite with a large surface concentration of loose stones and rocks of the same material, the result of long-term weathering. As we approach the Plateau dolomite is overlaid by calcrete, also accumulated over time as water washed through the dolomite bedrock leaving a calcium carbonate residue (Figs 4-5). Vegetation is sparse and predominantly acacia scrub predominated by the short hooked thorn (Afrikaans - *haakbos* - *Acacia mellifera* subsp. *detinens*) (Fig 4). Medium to dense acacia woodland thrives below the escarpment to the east in a wide flat valley through which the Harts River flows in a south-westerly direction to a confluence with the Vaal River below the town of Barkly West (Fig 6).

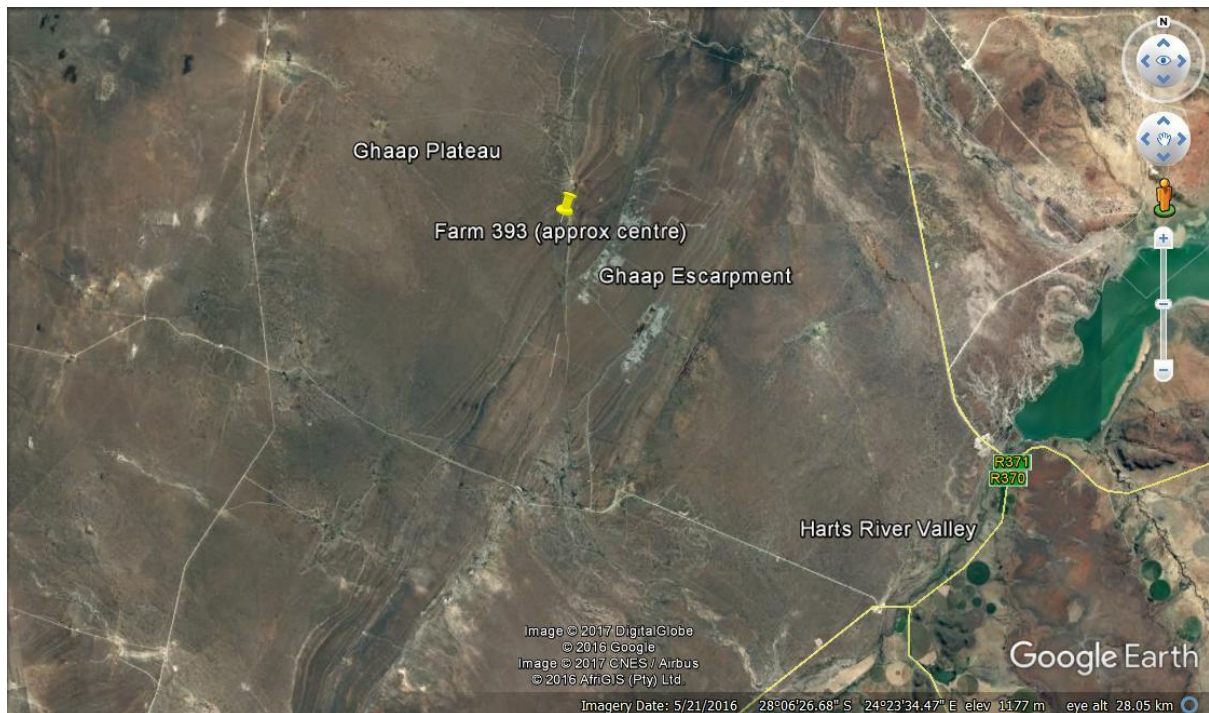


Fig 1. Google-Earth map of area.

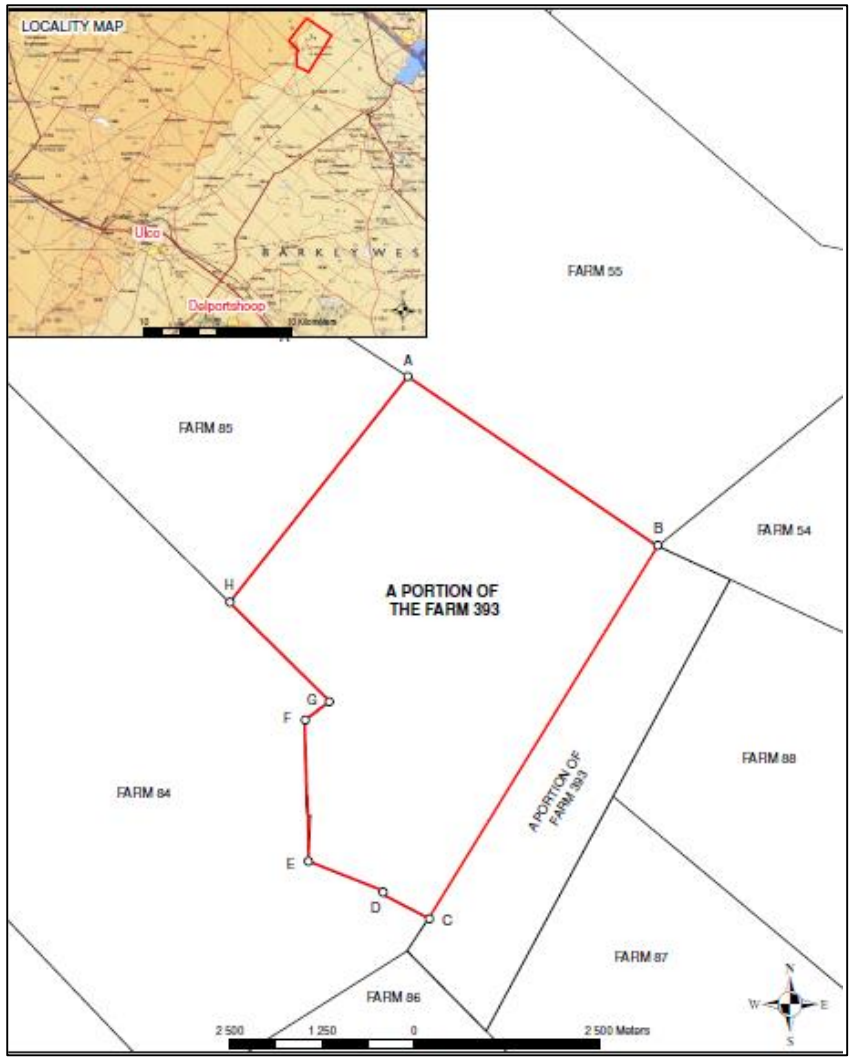


Fig 2. Map of the properties (Courtesy of Sedibeng Mines JV)

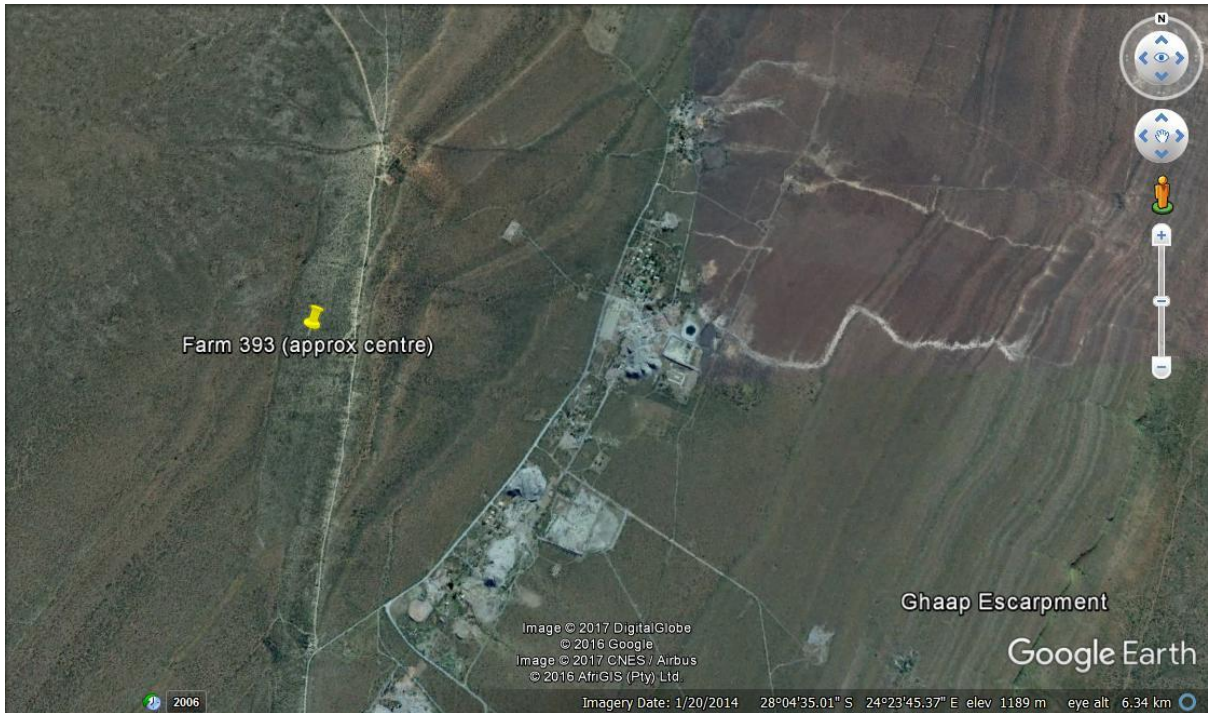


Fig 3. Google-Earth map shows the stepped ascent from the Harts Valley to the Ghaap Plateau



Fig 4. General landscape characteristics of the area (acacia scrub), ground exposures of calcrete.



Fig 5. Exposures of dolomite bedrock.



Fig 6. View from the Ghaap Plateau east towards the Harts Valley.

3. LEGAL FRAMEWORK

3.1. The National Heritage Resources Act (25 of 1999)

The proposed minerals prospecting triggers Section 38 of the National Heritage Resources Act (No 25 1999), which prescribes Heritage Impact Assessment the terms and conditions of which are stated as follows:

38. (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, power line, 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 10 000 m² in extent; or

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

Other Sections of the **National Heritage Resources Act** (No. 25 of 1999) NHRA of relevant application are:

Section 34 of the NHRA provides for automatic protection of all structures and features older than 60 years, until after they have been proven not to carry heritage value.

Section 35 (4) of the **NHRA** prohibits the destruction of archaeological, palaeontological and meteorite sites:

Section 36 of the **NHRA** gives priority for the protection of Graves and Burial Grounds graves and burial grounds more than 60 years old, and graves and burial ground of victims of conflict.

The **Australia Charter for the Conservation of Places of Cultural Significance (the Burra Charter 1999)** provides some general principles and standards for the protection of heritage resources which were adapted from the ICOMOS Venice Charter (1964) – **The International Charter for the Conservation and Restoration of Monuments and Sites**. The Burra Charter which have been adopted in South Africa as an international benchmark on best practices in the conservation of heritage.

4. APPROACH AND METHODOLOGY

4.1. Literature Survey

Background information was obtained from various documentary sources including reports that have been generated through heritage impact assessment studies in the area. Literature surveys are necessary to set both a theory base as well as to guide approaches to fieldwork. Some of the heritage reports have are available on internet.

In November 2016 this author carried out a Phase I Heritage Impact Assessment on adjacent properties (**Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393**) as requested by the present Client, Sedibeng Mines JV.⁵ The outcomes of the current survey and the mitigation strategies proposed herein have been considered in tandem with the findings and recommendations of the 2016 survey.

4.2. Local Information

Local knowledge of the area obtained from the Client regarding mining and geology is acknowledged in this report.

4.3. Ground Survey

A field visit was made between 26 and 28 April 2017. Ground survey was done by means of a motor vehicle combined with random walking and targeted surveys of spots seen as likely to yield material.

4.4. Significance Ranking

The sites have been ranked to show potential risks and appropriate protection measures which must be taken:

⁵ Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV)).

	SIGNIFICANCE	RANKING
1	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	High
2	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Significant footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	Medium A
3	Sites exhibiting archaeological and historical characteristics of the area, but do not warrant further action after they have been documented.	Medium B
4	Heritage sites which have been recorded and are deemed of minor importance.	Low

5. ARCHAEOLOGICAL AND HISTORICAL CONTEXT

An outline of the cultural sequence in South Africa provides general context for identification of heritage resources in the development area. The cultural sequence spans nearly 4.4 million, the major epochs of which are the appearance of Hominids, the Stone Age, Iron Age and Historical Period.

5.1. Appearance of Hominids

Hominid or proto-humans appeared in South Africa more than 3million years ago. Hominid sites and their fossil remains are largely confined to dolomite caves on the highveld in Gauteng, Limpopo and Northwest Provinces.⁶ The nearest hominid site is Taung near Vryburg (300km to the north).This site is inscribed on the UNESCO World Heritage Site in a serial nomination with the Sterkfonteing (Krugersdorop) and Makapans Valley (Mokopane).

⁶ Deacon, J. and N. Lancaster. 1986. *Later Quaternary Palaeo-environments of Southern Africa*. Oxford: Oxford University Press.

5.2. The Stone Age

5.2.1. *The Early Stone Age [2.5 million – 250 000 yrs BP]*

The Early Stone Age marks the earliest appearance of stone artefacts about 2.5 million years ago. Such tools bore a consistent shape such as the pear-shaped handaxe, cleavers and core tools (Deacon & Deacon, 1999). The primitive tool industries are called Oldowan and Acheulian and were probably used to butcher large animals such as elephants, rhinoceros and hippopotamus. ESA artefacts are usually found near sites where they were manufactured and thus in close proximity to the raw material or at butchering sites. The early hunters are classified as hominids or proto-humans, meaning that they had not evolved to the present human form.

A good profile of the Stone Age is emerging partly as a result of the many Heritage Impact Assessments which have been conducted in the region in recent years. According to Vollenhoven Early Stone Age sites have been reported on the farm Drooge Veldt No 292 near Barkly West. Further afield to the northwest Stone Age finds at Wonderwork Cave near Kuruman and Khathu have been widely publicised.⁷

5.2.2. *Middle Stone Age (MSA) [250 000 yrs – 40 000 yrs BP]*

The Middle Stone Age (MSA) appeared more than 200 000 years ago. It marks the introduction of a new tool kit which included prepared cores, parallel-sided blades and triangular points hafted to make spears. By then humans had become skilful hunters, especially of large grazers such as wildebeest, hartebeest and eland. It is also believed that by then, humans had evolved significantly to become anatomically modern. Caves were used for shelter suggesting permanent or semi-permanent settlement. Furthermore there is archaeological evidence from some of the caves indicating that people had mastered the art of making fire. These were two remarkable steps in human cultural advancement.⁸ Middle Stone Age sites are known from many

⁷ A.C. van Vollenhoven. 2014. Heritage Scoping Report Related to the Eskom Kimberley strengthening phase 4 project between the Boundary and Ulco Substations in the Northern Cape province

⁸ Deacon, J & H. Deacon. 1999. *Human Beginnings in South Africa*. Cape Town: David Philip.

localities in this part of the Northern Cape including Lylyfeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley to the north.⁹

5.2.3. Later Stone Age (LSA)[40 000 yrs to ca2000 yrs BP]

By the beginning of the LSA, humans had evolved into *Homo sapiens* which refer to the modern physical form and thinking capabilities. Several behavioural traits are exhibited, such as rock art and purposeful burials with ornaments, became a regular practice. The practitioners of rock art are definitely the ancestors of the San and sites abound in the whole of Southern Africa. LSA technology is characterised by microlithic scrapers and segments made from very fine-grained rock. Spear hunting continued, but LSA people also hunted small game with bows and poisoned arrows. Because of poor preservation, open sites are rarely found compared to rock shelters. A number of LSA sites has been reported in the area during heritage impact studies although most researchers are hesitant to draw a fine distinction between the MSA and LSA.¹⁰ Both rock paintings and engravings have been reported around Danielskuil ca80km to the west of the property.¹¹ Ancient workings of specularite at Tsantsabane and Doornfontein near Postmasburg and Beeshoek respectively seems to indicate that the technology and demand for minerals date back to the MSA, contrary to the general belief that mining started during the Iron Age.¹²

5.3. The Iron Age Culture [ca. 2000 years BP]

5.3.1. The Early Iron Age

The Iron Age culture supplanted the Stone Age at least 2000 years ago, associated with what was likely a gradual introduction of farming technology. Crops, domestic animals such as cattle, sheep, goats and chickens and use of several metals and

⁹ Morris, D. 2005: Report on a Phase 1 Archaeological Impact Assessment of proposed mining areas on the farms Ploegfontein, Klipbankfontein, Welgevonden, Leeuwfontein, Wolhaarkop and Kapsteviel, west of Postmasburg, Northern Cape. p3.

¹⁰ Schalkwyk, J 2015. Heritage scoping assessment for the proposed Perseus-Kronos 765kv Transmission Power Line and Substations Upgrade, Northern Cape and Free State Provinces.

¹¹ Orton. J. 2015. Heritage Impact assessment for the Proposed 132 KV Olien-Karats Power Line at Lime Acres, Postmasburg Magisterial District, Northern Cape.

¹² Van Vollenhoven, A. C. 2014. Heritage Scoping Report Related to the Eskom Kimberley strengthening phase 4 project between the Boundary and Ulco Substations in the Northern Cape Province. Beaumont, P.B. & Boshier, A.K. 1974. Report on test excavations in a prehistoric pigment mine near Postmasburg, Northern Cape. *S. Afr. Archaeol. Bull.* 29, 41 - 59.

pottery are thought to have been brought as a package by the farmers. These were speakers of Bantu languages who intermingled with pre-existing Stone Age communities, a process which might have taken place over a long period of time. However, there is increasing evidence that sheep and even cattle might have moved into the area much earlier than the Iron Age.

There are few if any sites attributed to the EIA in the western parts of the country. Settlement preference for the relatively wetter woodlands to the east and eastern seaboard, compared to the arid west appears to have been a logical response to the environmental opportunities and constraints. There is a strong possibility of transhumant pastoral activities and seasonal hunting forays into the western regions from the Stone Age through to the Iron Age, although there would be little or no surviving physical evidence of these activities.

The Later Iron Age

The LIA is marked by the presence of extensive stonewalled settlements such as the Tlhaping capital at Dithakong near Kuruman.¹³

5.4. Historical Context

The 19th century *Difaqane* or *Mfecane*, was a violent episode characterised by war and displacement which affected the eastern seaboard as well as the high veld. The Northern Cape was not spared as new groups from the north and east – the Tlokwa, Fokeng, Hlakwa and Phuting tribal groups – historical ethnic groups of Tswana stock.¹⁴

5.5. The European Contact Period

As the Difaqane was unfolding there were new arrivals in the area – the Griquas, the Korana and white communities coming from the southwest. There was a steady stream of White traders, hunters and missionaries from the Cape from the beginning of the 19th century. PJ Truter and William Somerville reached the Tlhaping capital at Dithakong near Kuruman in 1801. Cowan, Donovan, Burchell and Campbell travelled

¹³ De Jong 2010: 36

¹⁴

into the interior which prompted James Read to establish the London Mission Society station near Kuruman in 1817. After these initial contacts, the Boer Trek starting in 1836 brought in a large number of farmers with their stock. A conflict situation thus persisted. The British government which had taken over at the Cape tried to resolve disputes through the Keate Arbitration, setting the border between the Afrikaners and the Bechuanaland Protectorate in 1871. Meanwhile diamonds were discovered at Kimberley in 1867 sparking disputes over their ownership pitting the Boers, Griquas and Korana. The British intervened again, and furthering their own interests proclaimed a protectorate, Griqualand West, over the diamond fields in 1871, which was eventually to be annexed to the Cape Colony in 1879. The discovery of diamonds at Kimberley in 1871 set the momentum for industrialisation and urbanisation. The area around Kimberley was an active theatre of the Anglo-Boer War with many skirmishes ultimately leading to a three months siege of Kimberley by the Boers in 1899-1900.

The above cultural and historical sequence provides context for the identification of heritage resources in the area.

6. FINDINGS OF THE HERITAGE SURVEY

In November 2016, the Client, Sedibeng Mines (JV) commissioned a Phase I Heritage Impact Assessment on adjacent properties (**Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393**) for the same purpose, to pave way for minerals prospecting.¹⁵ It is therefore necessary to adopt an integrated area overview and consider the outcomes of the current survey and mitigation strategies proposed in tandem with the findings and recommendations of the 2016 survey.

A heritage significance ranking in the table below is the basis for recommendations on appropriate mitigation.

¹⁵ Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV)).

6.1. Ranking of Findings

	RANKING	SIGNIFICANCE	No of sites
1	High	National and Provincial heritage sites (Section 7 of NHRA). All burials including those protected under Section 36 of NHRA. They must be protected.	0
2	Medium A	Substantial archaeological deposits, buildings protected under Section 34 of NHRA. Significant footprint of early modern mining. These may be protected at the recommendations of a heritage expert.	1
3	Medium B	Sites exhibiting archaeological and historical characteristics of the area, but do not warrant further action after they have been documented.	31
4	Low	Heritage sites which have been recorded, but considered of minor value relative to the proposed development.	6
		TOTAL	38

Thirty-three (38) sites were recorded. The attributes of the sites have been documented with photo illustrations included in a Catalogue in Section 8 of this Report. In addition the Table below is a Site Inventory in spreadsheet with a summary of site attributes.

PORTION OF THE FARM 393

STONE AGE SITES

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S1	28° 4'43.10"S	24°22'57.70"E	MSA/LSA	Core and flake material (2 pieces)	Medium B
S2	28° 3'47.80"S	24°22'56.80"E	MSA/LSA	Core or waste material (one piece)	Medium B
S3	28° 4'58.94"S	24°22'50.17"E	MSA/LSA	2 flakes	Medium B
S4	28° 4'58.60"S	24°22'48.40"E	MSA/LSA	1 scraper	Medium B
S5	28° 4'57.90"S	24°22'45.10"E	MSA/LSA	1 scraper	Medium B
S6	28° 4'59.90"S	24°22'44.40"E	MSA/LSA	1 chert scraper	Medium B
S7	28° 4'58.00"S	24°22'41.00"E	MSA/LSA	Flakes / waste material (2 pieces)	Medium B
S8	28° 4'59.20"S	24°22'30.70"E	MSA/LSA	1 chert scraper	Medium B
S9	28° 4'56.60"S	24°22'29.80"E	MSA/LSA	1 scraper	Medium B
S10	28° 4'53.74"S	24°22'30.82"E	MSA/LSA	2 lithics.	Medium B
S11	28° 4'55.20"S	24°22'36.10"E	MSA/LSA	Possible blade (1 piece)	Medium B
S12	28° 4'45.02"S	24°22'40.46"E	MSA/LSA	1 core / waste material	Medium B
S13	28° 4'43.60"S	24°22'44.70"E	MSA/LSA	2 lithics/ waste material	Medium B
S14	28° 4'43.90"S	24°22'48.90"E	MSA/LSA	Scraper and waste material (2 pieces)	Medium B
S15	28° 4'43.50"S	24°22'50.90"E	MSA/LSA	2 scrapers	Medium B
S16	28° 4'43.20"S	24°22'53.40"E	MSA/LSA	Lithics (scraper and waste material).	Medium B
S17	28° 4'42.80"S	24°23'1.40"E	MSA/LSA	2 lithics, possible core and scraper	Medium B
S18	28° 4'46.50"S	24°22'59.50"E	MSA/LSA	2 small flakes	Medium B
S19	28° 4'48.90"S	24°22'57.50"E	MSA/LSA	2 flake tools/ waste material.	Medium B
S20	28° 4'59.00"S	24°22'56.90"E	MSA/LSA	4 lithics, core / flake / waste material.	Medium B
S21	28° 6'9.40"S	24°23'19.40"E	MSA/LSA	4 lithics, core / flake / waste material	Medium B
S22	28° 3'25.10"S	24°24'0.20"E	MSA/LSA	1 lithic (waste material)	Medium B

S23	28° 3'12.50"S	24°24'1.00"E	MSA/LSA	2 lithics (1 chert, 1 greenstone possibly foreign to the area)	Medium B
S24	28° 5'15.50"S	24°22'54.30"E	MSA/LSA	3 lithics including chert	Medium B
S25	28° 5'15.50"S	24°22'54.30"E	MSA/LSA	Calcretic surface. 1 chert scraper	Medium B
S26	28° 5'13.60"S	24°22'52.40"E	MSA/LSA	5 lithics including a blade	Medium B
S27	28° 4'17.00"S	24°22'56.40"E	MSA/LSA	4 lithics (scrapers, one with a nick).	Medium B
S28	28° 4'20.60"S	24°22'52.98"E	MSA/LSA	3 lithics (scrapers / waste material)	Medium B

MINING HERITAGE

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S29	28° 5'13.50"S	24°23'17.60"E	Early/Modern Mining	Fissure mining, a "Big Hole" and abandoned head gear (Shaft No 1)	Medium B
S30	28° 5'2.90"S	24°23'27.90"E	Mining	Abandoned head gear (Shaft No 2) following the fissure (same as S29).	Low
S31	28° 4'36.80"S	24°23'47.30"E	Mining	Abandoned headgear and Shaft No 3 following the fissure	Low
S32	28° 4'9.40"S	24°23'54.30"E	Mining	Boshoff Skag. Abandoned headgear and Shaft No 4 following the fissure	Low
S33	28° 3'54.60"S	24°24'1.30"E	Mining	Twin holes which followed pipes and evidence of fissure mining	Low
S34	28° 4'1.50"S	24°24'21.70"E	Mining	Evidence of fissure mining, abandoned head gear (Shaft No 5)	Low
S35	28° 3'17.60"S	24°24'3.20"E	Early/Modern Mining	Old mine claims peg. 3 pegs within a distance of 70m.	Medium A

BUILDINGS

SITE NO	LATITUDE	LONGITUDE	PERIOD	DESCRIPTION	RANKING
S36	28° 3'58.50"S	24°23'0.80"E		Isolated farm building, earthen bricks, white plaster, gabled, asbestos roof	Low
S37	28° 5'1.43"S	24°23'23.91"E		3 abandoned staff houses, gabled with a veranda. All buildings in a poor state.	Low
S38	28° 4'22.70"S	24°23'51.20"E		Staff houses, group of buildings. 3 distinct types: hipped roof and gabled roof	Medium B

6.2. Summary of Findings

6.2.1. *The Stone Age*

Twenty-eight (28) Stone Age sites were recorded all of which have a low density of lithics. The Stone Age finds are scattered mainly over the edge of Plateau and none of the sites demonstrate concentrated or regular activity. Thus no localised settlement activity could be defined to warrant further investigation. A study conducted in 2016 by the same author in the adjacent properties located a significant number of such MSA/LSA sites, and all the studies that have been conducted in the general area confirm general occurrence of the Stone Age remains.



Fig 6a-b. Chert scraper found on the slope below the Plateau (Site S25).

6.2.2. *The Iron Age*

No Iron Age sites were found on the property

6.2.3. *Early Modern Mining*

Three early mining claim pegs (iron plaque standing in a concrete base) (S35) exemplify the many small claims during the minerals “rush” of the pioneering period. The claim pegs are movable and if it becomes necessary they can be relocated to a park or garden.




Fig 7. Old mine claim peg (Site S35).


Evidence of early fissure mining have been recorded at three places (S30, S32 and S35). In a report of 2016 by this author, recommendations were made to preserve one or two fissure openings wholly or partially on the **Remaining Extent of Farm 84**.¹⁶ We therefore do not find it necessary to preserve other old fissure openings in the area.

¹⁶ Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV). Pp8, 28.

The following record has been extracted from the Site Catalogue in the 2016 Report:¹⁷

No	COORDINATES	PERIOD
5	28° 5'42.93"S, 24°24'29.56"E	Early modern mining
		
<p>DESCRIPTION</p> <p>Fissure mining, early method of modern reef diamond mining. Site is enclosed by a steel palisade.</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence early methods of reef diamond mining.</p>		
<p>MITIGATION The site is preserved (and fenced off) and retention as footprint of early modern mining is recommended.</p>		

¹⁷ Matenga, E. 2016. Phase I Heritage Impact Assessment Requested in terms of Section 38 of the National Heritage Resources Act no 25/1999 for the Proposed Mine Prospecting on a Portion of the Remaining Extent of the Farm 84 & Portion of Farm 393, Barkly West District, Northern Cape Province (Reported submitted to SAHRA on behalf of Sedibeng Mines (JV), pp39-40.

No	COORDINATES	PERIOD
6	28° 5'39.92"S, 24°24'28.66"E	Early Modern Mining
		
<p>DESCRIPTION</p> <p>Fissure mining, early method of modern reef diamond mining</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence early methods of reef diamond mining.</p>		
<p>MITIGATION</p>		<p>Whole or partial retention of dyke fissure to show evidence of early reef diamond mining.</p>

6.2.4. Old mine headgears

Five abandoned head gears have been recorded, of which one (Site 34) associated with a line of dyke fissures which were worked appears to be the oldest more than 60 years. Recommendations are made that the metal structure could be preserved either *in situ* or after relocation to a park. The structure is rusted and it is to be noted that preservation as a “museum relic” can be an expensive undertaking for the Mine if a museum or other public institution cannot take such a responsibility.



Fig 8a –b. Old headgear and worked dyke fissure.

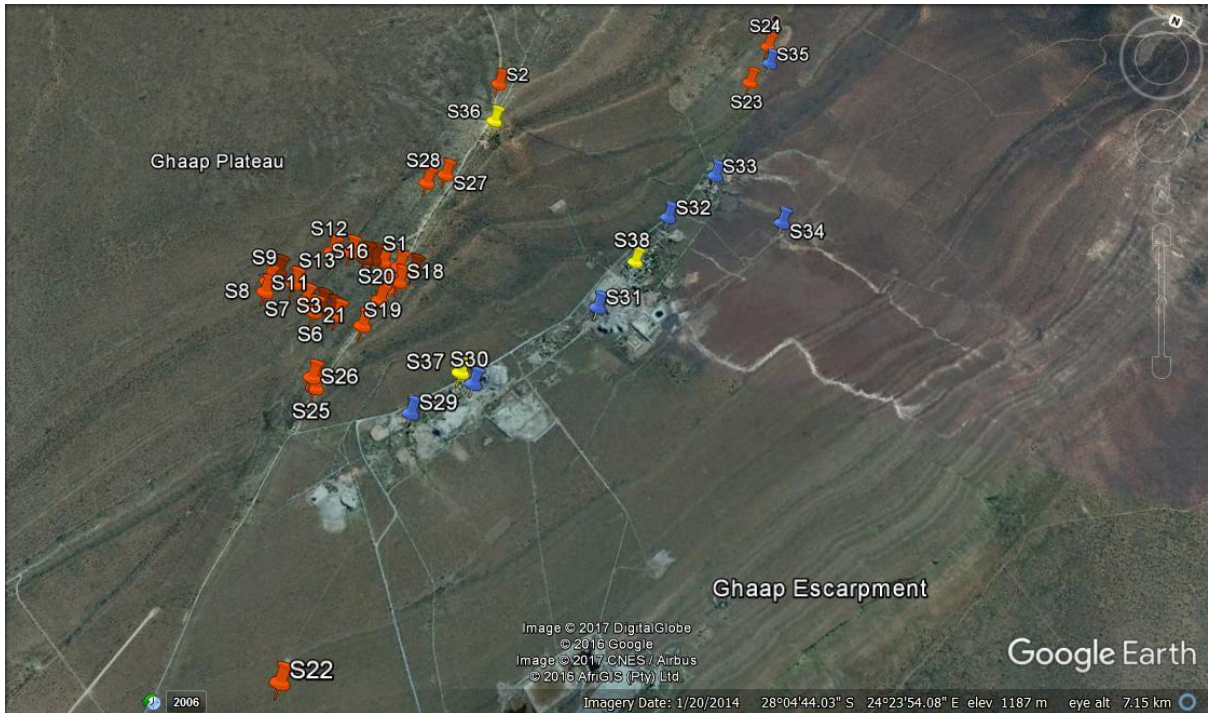


Fig 9. Heritage sites on a Portion of the Farm 393. Orange= Stone Age sites; Blue = sites of the mining period; Yellow = Buildings / groups of buildings.

6.3. Assessment of Impacts Using the Heritage Impact Assessment Statutory Framework

6.3.1. Section 3(3) of the NHRA

The following is an assessment of the value of the identified heritage resources in accordance with Section 3 of the NHRA which defines the National Estate.

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

	STATUTORY REFERENCE	OBSERVATIONS
(a)	Its importance in the community, or pattern of South Africa's history	None
(b)	Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage	None
(c)	Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage	The high frequency of stone tools dating to the MSA/LSA is typical of the highveld region of the Northern Cape

(d)	Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects	None
(e)	Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group	None
(f)	Its importance in demonstrating a high degree of creative or technical achievement at a particular period	None
(g)	Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons	Adaptation of Stone Age communities to the scrub veld over hundreds of years. The development of mining and modernisation in South Africa.
(h)	Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa	None
(i)	Sites of significance relating to the history of slavery in South Africa.	None

6.3.2 Section 38 of the NHRA

Section 38 (Subsection 3) of the National Heritage Resources Act also provides a schedule of tasks to be undertaken in an HIA process:

Section 38(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

Thirty-three sites (38) sites were recorded.

(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

There are no Grade I or Grade II sites. However the sites have been ranked in four categories for the purpose to recommend appropriate mitigation in view of the proposed development.

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

The risk ranking is a definition of potential risks based on perceived value of the heritage and potential threats posed by the proposed development. One (1) site may deserve to be protected.

(i) 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

The developing momentum in mining operations is stimulus for economic growth in the Northern Cape Province which can offset the constraints of its semi-arid conditions. Mining is labour intensive and there is real prospect of employment relief in view of the current high rate of employment in the country. General improvement in the quality of livelihoods in local communities and the country at large is expected.

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

N/A

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

Excavation, drilling, placement of rail/roads/conveyor belts must avoid the sensitive areas as identified in this survey.

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

In the event of discovery of other heritage resources during site preparation and mining phase, the Provincial Heritage Resources Authority or SAHRA will be informed immediately and an archaeologist or heritage expert called to attend.

6.4. Risk Assessment of the Findings

EVALUATION CRITERIA	RISK ASSESSMENT
Description of potential impact	Negative impacts range from partial to total destruction of surface and under-surface movable/immovable relics.
Nature of Impact	Negative impacts can both be direct or indirect.
Legal Requirements	Sections 34, 35, 36, 38 of National Heritage Resources Act No. 25 (1999)
Stage/Phase	Prospecting for minerals (test pits, drilling)
Nature of Impact	Negative, both direct & indirect impacts.
Extent of Impact	Test pits, drilling and ground clearing has potential to damage archaeological resources above and below the surface not seen during the survey.
Duration of Impact	Any accidental destruction of surface or subsurface relics is not reversible, but can be mitigated.
Intensity	Uncertain.
Probability of occurrence	Medium.
Confidence of assessment	High.
Level of significance of impacts before mitigation	High.
Mitigation measures	Protect early mine claim pegs and consider preservation the oldest headgear. Should archaeological or other heritage relics be found during the construction phase, heritage authorities will be advised immediately and a heritage specialist will be called to attend. This is standard precaution in view of inherent limitations of archaeological fieldwork.
Level of significance of impacts after mitigation	Low.
Cumulative Impacts	None.
Comments or Discussion	None.



7. RECOMMENDATIONS AND CONCLUSIONS


The mine prospecting can go ahead subject to the precautions stated above taken. In the event of discovery of other heritage resources in future phases of the project, the Provincial Heritage Resources Authority or SAHRA must be alerted immediately and an archaeologist or heritage expert called to attend.

8. CATALOGUE OF SITES

STONE AGE SITES

No	COORDINATES	PERIOD
S1	28° 4'43.10"S; 24°22'57.70"E	MSA/LSA
  <p data-bbox="204 1563 391 1597">DESCRIPTION</p> <p data-bbox="204 1608 1225 1686">On the slope below the Plateau. Cretic surface, scrub vegetation including <i>haakbos</i> (black thorn). Core and flake material (2 pieces).</p>		
<p data-bbox="204 1704 1278 1783">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S2	28° 3'47.80"S; 24°22'56.80"E	MSA/LSA
		
		
<p>DESCRIPTION</p> <p>Point of descent from the Plateau. Calcretic surface, scrub vegetation including <i>haakbos</i> (black thorn). Core or waste material (one piece).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S3	28° 4'58.94"S; 24°22'50.17"E	MSA/LSA
 <p data-bbox="204 1234 392 1263">DESCRIPTION</p> <p data-bbox="204 1279 1150 1312">On the Plateau. Calcretic surface, scrub vegetation including <i>haakbos</i>. 2 flakes.</p>		
<p data-bbox="204 1330 1278 1402">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S4	28° 4'58.60"S; 24°22'48.40"E	MSA/LSA
<div data-bbox="204 331 922 864" data-label="Image"> </div> <div data-bbox="204 920 922 1301" data-label="Image"> </div> <p data-bbox="204 1317 392 1346">DESCRIPTION</p> <p data-bbox="204 1361 1166 1391">On the Plateau. Calcretic surface, scrub vegetation including haakbos. 1 scraper.</p> <p data-bbox="204 1406 1281 1480">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1496 368 1525">MITIGATION</p> <p data-bbox="432 1496 443 1525">-</p>		

No	COORDINATES	PERIOD
S5	28° 4'57.90"S; 24°22'45.10"E	MSA/LSA



DESCRIPTION

On the Plateau. Calcretic surface, scrub vegetation including *haakbos*. 1 scraper.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S6	28° 4'59.90"S; 24°22'44.40"E	MSA/LSA
<div data-bbox="204 331 817 786" data-label="Image"> </div> <div data-bbox="204 801 850 1290" data-label="Image"> </div> <p data-bbox="204 1305 392 1335">DESCRIPTION</p> <p data-bbox="204 1350 1230 1379">On the Plateau. Calcretic surface, scrub vegetation including <i>haakbos</i>. 1 chert scraper</p> <p data-bbox="204 1417 1281 1491">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1514 368 1543">MITIGATION</p> <p data-bbox="432 1514 443 1543">-</p>		

No	COORDINATES	PERIOD
S7	28° 4'58.00"S; 24°22'41.00"E	MSA/LSA
  <p data-bbox="204 1368 392 1400">DESCRIPTION</p> <p data-bbox="204 1415 1171 1494">On the Plateau. Calcretic surface, sparse vegetation, tall grass, ground visibility – moderate to poor. Flakes / waste material (2 pieces).</p> <p data-bbox="204 1509 1281 1588">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1603 368 1635">MITIGATION</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S8	28° 4'59.20"S; 24°22'30.70"E	MSA/LSA



DESCRIPTION

On the Plateau. Calcretic surface, scrub vegetation including *haakbos*. 1 chert scraper.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S9	28° 4'56.60"S; 24°22'29.80"E	MSA/LSA



DESCRIPTION

On the Plateau. Calcretic surface, sparse vegetation mainly *haakbos*. 1 scraper.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.


MITIGATION

-


No	COORDINATES	PERIOD
S10	28° 4'53.74"S; 24°22'30.82"E	MSA/LSA
<div data-bbox="204 338 754 741" data-label="Image"> </div> <div data-bbox="204 801 759 1245" data-label="Image"> </div> <p data-bbox="204 1261 392 1290">DESCRIPTION</p> <p data-bbox="204 1305 1046 1335">On the Plateau. Calcrete. Sparse vegetation, mainly <i>haakbos</i>. 2 lithics.</p> <p data-bbox="204 1350 1281 1424">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1440 368 1469">MITIGATION</p>		

No	COORDINATES	PERIOD
S11	28° 4'55.20"S; 24°22'36.10"E	MSA/LSA
 <p data-bbox="204 1240 392 1272">DESCRIPTION</p> <p data-bbox="204 1285 1241 1317">On the Plateau. Calcrete. Sparse vegetation, mainly <i>haakbos</i>. Possible blade (1 piece).</p> <p data-bbox="204 1335 1283 1415">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1429 368 1460">MITIGATION</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S12	28° 4'45.02"S; 24°22'40.46"E	MSA/LSA
<div style="display: flex; flex-direction: column; align-items: center;">   <p data-bbox="205 1323 392 1352">DESCRIPTION</p> <p data-bbox="205 1368 1230 1397">On the Plateau. Calcrete. Scrub vegetation including <i>haakbos</i>. 1 core / waste material.</p> <p data-bbox="205 1417 1281 1491">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="205 1509 368 1538">MITIGATION</p> </div>		

No	COORDINATES	PERIOD
S13	28° 4'43.60"S; 24°22'44.70"E	MSA/LSA
<p data-bbox="204 376 312 409">Find Pic</p>  <p data-bbox="204 916 392 949">DESCRIPTION</p> <p data-bbox="204 965 1018 999">On the Plateau. Calcrete. Scrub vegetation. 2 lithics/ waste material.</p> <p data-bbox="204 1014 1278 1093">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S14	28° 4'43.90"S; 24°22'48.90"E	MSA/LSA
		
		
<p>DESCRIPTION</p> <p>Point of descent from the Plateau. Calcrete. Scrub vegetation. Scraper and waste material (2 pieces).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S15	28° 4'43.50"S; 24°22'50.90"E	MSA/LSA
 <p data-bbox="204 1234 391 1263">DESCRIPTION</p> <p data-bbox="204 1279 1082 1312">Point of descent from the Plateau. Calcrete. Scrub vegetation. 2 scrapers.</p> <p data-bbox="204 1328 1281 1413">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S16	28° 4'43.20"S; 24°22'53.40"E	MSA/LSA
 <p data-bbox="204 1301 392 1330">DESCRIPTION</p> <p data-bbox="204 1348 1201 1424">Point of transition from the Plateau to the slope. Calcrete. Scrub vegetation. 3 lithics (scraper and waste material).</p> <p data-bbox="204 1442 1281 1518">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1536 368 1565">MITIGATION</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S17	28° 4'42.80"S; 24°23'1.40"E	MSA/LSA



DESCRIPTION

Terrace below the Plateau. Flat area, scattered trees (acacia), grass, ground visibility moderate to poor. 2 lithics, possible core and scraper.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S18	28° 4'46.50"S; 24°22'59.50"E	MSA/LSA



DESCRIPTION

Terrace below the Plateau. Calcretic soils, grass cover, ground visibility moderate to poor.
2 small flakes.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S19	28° 4'48.90"S; 24°22'57.50"E	MSA/LSA





DESCRIPTION

Terrace below the Plateau, point of transition to slope up to the Plateau. Mixture of calcretic and dolomitic stones. 2 flake tools/ waste material.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S20	28° 4'52.10"S; 24°22'57.60"E	MSA/LSA
		
		
<p>DESCRIPTION</p> <p>On the slope/descent from the Plateau. Mixture of calcretic and dolomitic stones. 4 lithics, core / flake / waste material.</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION		

No	COORDINATES	PERIOD
S21	28° 4'59.00"S; 24°22'56.90"E	MSA/LSA



DESCRIPTION



On the slope/descent from the Plateau. Calcretic surface. 4 lithics, core / flake / waste material.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S22	28° 6'9.40"S; 24°23'19.40"E	MSA/LSA
		
<p>DESCRIPTION</p> <p>Southern part of the property. Flat area with dolomitic waste and bedrock. Scattered <i>haakbos</i>. 1 lithic (waste material).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S23	28° 3'25.10"S; 24°24'0.20"E	MSA/LSA
 		
<p>DESCRIPTION</p>		
<p>Point of descent from the Plateau at the northern end of the property. 2 lithics (1 chert, 1 greenstone possibly foreign to the area).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
<p>MITIGATION</p>	<p>-</p>	

No	COORDINATES	PERIOD
S24	28° 3'12.50"S; 24°24'1.00"E	MSA/LSA



DESCRIPTION

Terrace below the Plateau on the northern end of the property. 3 lithics including chert.

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S25	28° 5'15.50"S; 24°22'54.30"E	MSA/LSA
		
		
<p>DESCRIPTION</p>		
<p>Slope between the Plateau and terrace. Calcretic surface. 1 chert scraper.</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
<p>MITIGATION</p>		

No	COORDINATES	PERIOD
S26	28° 5'13.60"S; 24°22'52.40"E	MSA/LSA
<div data-bbox="204 376 780 804" data-label="Image"> </div> <div data-bbox="204 864 790 1301" data-label="Image"> </div> <p data-bbox="204 1317 392 1346">DESCRIPTION</p> <p data-bbox="204 1361 1262 1435">On the Plateau. Calcretic surface, sparse vegetation mainly <i>haakbos</i>. 5 lithics including a blade.</p> <p data-bbox="204 1458 1278 1532">HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p> <p data-bbox="204 1547 368 1576">MITIGATION</p> <p data-bbox="432 1547 443 1576">-</p>		

No	COORDINATES	PERIOD
S27	28° 4'17.00"S; 24°22'56.40"E	MSA/LSA



DESCRIPTION

On the slope below the Plateau. Calcretic surface, scrub vegetation mainly *haakbos*. 4 lithics (scrapers, one with a nick).

HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.

MITIGATION

-

No	COORDINATES	PERIOD
S28	28° 4'20.60"S; 24°22'52.98"E	MSA/LSA
 		
<p>DESCRIPTION</p> <p>On the slope below the Plateau. Calcretic surface, scrub vegetation mainly <i>haakbos</i>. 3 lithics (scrapers / waste material).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of tool manufacturing and use during the MSA/LSA.</p>		
MITIGATION	-	

MINING HERITAGE

No	COORDINATES	PERIOD
S29	28° 5'13.50"S; 24°23'17.60"E	Mining



DESCRIPTION

Evidence of fissure mining, a "Big Hole" and abandoned head gear (Shaft No 1).

HERITAGE SIGNIFICANCE: Significant as evidence of early and modern methods of reef diamond mining.

MITIGATION

-

No	COORDINATES	PERIOD
S30	28° 5'2.90"S; 24°23'27.90"E	Mining




DESCRIPTION


Abandoned head gear (Shaft No 2) following the fissure (same as S29).

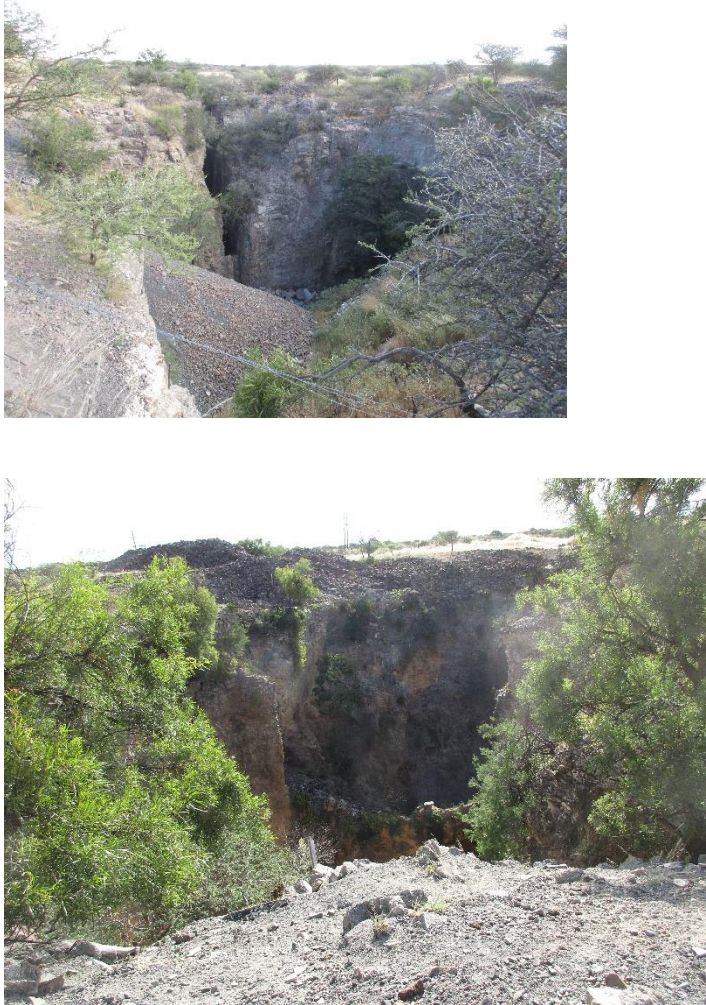
HERITAGE SIGNIFICANCE: Mining heritage.

MITIGATION


-

No	COORDINATES	PERIOD
S31	28° 4'36.80"S; 24°23'47.30"E	Mining
 <p>DESCRIPTION Abandoned headgear and Shaft No 3 following the fissure.</p> <p>HERITAGE SIGNIFICANCE: Mining heritage</p> <p>MITIGATION -</p>		


No	COORDINATES	PERIOD
S32	28° 4'9.40"S, 24°23'54.30"E	Mining
 <p>DESCRIPTION Boshoff Skag. Abandoned headgear and Shaft No 4 following the fissure.</p> <p>HERITAGE SIGNIFICANCE: Mining heritage</p> <p>MITIGATION</p>		


No	COORDINATES	PERIOD
S33	28° 3'54.60"S; 24°24'1.30"E	Mining
<p>DESCRIPTION</p>  <p>Twin holes which followed pipes and evidence of fissure mining.</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence early methods of reef diamond mining.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S34	28° 4'1.50"S; 24°24'21.70"E	Mining
		
<p>DESCRIPTION Evidence of fissure mining, abandoned head gear (Shaft No 5).</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence of early and modern methods of reef diamond mining.</p>		
MITIGATION	-	

No	COORDINATES	PERIOD
S35	28° 3'17.60"S, 24°24'3.20"E	Mining
		
<p>DESCRIPTION Old mine claims peg. 3 pegs within a distance of 70m.</p>		
<p>HERITAGE SIGNIFICANCE: Significant as evidence early diamond mining.</p>		
<p>MITIGATION</p>		

BUILDINGS HERITAGE

No	COORDINATES	PERIOD
S36	28° 3'58.50"S, 24°23'0.80"E	Modern buildings
		
<p>DESCRIPTION</p> <p>Isolated farm building, earthen bricks, white plaster, gabled, asbestos roof</p>		
<p>HERITAGE SIGNIFICANCE: Old farm building.</p>		
MITIGATION		-

No	COORDINATES	PERIOD
S37	28° 5'1.43"S, 24°23'23.91"E	Modern buildings
		
<p>DESCRIPTION</p> <p>3 abandoned staff houses, gabled with a veranda. All buildings in a poor state.</p>		
<p>HERITAGE SIGNIFICANCE: Mine residential houses.</p>		
MITIGATION		-

No	COORDINATES	PERIOD
S38	28° 4'22.70"S; 24°23'51.20"E	Modern Buidings
		
<p>DESCRIPTION</p> <p>Staff houses, group of buildings. 3 distinct types: hipped roof and gabled roof.</p>		
<p>HERITAGE SIGNIFICANCE: Significant examples of mine residential houses.</p>		
MITIGATION	Select one or two for preservation.	

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10. ACKNOWLEDGEMENTS

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