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**REPORT ON A PHASE 1 HIA FOR THE PROPOSED PUTSBERG MINING
PROJECT ON THE FARMS VOLMOED 204, PUTSBERG 203 & GANNA POORT
202, SOUTH EAST OF POFADDER IN THE KENHARDT DISTRICT,
NORTHERN CAPE PROVINCE**

For:

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REPORT: APAC013/80

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SUMMARY

A Pelser Archaeological Consulting (APAC) was appointed by EcoPartners, on behalf of Putsberg Mining (Pty) Ltd, to conduct a Phase 1 HIA for proposed mining development on portions of the farms Ganna Poort 202, Putsberg 203 and Volmoed 204. The study area is located southeast of Pofadder in the Kenhardt District of the Northern Cape Province. A total area of 7237ha is covered by the Mining Right, although only a fraction of this will be mined and developed. The field assessment mainly focused on the footprint area of the plant and main development, although a wider area was also surveyed.

This report discusses the results of the field assessment and background study on the archaeology & history of the area. A number of sites (mainly dating to the Stone Age), features and objects were identified during the assessment and although most will not be impacted on negatively and directly by the proposed development, a number of mitigation measures are provided at the end of the document.

Based on the assessment, from a Heritage perspective, the development should be allowed to continue, taking cognizance of the conclusions and recommendations put forward at the end of this report.

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1. INTRODUCTION

A Pelser Archaeological Consulting (APAC) was appointed by EcoPartners, on behalf of Putsberg Mining (Pty) Ltd, to conduct a Phase 1 HIA for proposed mining development on portions of the farms Ganna Poort 202, Putsberg 203 and Volmoed 204. The study area is located southeast of Pofadder in the Kenhardt District of the Northern Cape Province. A total area of 7237ha is covered by the Mining Right, although only a fraction of this will be mined and developed. The field assessment mainly focused on the footprint area of the plant and main development, although a wider area was also surveyed.

This report discusses the results of the field assessment and background study on the archaeology & history of the area.

The client indicated the location and boundaries of the development area and the fieldwork focused on these.

2. TERMS OF REFERENCE

The Terms of Reference for the study is to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portions of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts

- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34 (1) of the mentioned act states that no person may demolish any structure or part thereof which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure means any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

Alter means any action affecting the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- a. destroy, damage, alter, exhume or remove from its original position of otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- b. destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- c. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

3.2 The National Environmental Management Act

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

4. METHODOLOGY

4.1 Survey of literature

A survey of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography.

4.2 Field survey

The field assessment section of the study was conducted according to generally accepted HIA practices and aimed at locating all possible objects, sites and features of archaeological significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed.

4.3 Oral histories

People from local communities are sometimes interviewed in order to obtain information relating to the surveyed area. It needs to be stated that this is not applicable under all

circumstances. When applicable, the information is included in the text and referred to in the bibliography.

4.4 Documentation

All sites, objects, features and structures identified are documented according to the general minimum standards accepted by the archaeological profession. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. DESCRIPTION OF THE AREA

The study area is located approximately 35km southeast of the town of Pofadder in the Kenhardt District of the Northern Cape Province, and on the farms Ganna Poort 202, Putsberg 203 and Volmoed 204. The total Mining Rights area is around 7237ha in size, although only a small section will be mined and developed for mining purposes (Putsberg Mine).

The topography of the area is relatively flat, although there are some rocky (quartz and quartzite) outcrops and ridges throughout the study area, with the Spitsberg range running roughly through the center of the mining rights area and the main mining development and activities to be conducted to the south of these. The highest point on Spitsberg is 1064m above sea level. The area is also characterized by red aeolian sands in places, calcrete outcrops and sparse tree and grass cover. Visibility as a result was fairly good.

Earlier mining prospecting by JCI in the 1970's (1973-75) is evident on Putsberg, and this area is proposed for the Main Plan area for the new development. The area has not been disturbed through extensive developments over the recent past, with only some farmsteads and related infrastructure scattered throughout. Livestock farming is practiced, with minimal impact.



Figure 1: Aerial view of study area location (Google Earth 2013 – Image date 2013/04/10).



Figure 2: Closer view showing larger study area with mining footprint area indicated (courtesy EcoPartners)[Google Earth 2013 – Image date 2013/04/07].



Figure 3: Close view of footprint area and proposed mining activities indicated (courtesy EcoPartners -[Google Earth 2013 – Image date 2006/12/03]).



Figure 4: Another view of footprint area – Note the older mining prospecting trench (Google Earth 2013 – Image date 2006/12/03).



**Figure 5: View of section of the study area.
Note the Spitsberg in the background, red sands & sparse vegetation.**



Figure 6: One the many quartzite outcrops in the study area.



Figure 7: Another view showing the relative flat topography & sparse vegetation.



Figure 8: View of the one JCI trench on Putsberg.

6. DISCUSSION

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided basically into three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago

Middle Stone Age (MSA) less than 300 000 – 20 000 years ago

Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

According to David Morris of the McGregor Museum in Kimberley the archaeology of the Northern Cape is rich and varied, covering long spans of human history. The Karoo is particularly bountiful. Some areas are richer than others, and not all sites are equally significant. The significance of sites encountered in the study area may be assessed against previous research in the region and subcontinent. The regions remoteness from research institutions accounts for a relative lack of archaeological research in the area. The area has probably been relatively marginal to human settlement for most of its history, yet it is in fact exceptionally rich in terms of Stone Age sites and rock art, as a relatively few but important studies have shown (Morris 2006).

Some information on the Stone Age of the large geographical area could be found in a report on a HIA conducted by Morris for the Black Mountain Concentrated Solar Power Facility development at Aggeneys in the Northern Cape. No substantial MSA (or ESA) sites have been found previously in the survey area. Only very sparse localized scatters of stone tools have been seen in places, with limited traces in the hills (e.g. an MSA site at the top of Gamsberg) or at the bases of hills (Morris 2011: 10).

Late Holocene Later Stone Age (LSA) sites dominate the archaeological trace noted in past surveys in the Aggeneys-Pofadder region. Researchers such as Beaumont and Morris have shown that virtually all the Bushmanland sites so far located appear to be ephemeral occupations by small groups in the hinterland on both sides of the Orange River. The appearance of herders in the Orange River Basin, Beaumont et al. argue, led to competition over resources and ultimately to marginalization of hunter-gatherers, some of whom then occupied Bushmanland, probably mainly in the last millennium, and focused their hunting and gathering activities around the limited number of water sources in the region. Surveys have located signs of human occupation mainly in the shelter of granite inselbergs, on red dunes which provided clean sand for sleeping, or around the seasonal pans. Possibly following good rains, herders moved into the Orange River hinterland, as attested archaeologically at sites with ample pottery near Aggeneys and, east of Pofadder, at Schuifdrift South. However, Thompson (1824) refers to herder groups settled at the stronger springs such as Pella dispersing during periods of drought to smaller springs in the region, which could equally well account for the traces referred to here. At such times competition between groups over resources and stress within an already marginalized hunter-gatherer society, must have intensified (Morris 2011: 9-10). Recent surveys by the author of this report for the Konkoonies Solar PV Plant between Pofadder and Onseepkans also recorded a number of Later Stone Age sites (Pelser 2011).

Most of the sites recorded in the Putsberg Mining area are related to the Stone Age. These will be discussed in more detail later on in the report.

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts. In South Africa it can be divided in two separate phases (Bergh 1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.

Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) indicates that a Middle Iron Age should be included. His dates, which are widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.

Middle Iron Age (MIA) 900 – 1300 A.D.

Late Iron Age (LIA) 1300 – 1840 A.D.

The expansion of early farmers, who, among other things, cultivated crops, raised livestock, made ceramic containers (pots), mined ore and smelted metals, occurred in this area between AD 400 and AD 1100 and brought the Early Iron Age (EIA) to South Africa. They settled in semi-permanent villages (De Jong 2010: 35).

While there is some evidence that the EIA continued into the 15th century in the South African Lowveld, on the escarpment it had ended by AD1100. The Highveld became active again from the 15th century onwards due to a gradually warmer and wetter climate. From here communities spread to other parts of the interior. This later phase, termed the Late Iron Age (LIA), was accompanied by extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman (De Jong 2010: 35-36).

Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called “first people”. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua. This period of contact is sometimes known as the Ceramic Late Stone Age and is represented by sites such as the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36).

There are no known Iron Age sites in the area and none were identified and recorded during the field work of 2013.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwa and Phuting tribal groups. The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first was P.J. Truter’s and William Somerville’s journey of 1801, which reached Dithakong at Kuruman. They were followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read.

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby

coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government. The conflict mainly centered on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36).

The database of the Chief Surveyor General (www.csg.dla.gov.za) was also consulted for information on the early history of the study area and farms. Two maps (CSG Documents 100J9G01 & 100V1T01) dating originally to 1913 indicate that the farms were surveyed between May and July of 1913. No historical structures or features are indicated on these, although a well is indicated on Putsberg. The maps also show that these 3 farms (amongst others) were registered as Crown Land Farms and they were located (at the time) in the Field Cornetcy of Gembok, Division of Kenhardt.

A few recent historically related sites and features were recorded during the fieldwork and will be discussed later on.

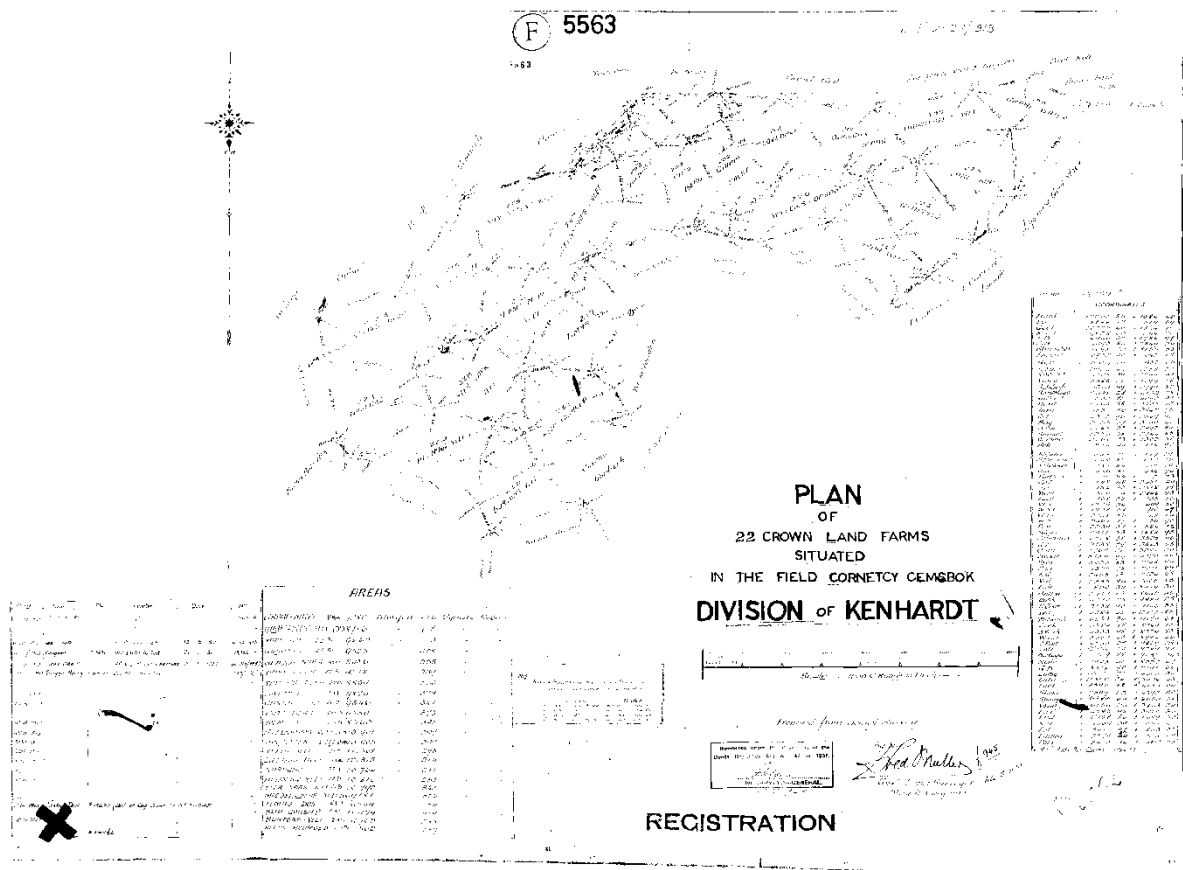
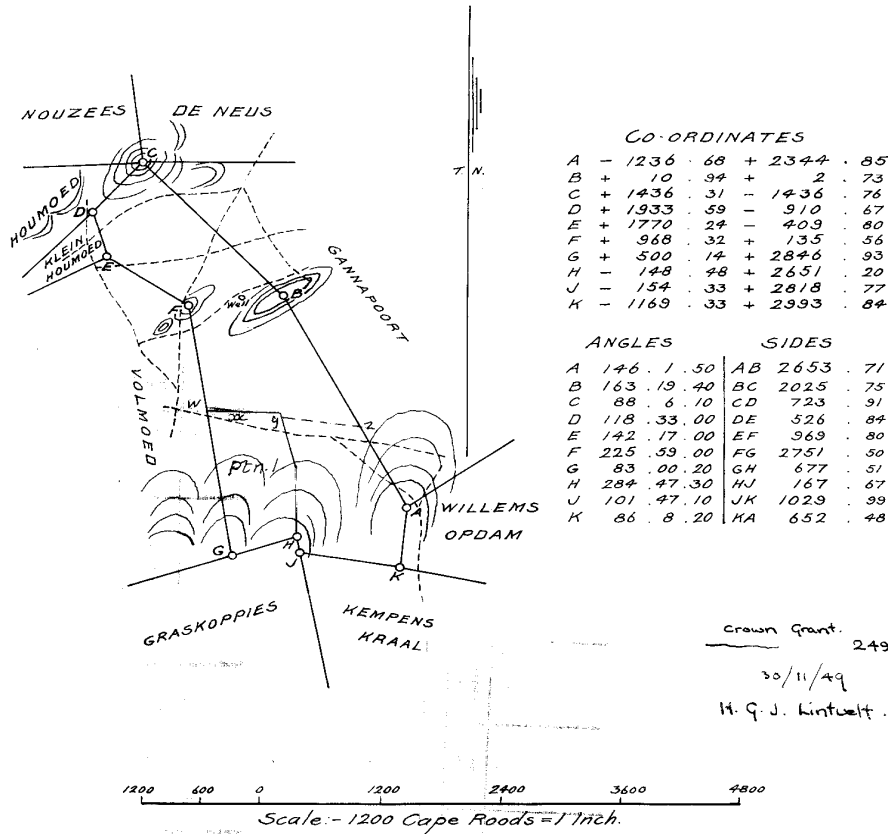


Figure 9: Old map/plan of the area showing that the three farms forming part of the study was registered as Crown Land Farms (CSG Document 100J9G01).

N° 1027, 1913

Approved
W. J. Kintveld
 For Surveyor General



THE FARM Puts Berg No. 203
 KENHARDT

The above diagram lettered A B C D E F G H J K represents 9.250 Mor.
 373 Sq. Rds. of land situate in the Field-Cornetcy of GEMSBOK
 Division of KENHARDT being PUTS-BERG

Bounded as indicated above
 This diagram belong to 1/1
 N° 249/49
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 I.T.O.

FOR CEMENTS
 SEE BACK OF D.M.

Surveyed and beacons by me according to regulations
 (Sigd) Fred Muller.

May-June & July 1913.

Govt Land Surveyor.

S.G.O.
 S. I. 21
 7/13
 E.T. 49

Figure 10: Map of Putsberg 203 showing the other two farms as well as they were in 1913 (CSG Document 100V1T01).

Results of the Fieldwork

A fairly large number of sites, features and objects were found during the survey, including scatters of stone tools, individual stone tools, ostrich egg shell fragments, a historic farmstead, grave and recent mining remains. A number of these are located outside of the footprint area and will not be impacted directly, while some are inside the footprint area. It should also be mentioned that there are probably more sites in the area and this aspect should be considered during any development activities.

Sites 1-9; 13-28 – Stone Age

These sites contain a varying number of stone tools and flakes, ranging between a single object eroding out from under red sand to a fairly dense number of tools in a specific area. Seven of these sites are also characterized by fragments of ostrich egg shell (OES) found scattered about these sites. It was difficult to determine the densities of stone tools in these areas, as large portions are covered by sand. The tools and OES fragments at many of these sites are exposed by wind erosion, removing the covering sands over periods of time. It is therefore possible that many more exist in the larger area and once mining operations commence more sites might be uncovered. Some of the OES is exposed in areas where aardvarke and meerkats burrow.

Seven of these sites are located in the footprint area and will be directly impacted by the mining operations here. Red sand covers probably many more. It is recommended that mitigation measures be implemented for these sites and this will include mapping and surface sampling and the erection of an Information Plaque on the archaeology and history of the mine at the Plant.

The stone tools found on these sites include flakes (waste) and flake-tools, cores, more formal tool such as blades, scrapers and hand axes. A range of materials were utilized that include felsite, hornfels, jasper quartzite and others (Pers.Comm. Mr. Deon Le Roux: 2013/11/20). Based on preliminary observations in the field it seems as if the tools date between the ESA and LSA, with some large Acheulian-type tools and rough core-tools (ESA), tools with prepared hitting surfaces (MSA) and smaller microlithic flakes and tools (LSA) present. Phase 2 work (mapping & sampling) will provide detailed information on the raw material types, their geographical origin, age ranges, tool types and functions.

GPS Locations

1. S29 19.032 E19 39.506
2. S29 19.030 E19 39.552
3. S29 19.025 E19 39.528
4. S29 19.023 E19 39.525
5. S29 19.085 E19 39.541
6. S29 19.063 E19 39.604
7. S29 19.143 E19 39.719
8. S29 19.207 E19 39.779
9. S29 19.343 E19 39.888
13. S29 20.424 E19 38.484
14. S29 20.425 E19 38.544
15. S29 20.548 E19 37.988

16. S29 20.524 E19 38.000
17. S29 20.535 E19 37.936
18. S29 20.618 E19 37.866
19. S29 20.586 E19 37.912
20. S29 20.982 E19 37.565
21. S29 21.159 E19 37.498
22. S29 21.349 E19 37.555
23. S29 21.439 E19 36.611
24. S29 21.226 E19 36.638
25. S29 20.941 E19 36.935
26. S29 20.858 E19 37.332
27. S29 21.152 E19 37.479
28. S29 21.336 E19 37.512

Cultural Significance: Low to High

Heritage Significance: Grade III - Other heritage resources of local importance and therefore worthy of conservation

Field Ratings: General protection A (IV A): site should be mitigated before destruction (high/medium significance) – **Sites 13 to 19.**

Mitigation: The sites located within the footprint area should be sampled and mapped. A detailed archaeological report should be prepared and expert analysis of material done. An Information Plaque on the archaeology and history of the area should be erected at the Main Plant area. Cultural material recovered must be curated by a recognized institution (McGregor Museum in Kimberley).



Figure 11: Core tool Site 1.



Figure 12: Many of the Stone Age sites are located in open areas such as these.



Figure 13: Flakes, cores and other tools from one of the sites.



Figure 14: Red Aeolian sand covers many of the sites and when eroded reveals cultural material such as tools and OES fragments.



Figure 15: OES fragments.



Figure 16: Tools from one of the sites inside the footprint area.



Figure 17: More tools from the footprint area.



Figure 18: Large handaxes and core-tools from Sites outside the footprint area.

Sites 10-12: Recent Historical

Site 10 is the old farmstead and related infrastructure on Puts Berg, dating to 1945. The homestead is not in use and is busy falling in disrepair. Although the farmstead will not be directly impacted by the development it is recommended that it be documented in more detail as part of the history of the area. As it is older than 60 years of age and protected by the Heritage Act it should not be impacted by any development actions and not be demolished prior to a permit being issued by the relevant Heritage Authorities.

Site 11 is a single grave situated not far from the Site 10 homestead. It is the grave of one Hendrik C. Husselmann (possibly one of the earlier owners/farmers here). He was born in 1861 and died in 1918 aged 57. Graves always carry a High Cultural Significance rating, and cannot be disturbed or removed without a permit being provided. It is recommended that the site be left intact and to avoid any possible damage (accidental or vandalism) due to increased vehicle and human traffic in the near future that the current fencing around it be maintained.

Site 12 is the remains of the old JCI Mining prospecting camp on Puts Berg, dating to between 1973 and 1975. The remains of several structures, trenches and other material are scattered in the area earmarked for the development of the Main Plant and mining area for the new mine. Although not older than 60 years of age it is recommended that the history of JCI's prospecting in the area be recorded and included on the recommended Information Plaque at the Plant.

GPS Locations

- 10. S29 19.125 E19 38.340
- 11. S29 19.268 E19 38.398
- 12. S29 20.267 E19 38.566

Cultural Significance: Medium (Site 10); High (Site 11); Low (Site 12)

Heritage Significance: Grade III - Other heritage resources of local importance and therefore worthy of conservation

Field Ratings: General protection A (IV A): site should be mitigated before destruction (high/medium significance)

Mitigation: Site 10 – Documented in detail by an Architectural Historian and Information recorded for Information Plaque. If site is to be demolished then a Demolition Permit needs to be obtained from SAHRA. Site 11 Grave – Maintain current fencing and protect against damage. If decision is to relocate then the required social consultations need to be undertaken and relevant exhumation permits be obtained.



Figure 19: Site 10 homestead.



Figure 20: Refuse midden on Site 10.



Figure 21: One of the outbuildings on the site.



Figure 22: Closer view of the homestead (eastern side).



Figure 23: Evidence of the date of the homestead.



Figure 24: Wooden flooring in one of the rooms.



Figure 25: One of the other rooms.



Figure 26: Grave Site 11.



Figure 27: Detail of inscription on headstone.



Figure 28: One of the prospecting bore holes at the JCI site on Puts Berg.



Figure 29: One of the structures (foundations of) at Site 12.



Figure 30: Remains of another JCI structure.



Figure 31: Another JCI Prospecting related structure on Puts Berg.



Figure 32: More structures related to the 1970's prospecting on Puts Berg.



Figure 33: Evidence of the date of the construction of above structure (15.9.74).

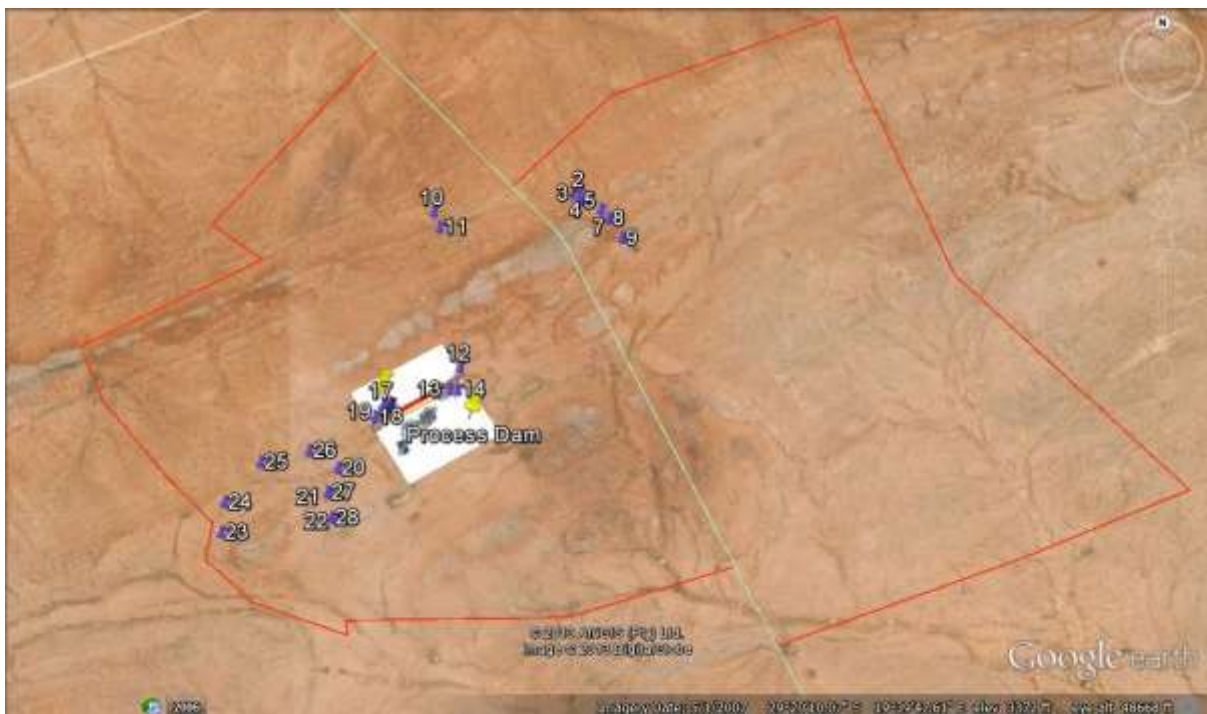


Figure 34: Aerial view of sites recorded. The larger area (in red) demarcates the Mining Rights area (Google Earth 2013 – Image date 2007/05/01).



Figure 35: Closer view of Main Plant area with sites recorded here indicated (13-19) (Google Earth 2013 – Image date 2006/12/03).

7. CONCLUSIONS AND RECOMMENDATIONS

To conclude it is possible to say that the Phase 1 HIA for the Putsberg Mine development located on portions of the farms Ganna Poort 202, Putsberg 203 and Volmoed 204 was conducted successfully. The study area is located approximately 35km southeast of Pofadder in the Kenhardt District of the Northern Cape Province. The Mining Rights area covered by the land parcels is around 7237ha, although a much smaller mining footprint area was focused on during the fieldwork. A fairly large number of sites, features and objects were recorded during the assessment, with most of these outside of the footprint area. The sites mostly date to the Stone Age and consist of scatters of stone tools and in some cases also ostrich egg shell fragments. One historical farmstead, a grave and remains of recent mining prospecting was also recorded on Puts Berg. Seven of the Stone Age sites are located within the Main Mining footprint area and mitigation measures are recommended (see Results of fieldwork section). The following recommendations are put forward:

1. the Stone Age open-air sites located in the footprint area should be mapped and sampled. The information obtained through the archaeological research is then to be incorporated onto an Information Plaque on the archaeology and history of the area to be erected at the Main Plant
2. the farmstead on Puts Berg should be recorded in detail and the information placed on the above Plaque as well
3. the grave at Site 12 needs to be protected and damage to it avoided by maintaining the current fencing around it

Finally, from a cultural heritage point of view the development should be allowed to continue taking heed of the above. The subterranean presence of archaeological or historical sites, features or objects is always a possibility. This could include unknown and unmarked burial pits. Should any be uncovered during the development process and archaeologist should be called in to investigate and recommend on the best way forward.

8. REFERENCES

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APPENDIX A

DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B

DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE:

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C

SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D

PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, palaeontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, palaeontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E

HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.