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**REPORT ON A PHASE 1 HERITAGE IMPACT ASSESSMENT  
FOR THE GLENOVER PHOSPHATE MINE PROJECT  
ON PORTION 1 OF GLENOVER 371LQ,  
NEAR STEENBOKPAN, LIMPOPO PROVINCE**

For:

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REPORT: APAC018/09

by:

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*February 2018*

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A handwritten signature in black ink, appearing to be 'A. Pelser', is centered on the page.

## SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd to undertake a Phase 1 HIA for the Glenover Phosphate Mine Project. The study area is located on Portion 1 of Glenover 371LQ, near Steenbokpan in the Limpopo Province. The expansion & upgrade of the existing Mine and related infrastructure, as well as related new developments, are being planned.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known archaeological & historical sites on the specific land parcel, and over and above some remains of recent mining structures recorded, none were identified in the study area during the assessment. The report will discuss the results of the desktop and field assessment and provide recommendations on the way forward at the end of the document.

From a Cultural Heritage point of view the development actions can continue, taking into consideration the mitigation measures proposed in the report.

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## **1. INTRODUCTION**

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd to undertake a Phase 1 HIA for the Glenover Phosphate Mine Project. The study area is located on Portion 1 of Glenover 371LQ, near Steenbokpan in the Limpopo Province. The expansion & upgrade of the existing Mine and related infrastructure, as well as related new developments, are being planned.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known archaeological & historical sites on the specific land parcel, and over and above some remains of recent mining structures recorded, none were identified in the study area during the assessment.

The client indicated the location and boundaries of the Project Area, and the assessment focused on this area.

## **2. TERMS OF REFERENCE**

The Terms of Reference for the study was to:

- 1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion 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 000m<sup>2</sup> or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000 m<sup>2</sup>
- 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)**.

### **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 AIA/HIA practices and aimed at locating all possible objects, sites and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects was determined by means of a Global Positioning System (GPS), while detailed photographs were also taken where possible.



### 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 a general set of minimum standards. Co-ordinates of individual localities were 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 Glenover Phosphate Project is located 60 km west of the town Lephalale and 85 km north of the town Thabazimbi in the Waterberg Region in the western part of the Limpopo Province, South Africa. The project is located within the Waterberg District Municipality and Lephalale Local Municipality. The mineral assets are located on the farm Glenover 371 LQ. This includes a large open pit mine as well as various stockpiles of mined materials containing rare earth elements (or REE), phosphate and other potentially economic elements.

The Project is currently held under prospecting licence 868 PR to Glenover Phosphate (Pty) Ltd, a company jointly owned by AIM-listed Galileo Resources Plc and Ferminore (Pty) Ltd. The balance of 26% shareholding is held by black economic empowerment company Galagen (Pty) Ltd. Glenover currently holds a prospecting right over the following properties: Glenover 371 LQ, Ouhoek 345 LQ, Houndslow 372 LQ, Elfrida 378 LQ, Rosevalley 369 LQ and Renosterpan 709 LQ. The proposed Mining Right Area under consideration includes the properties Glenover 371 LQ Portion 1 (108ha) as well as the Remaining Extent (526ha).

The topography of the area is generally flat, although existing old stockpiles provides some high elevated sections. During the assessment vegetation cover was fairly dense, although it was more open in sections. The area is also characterized by sandveld and bushveld/thornveld vegetation. Earlier mining operations on Glenover (1960's to early 1990's) have impacted on the area, with mining related infrastructure, mine pit and stockpiles located over a large section of the study area. If any cultural heritage (archaeological and/or historical) sites or features did exist here in the past it would have been disturbed or destroyed to a large degree by these activities.

The planned project activities include ore mining of both the on-surface stockpiles as well as an expansion of the open pit mine using traditional drill & blast as well as hydraulic excavation. The project is targeting the phosphate and Rare Earth Elements (REE) mineralisation in the hematite-apatite breccia of the Glenover Carbonatite Complex. The open pit mining method consists of conventional open pit mining with drilling and blasting followed by loading and hauling activities. All waste material is deposited externally of the open pit. Stockpile reclamation will include pre-treating with a dozer utilising the slot dozing technique and loading into haulers using a wheel loader. Processing will take place through a crushing, milling and floatation plant targeting. The Float Plant will be run on site, the

“waste” material (tailings) will be stockpiled for future recovery of the Rare Earth Elements (REE) which is dictated by market conditions.

Mr. Jacques de Villiers of Ferminore provided a background on the operation at Glenover. It was discovered in the 1960’s by Gold Fields who operated the site between 1967 and 1984 as a phosphate crushing operation. When they reached the bottom of the pit the operation were placed under care and maintenance. The site was dormant until the late 1990’s. Gold Fields were unbundled and Glenover was bought by Ferminore in 1999 as they wanted to produce phosphoric acid but the process was too expensive and a super phosphate plant was operated between 2003 – 2008 (an EMP was in place). During the global recession in 2008 the price of rare earth metals increased dramatically and Galileo become a shareholder in Glenover and they undertook drilling (prospecting) for rare earths and phosphate. An EIA was study done by Digby Wells. During 2013 the prospecting was finalized but the rare earth market decreased and thus it was decided not to rely on rare earths only.

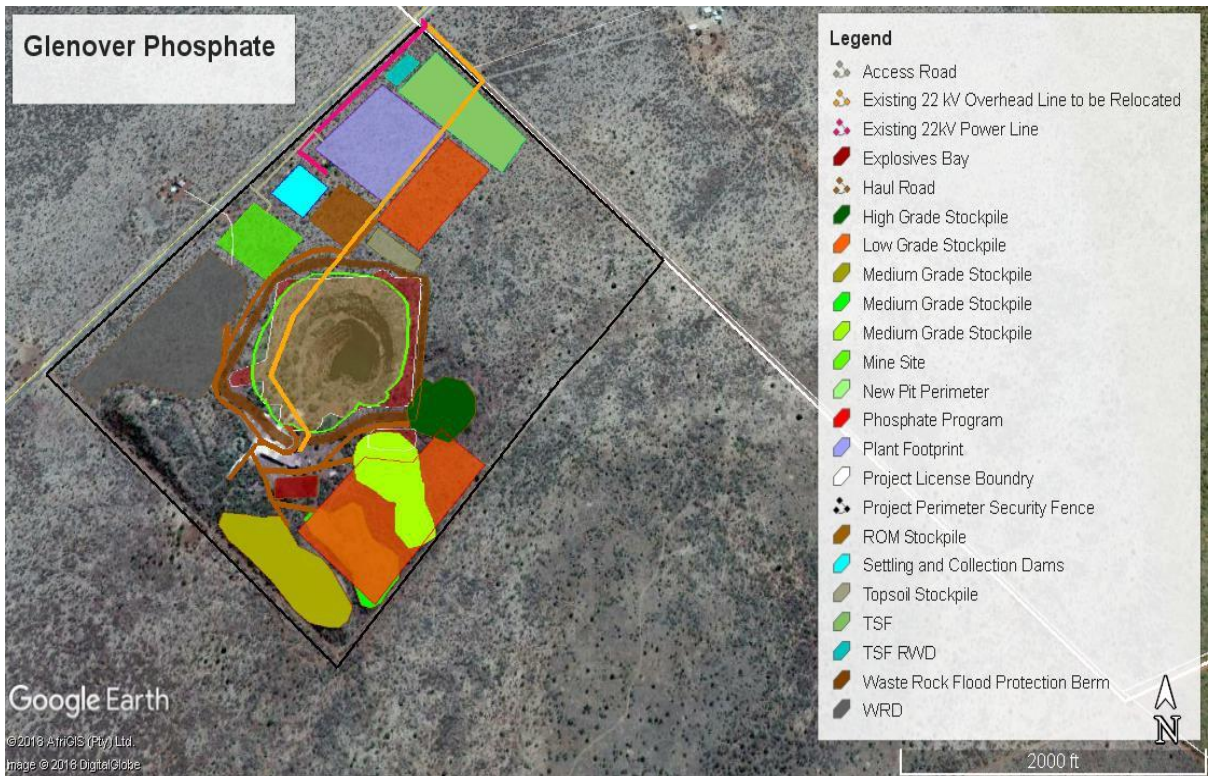
The current study will focus on phosphate to be mined with a flotation plant producing phosphate concentrate to be sold in dry form for fertilizer. Middling and tailings produced will be stockpiled on site for processing into rare earth (Iron rich 40% and high concentration of rare earth) as a second phase.



**Fig.1: General location of study area (Google Earth 2018).**



**Fig.2: Closer view of study area (Google Earth 2018).**



**Fig.3: Mine plan/layout (information provided by Prescali). Google Earth 2018.**



**Fig.4: View of section of area with one of the old Stockpiles visible.**



**Fig.5: Another view of the study area from on top of one of the stockpile areas.**



**Fig.6: A view of the disturbed nature characteristic of large sections of the study area.**



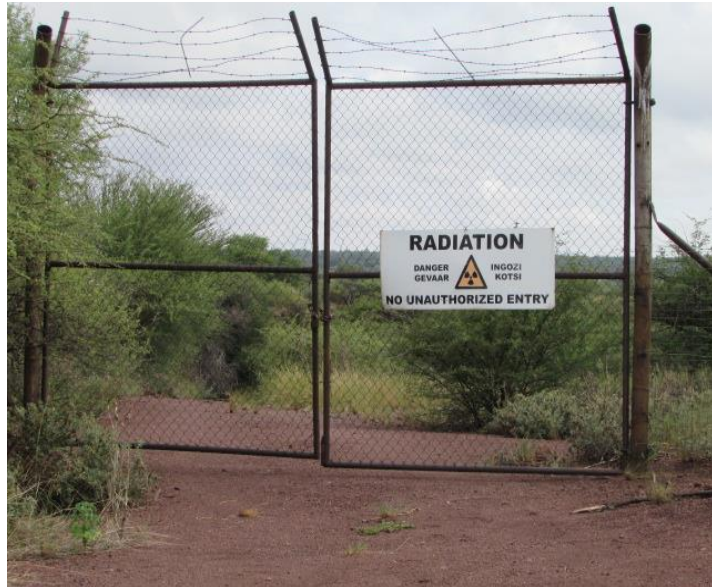
**Fig.7: A view of the old pit at Glenover.**



**Fig.8: In some areas the vegetation was very dense.**



**Fig.9: Some areas were fairly open.**



**Fig.10: Access to some sections was restricted.**



**Fig.11: Some of the existing infrastructure at Glenover.**



**Fig.12: More of the existing mining infrastructure here.**



**Fig.13: More related mining structures at Glenover.**

## **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 Bergh (1999: 4-5) no Stone Age sites or occurrences are known in the area, including rock art (paintings and engravings). Hunter gatherers from the Stone Age, including a few who left rock paintings during the last 20 000 years in the mountainous Waterberg to the east of the pipeline, lived in the Bushveld from as early as the Middle Stone Age (MSA), 200 000 years ago. MSA and Later Stone Age (LSA) tools were observed during investigations for other projects along the banks of the Mokolo (Mogol) River and on other farms in the larger geographical area. At Nelsonskop, a small protrusion north-east of Matimba Power Station, engravings of animal spoor, cupules and other incisions were found on a face of this hill (de Jong 2010).

Stone Age material is frequently found close to rivers or other watercourses, but none was located during this assessment. Scattered stone tools were found during an archaeological assessment for the Lephalale Bulkwater Supply pipeline (Pelser 2010), while similar finds were made during a Heritage Walkdown for the ESKOM Medupi-Massa Powerline development (Pelser 2012). It is therefore possible that stone tools could be present in the area, but that these would be low density, scattered and mostly individual stone tools in the area. There are also no hills or outcrops where any shelters close-by would have been present.

***No Stone Age sites or material were identified in the study area during the February 2018 assessment.***

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.

As with the Stone Age, Bergh (1999) does not indicate any known Early or Late Iron Age sites in the vicinity of Lephalale. Hunter-gatherers were followed by the first agro-pastoralists who lived in semi-permanent villages and who practiced metal working during the last two millennia, the so-called Iron Age. No Iron Age sites were recorded during the 2007 HIA by Pistorius for the Power Line between the Matimba B Powerstation and the Dinaledi Substation (Brits) or during the walk-down for the Medupi-Massa Line by Pelser in 2012. Some pottery was found during a 2010 Archaeological Impact Assessment (AIA) by Pelser in the area for the Lephalale Bulk Water Supply Pipeline.

Also, no large tribal groupings such as the Ga-Seleka and Shongwane, living to the north-east of Lephalale, lived in the study area during the LIA or the historical period. Small groups known as the Vaalpense (Kattea, Malesa, Masarwa, etc) of mixed descend (Negroid and San) lived across the area from as early as 1875, and probably earlier as well. These impoverished people were nomadic hunters and herders who did not occupy permanent settlements that have left traces on the landscape. They became subordinate to the Seleka, Langa Ndebele and

colonial farmers who employed them as labourers. The absence of surface water, low annual rainfall, high evaporation rates, soils which lacked nutrients and the absence of all year round grazing did not encourage mixed farming towards the interior of the study area (Pistorius 2007).

Based on Tom Huffman's research it is possible that Early Iron Age, Middle Iron Age and Late Iron Age sites, features or material could be present in the larger area. This will include the Letsibogo facies of the Urewe Tradition, dating to between AD1500 and AD1700 (Huffman 2007: 187); the Madikwe facies of the Kalundu Tradition also dating between AD1500 and AD1700 (p.199); the Diamant facies of the same tradition dating between AD750 and AD1000 (p.223), as well as the Eiland facies of Kalundu, dating to AD1000 – AD1300 (p.227).

No Iron Age sites, features or objects were identified during the assessment in the Glenover area. If any did exist the extensive disturbance in the recent past would possibly have destroyed all evidence.

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. The first Europeans to move through this area were the early travelers Cowan & Donovan in 1808, Hume in 1836 & 1830 (Bergh 1999: 13) and Harris in 1836 (Bergh 1999: 12-13).

The first colonial hunters and traders were followed by the first colonial settlers (farmers) who arrived in the study area from the second half of the 19th century. The first generation of homesteads, or 'hartbeeshuise', constructed with sun-dried brick walls covered with pitched thatched roofs have all by now disappeared and with them cultural landscapes of small proportions, namely farm residences, outbuildings, cattle kraals and grazing fields. These cultural landscapes and infrastructure have been replaced with second and third generation farm residences. Only a small number of family graveyards and single historical dwellings have survived. Two historical graveyards close to the Limpopo River as well as those in Steenbokpan rural village suggest that occupation of the banks of the river and the central part of the larger area was favored by colonists from the earliest times. Changing subsistence patterns, the gradual replacement of cattle-ranching and crop-planting with game farming and eco-tourism, is changing the traditional man-made landscape in the project area. Odd historical buildings which have survived has either been renovated or abandoned to fall into ruins.

The Lephalale region was located in a border area plagued by drought, lack of access and services and the presence of animal diseases (tsetse flies), which all contributed to it being a marginal farming region. It was frequented during the winter months when farmers brought their livestock to graze. Some farms were only given out by farmers in the 1870s, but once the tsetse flies had become less of a threat due to the rinderpest (1896), more farmers began settling permanently. The Grootestryd region remained a marginal farming region until coal was discovered in 1920 while drilling for water on the neighbouring farm Grootegeluk (de Jong 2010).

The name Ellisras originates from a combination of the surnames of Patrick Ellis and Piet Erasmus who settled in the 1930s on the farm Waterkloof 502 LQ. After the opening of the main railway route between Vaalwater and Stockpoort during 1929 a railway station

developed on the farm. The central function of the newly established node became more evident and other facilities such as schools, churches and shops were established on the farm. Subdivision of the farm started and due to the specific locality of the river, all newly created portions have a river frontage which had a definite influence on the urban form/shape of Ellisras today. Onverwacht was proclaimed in the late 1970s as an extension to the original Ellisras. Full municipal status was granted to Ellisras on 1 July 1986 by means of Administrator's notice 35 of 1986. The name of Ellisras town was changed to Lephale during 2002 (de Jong 2010).

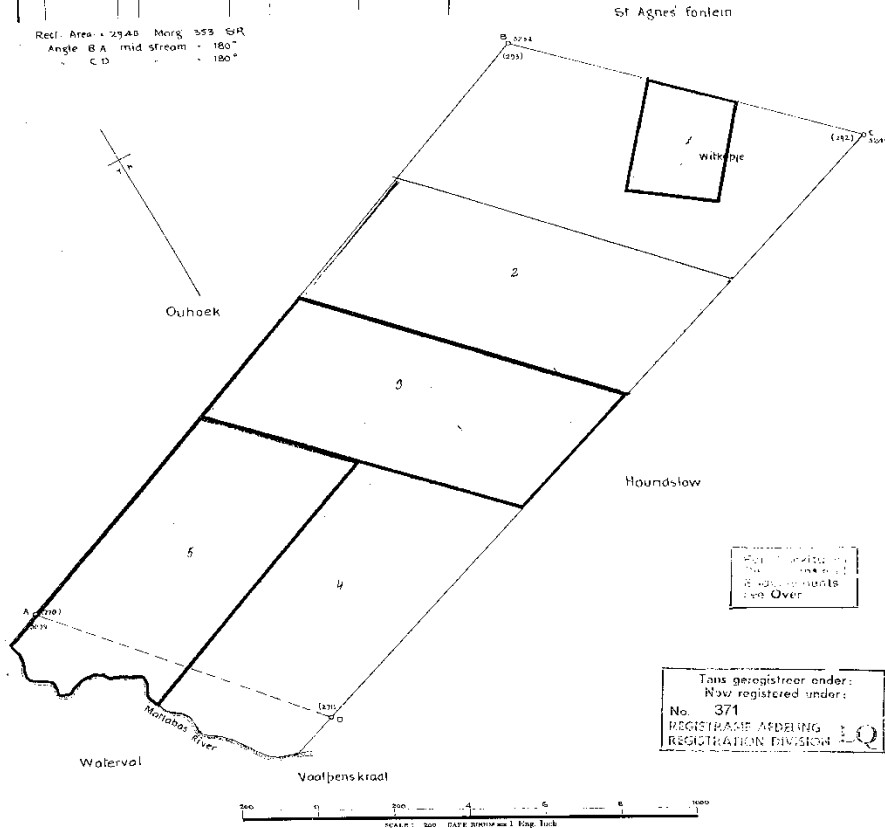
A few historical homesteads and grave sites have been recorded in the larger geographical area (Pistorius 2007; Pelsler 2012), but none was identified during the current assessment on Glenover. The sites recorded during the February 2018 fieldwork on Glenover is related to recent mining activities in the study area. These will be discussed in the next section of the report.

The oldest map obtained from the Chief Surveyor General's database ([www.csg.dla.gov.za](http://www.csg.dla.gov.za)) for the farm Glenover 371LQ, dates to 1910 (Portion 0 - Document 10DM5301). It shows that the farm was then numbered as No.43 and was situated in the Waterberg District and Zoutpan Ward of the Transvaal. The whole of the original farm was granted by deed to one J.E. Beukes (born Olivier) on the 5<sup>th</sup> of December 1867. It was surveyed on behalf of the Lydenburg Land and Exploration Coy Ltd between November 1909 and February 1910. No archaeological or historical sites or features could be identified on this map however. A 1961 map for Portion 1 (Document No.10DM5901) shows the farm was in the Waterberg District and that it was surveyed in September 1961. Some structures and the mining area (where the pit is situated) is shown on this map and could be related to the earlier exploration and mining on Glenover by Goldfields.

Form A—Diagram Form for an Original Farm Survey, or Original Survey of Portion of a Farm.

SIDES		ANGLES		(Y) CO-ORDINATES (X)	
AB	2015.78	A	72.40 30	A	- 6608.12 + 13559.24
BC	973.25	B	102.22 20	B	- 5900.87 + 11677.50
CD	2164.77	C	64.50 50	C	- 6508.18 + 10988.44
DA	832.76	D	110.0 70	D	- 7325.81 + 15073.63

Retl. Area = 2940 Morg 553 6R  
 Angle B A mid stream = 180°  
 C D



The above Figure lettered A B C D mid stream A represents the farm  
**GLENOVER No 43**  
 in extent 3152 Morgen 53 Square Rods of Land, situate in the District of Waterberg  
 Ward Zoutpan Transvaal Colony, and bounded as indicated above.  
 The whole Farm was originally granted to J. E. Beukes (b Olivier) by Deed of Grant No. 57 dated the 5<sup>th</sup> day of December 1867.  
 The Beacons were pointed out by Surveyor C. C. Baferman  
 Due notice of this Survey has been given to all adjoining land owners and the beacons have been properly erected according to law.  
 Surveyed on behalf of Lydenburg Land & Explor. Coy Ltd in Nov. 1909 - Feb 1910 by me  
*C. C. Baferman*  
 Government Land Surveyor.

No. 2956 Examined. The numerical data of this Diagram are sufficiently consistent.  
*C. C. Baferman*  
 Surveyor-General's Office,  
 Pretoria, 15 APR 1910

No protest confirmed.  
*W. H. ...*  
 Surveyor-General's Office,  
 Pretoria 22 APR 1910  
 Published in Government Gazette No. 609 dated 25 APR 1910

Fig.14: 1910 map of the farm ([www.csg.dla.gov.za](http://www.csg.dla.gov.za)).

1:5000  
1:5000  
1:5000

1:5000  
1:5000  
1:5000

S.G. No. A. 4312/61

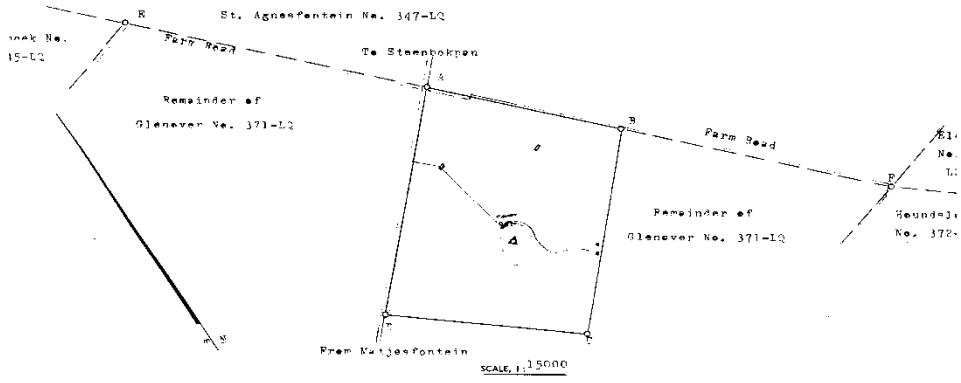
Approved

*John Phiso*  
Surveyor-General  
- 12 1961

DESCRIPTION OF BEACONS

A, B and D are 3/4" x 3" iron pegs set in concrete.  
C is a jumper set in concrete.  
E is a 1/2" iron peg under a pair of stones.  
F is a 3/4" x 3" iron peg under a pair of stones.

SIDES Cape Feet	ANGLES OF DIRECTION	COORDINATES	
		Y	X
AR 2950.0	321 53 30	A +47 318.7	+45 933.3
RB 3451.5	139 49 10	B +45 028.9	+48 015.4
BD 2905.9	127 34 40	C +47 239.1	+50 666.4
DA 3836.0	220 38 40	D +49 613.4	+48 859.4
AB 2608.0	114 53 30	E +50 383.1	+42 680.9
BF 4119.7	314 53 34	F +42 110.5	+50 923.0
	Glenover 10A	+47 366.1	+48 790.5



The figure A B C D  
Portion 1  
situate in the DISTRICT of Waterberg  
of the farm GLENOVER NO. 371-LQ  
represents 125,0000 Morgen of land, being  
PROVINCE OF TRANSVAAL.  
Surveyed in September 1961 by me *John Phiso*  
Land Surveyor.

This diagram is annexed to Deed of No. Tr 146 dated 1961 in favour of Grant  
The original diagram is No. A 3488/10 relating to Grant No. 242/1967  
S.G. File No. 1450/61  
Survey Records No. 1450/61  
Compilation No. 7  
Registrar of Deeds. JTB 363 folio B  
Published by authority—Groot & Tapp (Pty.) Ltd., P.O. Box 2404, Johannesburg—Form No. L.T. 8281.

Fig.15: 1961 map of Portion 1 of the farm Glenover 371LQ (www.csg.dla.gov.za).

Results of the February 2018 Fieldwork

No archaeological and/or old historical sites, features or material were identified in the study area during the assessment. The area has been extensively impacted in the recent past by mining activities from the 1960's onwards and if any did exist here it would have been disturbed or destroyed to a large degree. Two sites related to the earlier mining activities were however identified and recorded although both are younger than 60 years of age and of no real heritage significance.

Sites 1 & 2 Mining related remains

Both sites are located in the north-eastern section of the study area and consist of the foundations and floors of various structures. Some prospecting activities were also identified in close proximity of these sites. According to the caretaker on Glenover these structures are linked to the early Goldfields mining operations on Glenover and include the housing of mine labour and other related infrastructure.

The sites and remains found on them are not deemed as of any cultural heritage significance and they can be demolished. The Phase 1 documentation is seen as sufficient recording and as

they are most likely dating to between the early 1960's and 1990's are therefore also not older than 60 years of age.

**GPS Locations:** Site 1 - S23 51 55.30 E27 09 58.70; Site 2 - S23 51 59.00 E27 10 07.00

**Cultural Significance:** Low

**Heritage Significance:** None

**Field Ratings:** General protection C (IV C): Phase 1 is seen as sufficient recording and it may be demolished (Low significance).

**Mitigation:** No further mitigation required.

*It should be noted that although all efforts are made to cover a total area during any assessment and therefore to identify all possible sites or features of cultural (archaeological and/or historical) heritage origin and significance, that there is always the possibility of something being missed. This will include low stone-packed or unmarked graves. This aspect should be kept in mind when development work commences and if any sites (including graves) are identified then an expert should be called in to investigate and recommend on the best way forward.*



**Fig.16: One of the structures on Site 1.**



**Fig.17: Foundations of another structure on Site 1.**



**Fig.18: More structural remains on Site 1.**



**Fig.19: A prospecting trench near Site 1.**

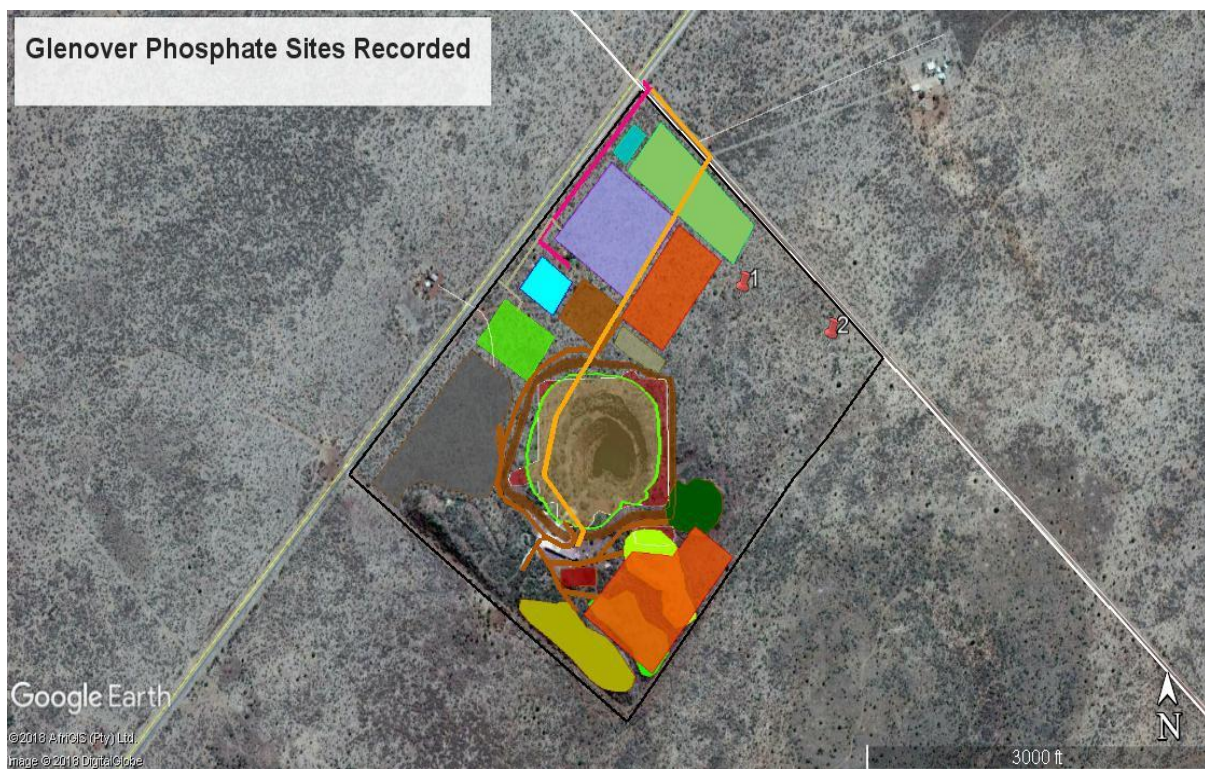


**Fig.20: A view of Site 2.**





**Fig.21: A view of the foundations of one of the structures on Site 2.**



**Fig.22: The location of the 2 sites found during the assessment (Google Earth 2018).**

## **7. CONCLUSIONS AND RECOMMENDATIONS**

APelser Archaeological Consulting (APAC) was appointed by Prescali Environmental Consultants (Pty) Ltd to undertake a Phase 1 HIA for the Glenover Phosphate Mine Project. The study area is located on Portion 1 of Glenover 371LQ, near Steenbokpan in the Limpopo Province. The expansion & upgrade of the existing Mine and related infrastructure, as well as related new developments, are being planned.

A number of known cultural heritage sites (archaeological and/or historical) exist in the larger geographical area within which the study area falls. There are no known archaeological & historical sites on the specific land parcel, and over and above some remains of recent mining structures recorded, none were identified in the study area during the assessment.

No archaeological and/or old historical sites, features or material were identified in the study area during the assessment. The area has been extensively impacted in the recent past by mining activities from the 1960's onwards and if any did exist here it would have been disturbed or destroyed to a large degree. Two sites related to the earlier mining activities were however identified and recorded although both are younger than 60 years of age and of no real heritage significance.

Both sites are located in the north-eastern section of the study area and consist of the foundations and floors of various structures. The sites and remains found on them are not deemed as of any cultural heritage significance and they can be demolished. The Phase 1 documentation is seen as sufficient recording and as they are most likely dating to between the early 1960's and 1990's are therefore also not older than 60 years of age.

**Finally, it should be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) there is always a possibility that some might have been missed as a result of grass cover and other factors. The subterranean nature of these resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.**

From a Cultural Heritage point of view the development can therefore be allowed to continue, taking cognizance of the above recommendations.

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General and closer view of study area location, as well as Sites identified: Google Earth 2018.

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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.