

***Haritage Impact Assessment for the Prospecting Rights Application on Farm  
No 83, in Barkly West Magisterial District, Northern  
Cape***

Prepared by



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## EXECUTIVE SUMMARY

Table 1: Executive summary details

Item	Description
Proposed development and location	Prospecting Right for diamonds on the Farm No.83, situated in the Magisterial District of Barkly West, Northern Cape Region
Purpose of the study	To carry out a Heritage Impact Assessment to determine the presence/absence of cultural heritage sites and the impact of the proposed project on heritage resources within the area demarcated for the diamond prospecting.
1:50 000 Topographic Map	2824AB
Coordinates	28° 2'11.16"S, 24°18'11.84"E
Municipalities	Barkly West Magisterial District
Predominant land use of surrounding area	Agriculture (animal husbandry) and mining
Developer	Kimberley Impex Group Pty Ltd
Contact Person	Thato Tau
Contact Details	Cell: 084 929 6029 Email: <a href="mailto:ttau@telkomsa.net">ttau@telkomsa.net</a>
Heritage Consultant	Pulafel 4D Consulting Pty Ltd
Date of Report	Draft report 27 06 2019
Heritage Contact	

Pulafel 4D Consulting Pty Ltd was commissioned by Kimberley Impex Group Pty Ltd to undertake an archaeological and Heritage Impact assessment for Prospecting Right on the Farm No.83, situated in the Magisterial District of Barkly West, Northern Cape Region. In accordance with the terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Department of Mineral Resources of South Africa

request that an HIA report to be produced before prospecting can begin. In compliance with South African heritage legislation, Pulafel conducted field assessment of Farm No. 83 on 17 June 2019. The fieldwork involved drive-throughs and actual field walking to locate traces of heritage resources on the landscape. The surveys confirmed desktop research in that it only yielded very limited isolated scatters of stone tools and one small cluster of broken potsherds, as well as several possible historical house foundations. All the heritage traces located in Farm No.83 are of **low significance** because the lithics and potsherds are isolated finds and the possible historical impact structures are already destroyed, leaving traces of rubble, metal and glass fragments. Accordingly, the impact of the proposed development on the heritage resources located during these surveys are is very low. There is, therefore, no heritage reason to stop the proposed development by Kimberley Impex Group Pty Ltd but great care should be taken when drilling underground because of the possibility of encountering limestone caves. About 55 km to the north lies the Taung World Heritage Site, whose cave system produce hominin fossils of great importance. Other buried heritage resources may still be encountered even when there are no surface signs and when this happens, proper reporting procedures laid out in this report should be followed.

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## ABBREVIATIONS

AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
EIA	Environmental Impact Assessment
EIA	Early Iron Age ( <i>EIA refers to both Environmental Impact Assessment and the Early Iron Age but in both cases the acronym is internationally accepted. This means that it must be read and interpreted within the context in which it is used.</i> )
EIAR	Environmental Impact Assessment Report
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
ICOMOS	International Council of Monuments and Sites
LIA	Late Iron Age
LSA	Late Stone Age
MAA	Mineral Amendment Act, No 103 of 1993
MPRDA	Mineral and Petroleum Resources Development Act 28 of 2002
MSA	Middle Stone Age
NEMA	National Environmental Management Act 107 of 1998
NHRA	National Heritage Resources Act 25 of 1999
NID	Notice of Intention to Develop
PHRA	Provincial Heritage Resource Agency
SAHRA	South African Heritage Resources Agency
ToR	Terms of Reference

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### Periodisation

Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below;

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

### Definitions

Just like periodisation, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best-practice. The following aspects have a direct bearing on the investigation and the resulting report:

**Cultural (heritage) resources** are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture or archaeology of human development.

**Cultural significance** is determined by means of aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

**Value** is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

**Isolated finds** are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

**In-situ** refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

**Archaeological site/materials** are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artifacts, human and hominid remains, and artificial features and structures. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorization from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

**Historic materials** are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

**Chance finds** means archaeological artefacts, features, structures or historical remains accidentally found during development

**A grave** is a place of interment (variably referred to as burial) and includes the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).



**A site** is a distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

**Heritage Impact Assessment (HIA)** refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project which requires authorization of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, a HIA must include recommendations for appropriate mitigation measures for minimizing or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

**Impact** is the positive or negative effects on human well-being and / or on the cultural and natural environment.

**Mitigation** is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

**Mining heritage sites** refer to old, abandoned mining activities, underground or on the surface, which may date from the prehistorical, historical or the relatively recent past.

**Study area** or 'project area' refers to the area where the developer wants to focus its development activities (refer to plan).

**Phase I studies** refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

### Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. Human burials can occur in unpredictable locations. It should be remembered that archaeological remains (including graves and paleontological remains) usually occur below the ground level. Should this material be revealed during construction, such activities should be halted immediately, and a

competent heritage practitioner, SAHRA or PHRA must be notified in order for an investigation and evaluation of the find(s) to take place (cf. NHRA (Act No. 25 of 1999), Section 36 (6)). Recommendations contained in this document do not exempt the developer from complying with any national, provincial and municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Pulafel 4D Consulting Pty Ltd assumes no responsibility for compliance with conditions that may be required by the PHRA or SAHRA in terms of this report.

### TERMS OF REFERENCE (ToR)

Pulafel 4D Consulting Pty Ltd was engaged to do a Heritage Impact Assessment of the Farm No. 83 in situated in the Magisterial District of Barkly West, Northern Cape Region. The objectives for doing a HIA are to:

- Review applicable legislative requirements, identify all objects, sites, occurrences and structures if an archaeological or historical nature (cultural heritage sites) located on the property,
- Assess the significance of the cultural resources (if any) in terms of their archaeological, historical scientific, social religious, aesthetic and educational values,
- Describe the possible impact of the proposed development on the identified cultural remains, according to standard set legislations and conventions,
- Where there is a need, recommend suitable mitigation measures and

### INTRODUCTION AND BACKGROUND TO THE PROJECT

Pulafel 4D Consulting (Pty) Ltd was appointed by Kimberley Impex Group Pty Ltd to undertake an Archaeological and Heritage Impact Assessment on the Farm No.83, Situated in the Magisterial District of Barkly West, Northern Cape Region.

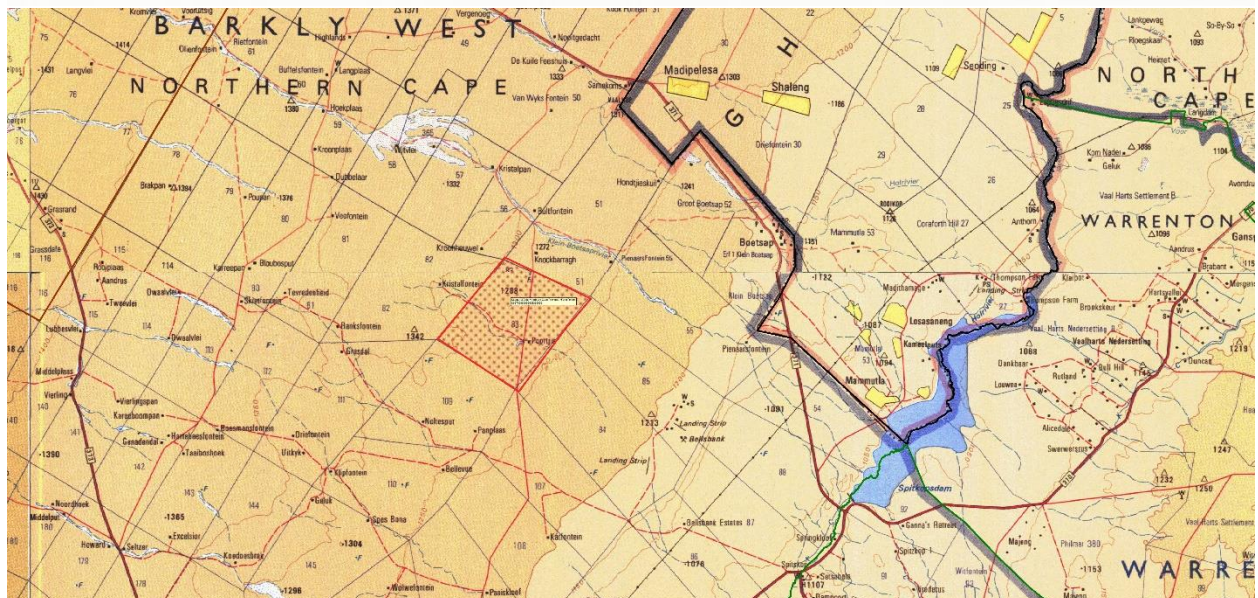
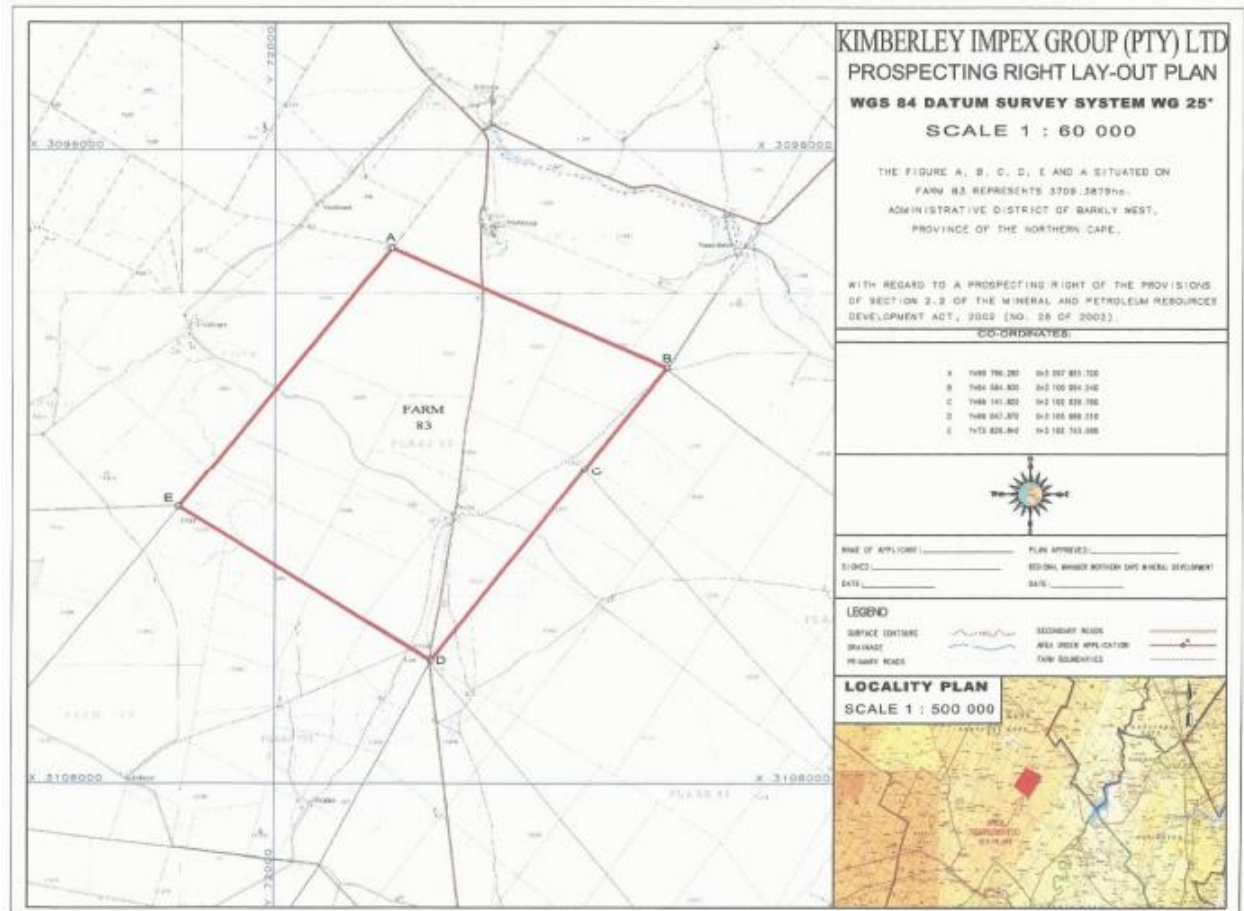


Figure 1: Location of the project area

The project area is predominantly flat with the exception of the western side which has a low mountain range. The vegetation is mainly a grassy dwarf shrub-veld with some sparse low shrubs and grassy areas but the visibility is very good. A small section of the farm has some stony areas with rounded boulders but the dominant rock type is calcrete that typically form in cavitous areas. About 55km to the north, these holes or caverns hosts cemented bones, pebbles and sediment matrix of calcium carbonate, from which famous the Taung Skull was blasted out during mine operations in 1924 (DACERD 2003). The following vegetation taxa were observed: low Shrub: *Blepharis marginata*. The Succulent Shrub include *Prepodesma orpenii*. The Alien pvegetation taxa of *Prosopis* has been observed to be found on the farm. The farm is currently being used for cattle ranching. The whole farm is divided into several paddocks. Breccia is a specific kind of rock found within tufa. It is made up of calcrete – a mix of sand, gravel, clay, bones and other material cemented together by calcium carbonate. This rock forms in that occur or occurred in tufa in the past.

## PROJECT DESCRIPTION

The proposed project has phase that include preliminary exploration work, exploratory drilling, based on the results of the geophysics and loam sampling. Kimberley Impex Group propose to drill 6 bores at this stage. This would result in the drilling of 6 percussion holes, each to a depth of approximately 50m to obtain drill chips from the causative bodies. Furthermore, delineation drilling exercise would be done to estimate the dimensions and shape of the body, as well as to obtain material for Indicator mineral (HMA) sampling and Microdiamond (MIDa) sampling to assess the diamond potential of the kimberlite. Based on the size of known pipes and blows in the area (around 0.5 ha). It is estimated that a total of 4 drill holes would be done to delineate the body to a sufficient extent for a bulk sampling programme. The final phase of the proposed project will provide for and design of construction of infrastructure such as Footprint: Store 25m<sup>2</sup>, Ablution Facility 4m<sup>2</sup>, Site Office 16m<sup>2</sup>, Drill Pads 81m<sup>2</sup>, Roads 132m<sup>2</sup>, Topsoil Stockpile 1000m<sup>2</sup>: Trenches 4200m<sup>2</sup>: Total Footprint 5458m<sup>2</sup>.



In addition to that access roads to the site will be required during loam sampling, and diamond drilling activities. Currently a number of existing roads and tracks traverse the proposed prospecting site and where practicable, these roads will be used. Once diamond drill sites have been identified, more temporary access roads will be established for repeated access to the drill site if the identified drill site cannot be accessed via existing roads and tracks.

## LEGISLATIVE REQUIREMENTS

Archaeological patrimony are finite as they are non-renewable and hence they need to be sustainably utilised through protective legislations. Numerous Acts are incorporated into legislation to provide for the protection of archaeological and heritage resources in South Africa, Over-arching these is the Constitution of South Africa Act No 108 of 1996. The National Heritage Resources Act (NHRA), Act 25 of 1999, the Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA), the National Environmental Management Act (NEMA) 107 of 1998 section 39 (3) (b) (iii) the National Environment Management Protected Areas Act No 57 of 2003 (NEMPAA), and the Human Tissues Act (HTA) 65 of 1983 as amended. The Environment Management Biodiversity Act of 2004, Act No 10 of 2004, is one of the pieces of legislation that help in the protection of the various forms of the South African heritage. The National Heritage Resources Act (NHRA) no 25 of 1999 is the most relevant of these as it provides for the protection of the following resources:

a) paleontological and archaeological deposits, objects and sites, b) built structures older than 60 years, c) burial grounds and graves which include graves younger than 60 years; graves older than 60; graves of victims of conflict and or graves of individuals of royal descent, as well as d) cultural landscapes.

The NHRA (No. 25 of 1999) is a piece of legislation that defines heritage resources of cultural significance or other special value for the present community and for the posterity that are considered part of the national estate such as “places, buildings, structures and

equipment of cultural significance; places that are associated with oral traditions are attached, historical settlements, and townships landscapes and natural features of cultural significance; geological sites of scientific or cultural importance; archaeological and paleontological sites; or graves and burial grounds, including ancestral graves; royal graves and graves of traditional leaders; graves of victims of conflict; graves of individuals designated by the Minister by notice in the Gazette; historical graves and cemeteries; and other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983); sites of significance relating to the history of slavery in South Africa; movable objects, including objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens; objects to which oral traditions are attached or which are associated with living heritage; ethnographic art and objects”

NHRA Act requires developments which alter the character of a site, and, which exceed prescribed limitations, require specialist assessment. These activities trigger the need for heritage impact assessments and are listed in sections 34, 35 and 38. The limitations are listed below:

Section 34(1) No person may alter or demolish any structure or part of a structure which is more than 60 years old without permission by the relevant provincial heritage resources authority

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority, destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site

Section 36(3) No person may, without a permit issued by SAHRA or the responsible provincial heritage resources authority, destroy, damage, alter exhumed, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or bring onto or use at a burial ground or grave any excavation equipment or any equipment which assists in detection or recovery of metals.

Section 38 (1) of the National Heritage Resources Act, 1999: Requirements of heritage impact assessment Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as – (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; (b) the construction of a bridge or similar structure exceeding 50m in length; (c) any development or other activity which will change the character of a site (i) exceeding 5 000 m<sup>2</sup> 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 cost of which exceed a sum set in terms of regulations b SAHRA or a provincial heritage resources agency; (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources agency, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”

The proposed development of at Farm 83 of prospecting for diamonds and mining when fully implemented will potentially impact on the archaeology and cultural heritage and natural heritage on the development foot print. Therefore, there is need for an Archaeological and Heritage Impact Study.

## METHODOLOGY

### **Desktop Assessment**

The HIA study for the proposed project area was implemented through the various methods. Firstly a desktop study was conducted to gain access to the following literature sources: academic literature, South African Heritage Resources Authority (SAHRA) impact assessment reports on the region, South African Heritage Resources Information System (SAHRIS) map, Genealogical society database, South African archives database, McGregor, Africana libraries, digital collections, as well as previous HIA reports in the Northern Cape and specifically in the Barkley West District and the areas in the immediate surroundings. The second method involved field surveys.

### **Field Survey**

The field study was undertaken on 17 June 2019 on foot and by car. Environmental parameters such as geology, soils, and types of vegetation, river valleys and hills / mountains were taken into consideration when deciding the areas to investigate for archaeological and heritage sites. The survey was undertaken by the consulting archaeologists, Dr F Bandama and Dr J Chikumbirike. The two archaeologists were assisted by Mr Thuto Tau and two local farm workers from the project area. On the day of the survey, the weather was bright and sunny, with clear visibility. The visibility was very good. The western parts of the farm had been burnt and that made visibility even better.

A camera was used to take photographs of artifacts, features, structures and ecofacts. Figure 2 below shows the landscape photographs of the general area.





Figure 2: General landscape photos



GIS and remote sensing are other tools that were used together with digital aerial photographs (Google earth) to locate archaeological sites. GIS is based on spatial graphical representations of contextual in the sense of integrating many different data types and by being analytical. It is not just descriptive it also at the same time enhances visualization. The location of points of interest were recorded on the Global Positioning System (GPS) using a handheld Garmin eTrex® 20x device.



Figure 3: Survey route and sites identified

## HERITAGE ASSESSMENT AND REPORT COMPILATION

### Assessing significance

The assessment of the heritage significance is the values are assessment that the heritage carries to various stake holders. It is based on the importance that people attach to a physical object, or abstract concept attached to an event, landscape or people. The heritage significance is its worthiness to different stake holders. The intrinsic worth of cultural, or natural patrimony (sites and object) is linked to various sectors of the local, national and global population. The types of significances or values below are in accordance with SAHRA which is the national heritage authority in South Africa.

## Type of Significance

*Aesthetic:* the site or object are significant in exhibiting particular aesthetic characteristics valued by a community or cultural group.

*Historical:* Is its importance in the community, or pattern of history. It also reflects a strong or special association with the life or work of a person, group or organisation of importance in history. According to SAHRA heritage may demonstrate significances relating to the history of slavery.

*Rarity:* is when heritage possess uncommon, rare or endangered aspects of natural or cultural heritage.

*Representivity:* shows the principal characteristics of a particular class of natural or cultural places or objects, whether they indicate a range of landscapes or environments, the attributes of which identify it as being characteristic of its class. The other factor is that is whether it shows principal characteristics of human activities that include the way of life, philosophy, custom, process, land-use, function, design or technique in the environment of the nation, province, region or locality.

*Scientific/Technical:* is the potential to yield information that will contribute to an understanding of natural or cultural heritage. It shows a high level of creative or technical achievement at a particular time period

*Social:* this when the heritage has a strong or special association with a particular community or cultural group for social, cultural or spiritual purposes

*Tourism:* this when the site or object carries a commercial value that is associated with tourism, thus the heritage does possess the potential to be used for education/economic benefits.

## Site Grading

Assessment for heritage significances paves way for site grading. Site grading or weighting is contingent on the geographical extent (local/provincial/national) and the importance (**low/medium/high**) of the value. Based on these two elements, possible recommendations on future action on the sites are prescribed. These recommendations may include no further action, mitigation measures or destruction of a site. It is important to note that SAHRA is the one that approves to developers or any other interested and or affected parties the destruction of any heritage site. This may only take place upon SAHRA issuing a permit. The permit may also be issued by a provincial heritage resources authority (PHRA) but for the Northern Cape, an agreement is in place for SAHRA to handle archaeological and paleontological permits and approvals.

## Report compilation

The desktop analysis and physical survey of the sites to ensure a comprehensive investigation, documentation and assessment of the archaeological and heritage significances of the site informed the compilation of this report.

## DESKTOP ASSESSMENT: BACKGROUND TO THE ARCHAEOLOGICAL AND HERITAGE HISTORY OF THE NORTHERN CAPE.

The South African pre-history follows a complex sequence of stratigraphic deposition, which is preserved in the deep layers underground categories into three progressive phases, namely the Paleontological phase, the archaeological phase and the colonial/historical period. For the paleontological phase please refer to a full paleontological desktop assessment.

### The archaeology

The archaeological phase of South Africa and in Southern Africa is generally subdivided into five categories, followed by the colonial/historical period:

- Early Stone Age (~ 2.6 million to 250 000 years ago)
- Middle Stone Age (~ 250 000 to 40-25 000 years ago)
- Later Stone Age (~ 40-25 000, to recently, 100 years ago)
- Early Iron Age (~ AD 200 to 1000)
- Late Iron Age (~ AD 1100-1840)
- Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

*Earlier Stone Age (ESA):* The South African Earlier Stone Age (ESA) is dated between 2,6My and 200ky. According to Kuman (2001) and Dusseldorp *et al.* (2013) the ESA is preserved in a variety of contexts, both as 'sites' in the traditional sense, as extensive surface and geological assemblages, and even as buried deflated assemblages. Near the proposed project area in the Northern Cape, the major or prominent sites are Kanteen Kopje in Barkly West. It preserves stone implements (hand axes, cores, flakes) which characterize Earlier Stone Age industries. The other site is that of Kathu Pan1. Significantly, no ESA was reported during our surveys.

*The Middle Stone Age (MSA):* dates around 250 000 years ago to 25000 years ago. There are debates on the MSA centered around the emergence of Homo sapiens and the so-

called the modern human behaviour (McBrearty & Brooks 2000). According to Wadley (1993), the MSA is characterised by the presence of points, blade technology, basal thinning; blade tools, denticulates, unifacial and bifacial points as well as prepared cores. There are various industries such as the Howiesons Poort, Pietersburg, Mossel Bay that are a characteristic of the MSA. Lombard (2012) classified these into MSA 1-V. In the nearby Free State region, the MSA is recorded in Florisbad, which is known for preserving an archaic Homo sapiens cranium accompanied by a wide range of macro- and micro-fossil fauna remains. Near the project area, in Kuruman, Wonderwerk Cave and Kathu Pan1-4 and other sites around exhibit these MSA technologies. No MSA site was reported during our surveys.

*The Later Stone Age (LSA):* According to Deacon (1984), the LSA dates between  $\pm 40\,000$  BP and  $\pm 2000$  BP. The technology is consistent with implements that more 'complex' socio-economic behaviours compared to the MSA populations. The stone implements become smaller and function specific. The implements include specialised equipment for fishing and hunting, formal scrapers, and microlithics or micro- stone tools (Deacon 1948; Klein 2000). Canteen Kopje, in Barkly West, is one of the sites close to the project area. It preserves Late Stone Age Technology formal tools such as end and side scrapers and bladelets. Wonderwerk Cave in Kuruman also possess the LSA implements. The LSA of the Northern Cape and Free State is also recorded in Smithfield. Sampson (1988) states that the site is a cave site located in Smithfield and is the type site for the Smithfield LSA industrial complex. Smithfield drift complex is characterized by large end scrapers, backed bladelets and long end scrapers dating within the last 1000 years. A few LSA artefacts were reported during our surveys.

*The Iron Age:* The Iron Age of South Africa records a prehistoric period where the Bantu farmer groups migrated from the West African region of the continent through and around eastern Africa into southern African region. Their movement or migration from the lacustrine region is dated between AD200 and AD 1654 (Huffman 1982, 1996, 2007). According to Huffman (1982), the Bantu people were farmers using metal who, by 500 years before present had occupied the eastern escarpment of southern Africa. Huffman (1982) argues that these groups varied from the Khoi-San hunter-gatherer communities in that they cultivated crops such as sorghum, millet and beans, lived in semi-permanent settlements, smelted and forged iron and produced pottery.

The Late Iron Age is recorded in Doornpoort site, Winburg which is approximately. They are also recorded in the Northern Cape province in Tswalu Game Reserve and the areas around. The sites are characterized by the presence of clay pots, bones metals and a settlement pattern which demonstrates organisation associated with the Central Cattle

Pattern. No definite Iron Age site was reported in our study but a cluster of broken potsherds may denote this evidence if it is not associated with Khoi herders.

*The Colonial/historical phase (c1500-1994 but dates of arrival of Europeans in the interior varies from one place to another):* it is the period that is associated with the arrival of European settlers up to the period of the emergence of democracy in South Africa. This period is characterised by various wars which led to the displacement of many in South Africa. The general area around Kimberley and Barkly West North of Kimberley this is associated with historical mining and was also used by the Boers during the South African War to position their ammunitions. While some remnants of cement built rubble occur in the study area, nothing of a military nature could be detected and the dates (though uncertain) of the structures appear to be much more recent.

## PREVIOUS RELEVANT IMPACT ASSESSMENTS

The area has very limited developments and as a result, very few impact assessments have been undertaken. These reports suggest the presence of isolated archaeological features in the form of LSA lithic scatters. All these sites are of low significance rating due to their small site, ex-situ context and their common occurrence in the region.

## THE ARCHAEOLOGICAL FINDS

Our surveys exposed eleven sites. Five of these (Site 1 to 5) are probable historical sites (over 60 years), three (Site 6, 7 and 9) are LSA and one (Site 8).

Table 2: Site registry

Site	Coordinates	Description	Period	Material
Site 1	28° 2'11.16"S, 24°18'11.84"E	Modern dilapidated structures	Historical?	Metal, cement blocks and bricks
Site 2	28° 2'15.99"S, 24°18'11.24"E	Modern dilapidated structures	Historical?	Metal, cement blocks and bricks
Site 3	28° 2'18.04"S, 24°18'11.02"E	Modern dilapidated structures	Historical?	Metal, cement blocks and bricks
Site 4	28° 2'20.41"S, 24°18'19.48"E	Modern dilapidated structures	Historical?	Metal, cement blocks and bricks
Site 5	28° 2'20.67"S, 24°18'25.94"E	Modern dilapidated structures	Historical?	Metal, cement blocks and bricks
Site 6	28° 2'14.54"S, 24°18'20.71"E	Isolated lithics	LSA	Microliths (bladelet and lithic ore)
Site 7	28° 2'16.22"S, 24°19'14.86"E	Isolated lithics	LSA	Microliths (small backed scraper)

Site 8	28° 2'12.37"S, 24°19'14.03"E	Isolated lithics with a small cluster of pottery fragments	LSA (Khoi herder)/LIA	Microliths (small scrapers and pottery)
Site 9	28° 0'51.14"S, 24°20'13.77"E	Isolated lithics	LSA	Microliths (bladelets and small scrapers)
Site 10	28° 2'11.58"S, 24°18'3.48"E	Modern dilapidated structures	Historical	Metal, cement blocks and bricks
Site 11	28° 2'30.45"S, 24°15'55.63"E	Isolated lithics	LSA	Microliths ( small scrapers)

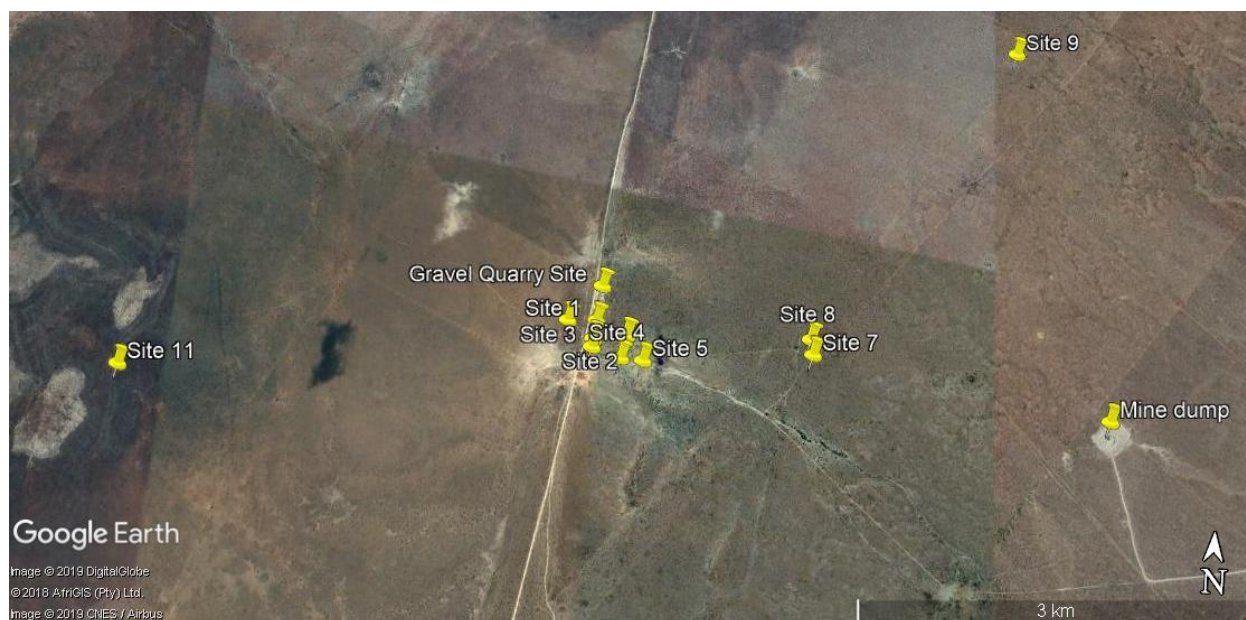


Figure 4: Sites recorded during surveys.

## Stone tools

The project area revealed isolated scatters of Stone Age flakes. No other LSA objects or sites of heritage significance were identified during the field survey.

## Site 6: LSA

We identified only one backed bladelet and a core at this site.





Figure 5; Photos of Site 6 and the lithics identified

### **Site 7: LSA**

Only one LSA scraper was found at this site.





Figure 6: Photos of Site 7 and the only backed small scraper identified at this site.

### **Site 8: LSA (Khoi herders?)**

Five small lithics and 8 fragments of potsherds were documented at Site 8. The lithics are typical backed small scrapers associated with the LSA (Deacon and Deacon 1999). No decorations or diagnostic form was identifiable on the potsherds making it difficult to place the site in the culture-historical





Figure 7: Photos of Site 8 and the artefacts recovered.

#### **Site 9: LSA**

Seven lithics were recovered at this site.





Figure 8: Site 9, the lithics recovered.

#### **Site 11: LSA**

Four backed small scrapers were discovered at this site.





Figure 9: Photos of Site 11 and the lithics recovered

### **Site 1 to 5 and 10**

The cluster of foundation structures and rubble that make up these sites are characterized by modern metal, purple and clear glass and use of fire clay bricks and rocks as building materials with cement as the binding mortar.





Figure 10: Possible historical material from Site 1, 4, 5 and 10

### Burial grounds and Graves

No burial grounds nor graves were found in the project area. Some graves maybe subsurface sites and it is probable that they are not identifiable above the ground. Therefore, should they be encountered during the mining construction process or any other activity related to mining, the developer is advised that according to the NHR Act

25 of 1999, destruction or alteration of historical graves is prohibited by law. Any alteration or destruction of graves can only be undertaken through a permit issued by SAHRA or the Northern Cape Heritage Authority. However, the authorities will have to be satisfied that the applicant has followed due diligence for such an action to be approved.

## SIGNIFICANCE & GRADING

The significance rating for these archaeological stone tools is very low. These are eroded, and were recorded in a secondary context and not in a stratigraphic context, and are also outside of any cultural context. There is no evidence that they were manufactured on the same site within which they were discovered. No protection of these materials is required as they present no unique features. Due to its low rating, the artefacts require no mitigation.

Table 3: Significance rating for the sites identified within the Farm 83 project area.

Site	Coordinates	Description	Significance	Grading	Impact
Site 1	28° 2'11.16"S, 24°18'11.84"E	Modern dilapidated structures	Low	Low	Low
Site 2	28° 2'15.99"S, 24°18'11.24"E	Modern dilapidated structures	Low	Low	Low
Site 3	28° 2'18.04"S, 24°18'11.02"E	Modern dilapidated structures	Low	Low	Low
Site 4	28° 2'20.41"S, 24°18'19.48"E	Modern dilapidated structures	Low	Low	Low
Site 5	28° 2'20.67"S, 24°18'25.94"E	Modern dilapidated structures	Low	Low	Low
Site 6	28° 2'14.54"S, 24°18'20.71"E	Isolated lithics	Low	Low	Low
Site 7	28° 2'16.22"S, 24°19'14.86"E	Isolated lithics	Low	Low	Low
Site 8	28° 2'12.37"S, 24°19'14.03"E	Isolated lithics & pottery fragments	Low	Low	Low
Site 9	28° 0'51.14"S, 24°20'13.77"E	Isolated lithics	Low	Low	Low
Site 10	28° 2'11.58"S, 24°18'3.48"E	Modern dilapidated structures	Low	Low	Low
Site 11	28° 2'30.45"S, 24°15'55.63"E	Isolated lithics	Low	Low	Low

## RECOMMENDATIONS

The heritage resources discovered in the project require no further action because of their low significance. Therefore, based on the study presented in this assessment, the proposed prospecting of diamonds is supported.

## CHANCE FINDINGS PROCEDURES

It has already been highlighted that sub-surface materials may still be lying hidden from surface surveys. Therefore, absence (during surface survey) is not evidence of absence

all together. The following monitoring and reporting procedures must be followed in the event of a chance find, in order to ensure compliance with heritage laws and policies for best-practice. This procedure applies to the developer's permanent employees, its subsidiaries, contractors and subcontractors, and service providers. Accordingly, all construction crews must be properly inducted to ensure they are fully aware of the procedures regarding chance finds.

- If during the operations or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance, work must cease at the site of the find and this person must report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.
- The senior on-site Manager must then make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area before informing SAHRA/PHRA.

If a human grave/burial is encountered, the remains must be left as undisturbed as possible before the local police and SAHRA or HWC are informed. If the burial is deemed to be over 60 years old and no foul play is suspected, an emergency exhumation permit may be issued by SAHRA for an archaeologist to exhume the remains.

## CONCLUSIONS

Pulafel 4D Consulting Pty Ltd was commissioned to undertake an archaeological and Heritage Impact assessment of Farm 83. Stone tools, a few potsherds and some probable historical materials of low impact rating were uncovered in the project site. Therefore, from a heritage perspective, the proposed prospecting project is supported.

Table 4: Summary of findings

Heritage resource	Status/Findings
Buildings, structures, places and equipment of cultural significance	None exist in intact form, expect as possible historical dilapidated structures.
Areas to which oral traditions are attached or which are associated with intangible heritage	None exists on the study area
Historical settlements and townscapes	Isolated rubble and features of uncertain date.
Landscapes and natural features of cultural significance	None



Archaeological and paleontological sites	No proper site exist but portable finds occur
Graves and burial grounds	None exists or are identifiable on the basis of a surface survey
Movable objects	Lithics, pottery, metal, glass and glazed ceramic occur in isolated contexts
Overall comment	The surveyed area has no significant heritage resources that can stop development. Sub-surface chance finds are still possible.

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