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**A REPORT ON A PHASE 1 HERITAGE IMPACT ASSESSMENT  
FOR THE PROPOSED NEW TYRE STORAGE FACILITY  
AT PPC DWAALBOOM  
NORTHWEST OF NORTHAM, LIMPOPO PROVINCE**

For:

***EnviroRoots (Pty) Ltd***

REPORT: **APAC022/26**

by:

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***March 2022***

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**Clients & Developers should not continue with any development actions until SAHRA or one of its subsidiary bodies has provided final comments on this report. Submitting the report to SAHRA is the responsibility of the Client unless required of the Heritage Specialist as part of their appointment and Terms of Reference**

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## SUMMARY

APelser Archaeological Consulting (APAC) was appointed by EnviroRoots (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed development of a new Tyre Storage Facility at PPC's Dwaalboom Operations. The assessment forms part of an Application for Environmental Authorization by means of a Basic Assessment Report (BAR) Process. Four alternative areas (A, B1 & B2 and C) had to be assessed. The study and development areas are located on Portions 2 & 4 of the farm Schoongezicht 238KP. It is situated north-west of Northam and Dwaalboom in the Limpopo Province.

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. The assessment identified no sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area. This report discusses the results of both the background research and physical assessment and provides recommendations on the way forward at the end.

**From a Cultural Heritage Point of View it is recommended that the proposed development be allowed to continue, taking into consideration the recommendations put forward at the end of the report.**

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## **1. INTRODUCTION**

APelser Archaeological Consulting (APAC) was appointed by EnviroRoots (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed development of a new Tyre Storage Facility at PPC's Dwaalboom Operations. The assessment forms part of an Application for Environmental Authorization by means of a Basic Assessment Report (BAR) Process. Four alternative areas (A, B1 & B2 and C) had to be assessed. The study and development areas are located on Portions 2 & 4 of the farm Schoongezicht 238KP. It is situated north-west of Northam and Dwaalboom in the Limpopo Province.

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. The assessment identified no sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area.

The client indicated the location and boundaries of the areas that had to be assessed and the work was confined to these locations. The areas were surveyed by foot, while the Heritage Specialist was accompanied by a representative of the client and the Environmental Officer of PPC Dwaalboom.

## **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 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 the 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 or 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 is conducted according to generally accepted 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 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 a general set of minimum standards. 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 proposed new Tyre Storage facility is located at PPC's Dwaalboom Operations north-west of the town of Northam and close to the town of Dwaalboom in the Province of Limpopo. The study area is situated on Portion 2 & 4 of the original farm Schoongezicht 238KP.

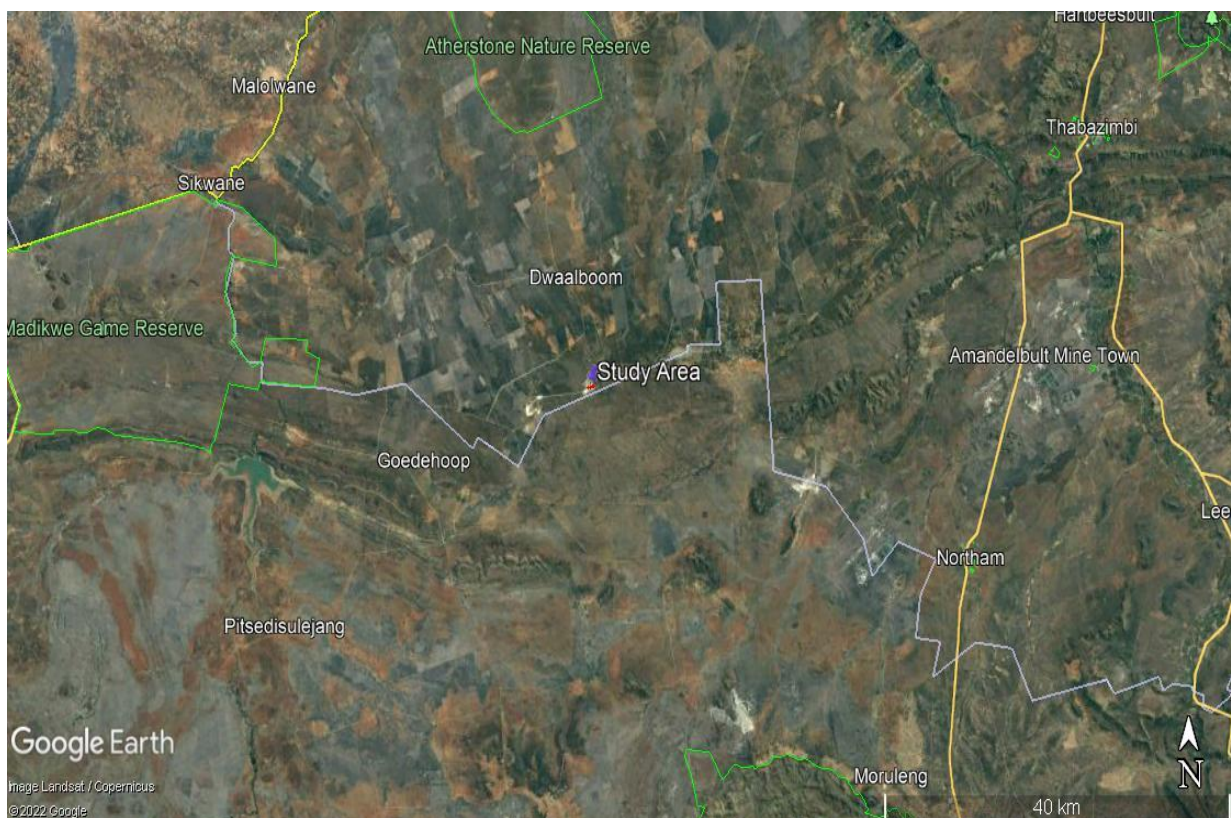
The topography of the study and development area is fairly flat and open with no rocky outcrops or ridges present. All 4 alternative areas that had to be assessed (numbered as A, B1, B2 and C) is situated within the property of PPC Dwaalboom and their Cement Factory Operations and as a result has been fairly extensively impacted over recent times. The PPC Cement Factory has been operating here since 1988 ([www.ppc.africa](http://www.ppc.africa)). If any cultural heritage (archaeological and/or historical) sites, features or material existed here in the past it would have been extensively disturbed or destroyed as a result. To a large degree the historical and natural landscape has been completely altered in recent years. Although the vegetation in Area C was fairly dense, no sites or material were present here.

In January 2009 the Minister of Environmental Affairs and Tourism approved the Environmental Conservation Act (73/1989): Waste Tyre Regulation, 2008. This regulation prohibits the landfilling of whole tyres. The regulation requires the development of an Integrated Industry Waste Tyre Management Plan by tyre producers.

As at October 2017, the South African Waste Management Bureau has the responsibility for the management of waste tyres. Processing of waste tyres is a key priority for the Bureau. The cement production process requires relatively high amounts of energy and using waste tyres as an alternative fuel leads to both energy saving and reduction in emissions.

Additionally, utilising waste tyres as an alternative fuel for cement production requires that there be modifications to equipment, systems and process conditions to effectively allow for efficient combustion. Various technologies exist and have been implemented successfully in cement operations all over the world, with coal substitution rates upwards of 60%. In South Africa, substituting coal with waste tyres requires Government support to realise mutual benefits as the potential impact on energy costs alone would not suffice to justify the necessary investment, given the relatively low price of coal.

This is where collaboration between PPC and the Government plays a part. PPC Dwaalboom possesses land that may be used for the storage of the waste tyres. These storage areas will then be close enough to the plants where processing can be done.



**Figure 1: General location of the study & development area (Google Earth 2022).**





**Figure 2: A closer view of the study area & the 4 alternative area footprints that had to be assessed (Google Earth 2022).**

## 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 basically be divided 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).

No Stone Age sites (including rock art) are known to occur in the immediate study area. The closest known Stone Age sites (Early to Later Stone Age) are found close to Rooiberg and Thabazimbi at sites called Blaauwbank & Olieboomspoor (Bergh 1999: 5).

***No Stone Age sites or material were identified in the study area during March 2022 field assessment.***

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal 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) however indicates that a Middle Iron Age should be included. His dates, which now seem to be 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.

There are no known Iron Age sites (EIA or LIA) in the immediate study area, although a large number of EIA to LIA sites are known to exist in the larger geographical landscape in which the study area falls. The closest and best known Iron Age site is located at Rooiberg near Thabazimbi to the north of the study area (Bergh 1999: 7).

The closest Early Iron Age site is located at Broederstroom near Brits (Bergh 1999: 6). In a band stretching from Pretoria to Brits as many as 125 Late Iron Age sites have been identified and many more between Brits and Rustenburg (Bergh 1999: 7). Tswana chiefdoms flourished in the area during AD 1600 to 1840 (Pistorius 2009: 18). Late Iron Age sites are also known between Brits and Thabazimbi (Bergh 1999: 7).

At the beginning of the 19th century different Tswana groups settled in the larger area. It includes the Kwena, Po and Kgatla. During the so-called difaqane (period of war or stress) they fled to the north-west and the Ndebele of Mzilikazi settled in around the Brits area and further north between 1827 and 1832 (Bergh 1999: 10-11, 106-107, 111; Pistorius 2009: 18-19).

Tom Huffman's research work shows that Iron Age sites, features or material could possibly be found in the area (based on pottery analysis combined with radiocarbon dates from related sites). This could include the so-called Moor Park facies of the Urewe Tradition dating to between AD1350 and AD1750 (Huffman 2007: 159); Uitkomst facies of the same tradition dating to between AD1650 and AD1820 (p.171); Rooiberg facies of Urewe dating to between AD1650 and AD1750 (p.175); the Oilfantspoort & Madikwe facies of the Urewe tradition both dating to between AD1500 and AD1700 (p.191 & 199); the Buispoort facies of Urewe dating to between AD1700 and AD1840 (p.203); the Diamant facies of the Kalundu Tradition dating to between AD750 & AD1000 (p.223) and finally the Eiland facies of the same tradition dating to between AD1000 and AD1300 (Huffman 2007: 227).

***No Iron Age sites, features or material were identified in the area during the March 2022 assessment.***

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 European group

to pass close by the area were that of Cowan & Donovan in 1808, followed by Scoon & McLuckie in 1829, Hume & Scoon in 1835 and by the famous Dr. David Livingstone in 1847 (Bergh 1999: 12-14).

**The information below was obtained from a HIA Report by Dr. Julius Pistorius done in 2013 for Samancor's proposed Mining Right Application for Portions of the farm Varkensvlei 403KQ and Nooitgedacht 406KQ near Northam (p.22—23).**

*"It is highly unlikely that the Project Area was occupied by Early Iron Age (EIA) Bantu-Negroid people who lived elsewhere in the Limpopo, Mpumalanga, KwaZulu-Natal and North-West Provinces of South Africa during the 3rd to 9th centuries AD. The earliest Iron Age settlers who moved into the larger project area were Late Iron Age Sotho-speaking groups who belonged to the Moloko tradition. These Kgatla and Kwena communities are associated with stone walled settlements which date from AD1600 although earlier settlements, devoid of any stone walls, also probably occur in the region. Moloko sites have been recorded in Rooiberg, north of the Project Area, at the Pilanesberg and in Madibeng and Rustenburg further to the south where these sites are associated with kopjes and randjes. Iron Age settlements occur in the Ben Alberts Nature Reserve and elsewhere in the Thabazimbi district.*

*The Rooiberg area is also renowned for early tin mining activities, possibly dating from the Late Iron Age. It seems as if large quantities of tin ore was mined from the Rooiberg and transported to an unknown destination. The abundance of iron ore in the area, particularly around Thabazimbi, also led to the smelting of these ores by local Late Iron Age people in order to manufacture products such as weapons (spears) and tools (hoes, axes, etc).*

*The closest towns to the Project Area are Thabazimbi and Northam. Thabazimbi's name is derived from the Tswana words for 'mountain of iron'. This was due to the discovery of the exceptionally rich iron ore deposits at Vliegpoort ('defile of flies') by the geologists J.H. Williams in 1919. The South African government bought the ore body and production for the Iscor Iron Ore mine in 1928. The mine started with its operations in 1931 A branch railway line was built from Northam to Thabazimbi on the Pretoria-Middelwit line. The town of Thabazimbi was laid out on the farm Kwaggashoek and proclaimed 23 on 4 May 1953. Millions of tons of iron ore are annually mined and hauled by train to Vanderbijlpark and New Castle.*

*The town of Northam was laid out by E.H. Fulls on the farm Leeukoppie and formally proclaimed in 1946. This farm together with several others was owned by H. Herd who had purchased the properties from British soldiers to whom they have been allocated after the Anglo Boer War. Herd was allowed to choose the name for the new village which he called Northam after the village Northam in Devonshire, England".*

The Chief Surveyor General's Database ([www.csg.dla.gov.za](http://www.csg.dla.gov.za)) was scrutinized for old maps of Schoongezicht 238KP. The oldest map that could be obtained dates to 1898 (CSG Document 10EREX01) and shows that the farm was then numbered as No.446 and was located in the District of Rustenburg, Ward of Elandsriver in the Zuid-Afrikaansche Republiek (Z.A.R). It was

surveyed in February 1897 for the Z.A.R. For Portion 2 (and 4) the map dates to 1923 (**CSG Document 10ERF401**). The farm was by then in the District of Rustenburg, Ward of Crocodile River in the Province of Transvaal. These portions were surveyed in May 1923.

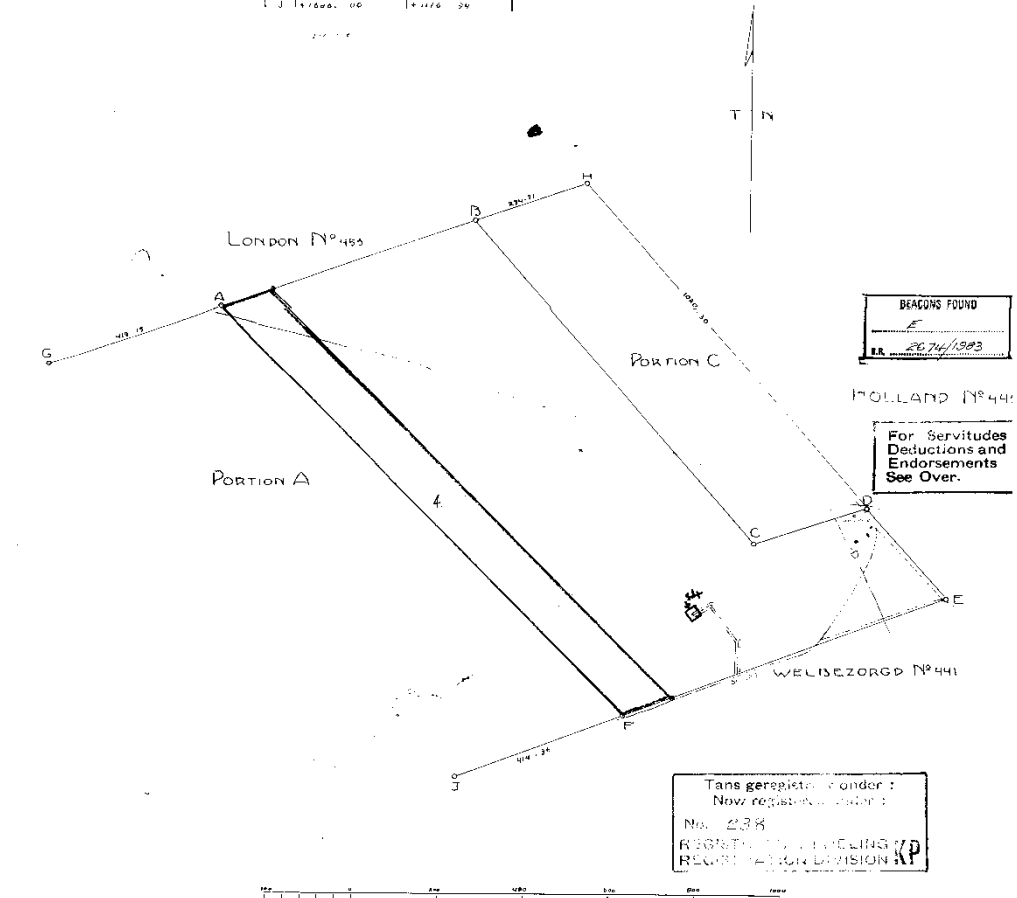


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S.G. No. A.1519/23

Form B2.—Diagram Form for a Sub-Division of a Farm or portion of a Farm.

SIDES.	ANGLES.	(Y) CO-ORDINATES (X)
A B 412.96	A 66° 14' 20"	A +2610.256
B C 406.68	B 111° 0' 10"	B +3020.76
C D 475.74	C 268° 7' 50"	C +2249.68
D E 485.09	D 111° 52' 20"	D +2338.20
E F 805.21	E 70° 19' 50"	E +2722.27
F A 1161.96	F 113° 17' 20"	F +1839.57
		G +4620.47
		H +3112.74
		J +1508.06
		+1682.12
		+1009.22
		+426.99
		+165.95
		+19.86
		+150.00
		+202.12
		+230.76
		+116.24



The above Figure lettered A,B,C,D,E,F  
 1320 Morgen 21 Square Rods of land, being PORTION B 2 CH  
 as appears on Diagram S.G. No. A. 1519/23 SCHOONGEZICHT N° 446  
 relating to No. dated made in favour of  
 situate in the District of RUSTENBURG Ward CAROLINE RIVER Province of TRANSVAAL. Bounded as indicated above.  
 The Beacons were pointed out by J.A. AND BARROUX. and have been properly erected according to law.  
 Surveyed in May 1923 by me Geo. A. Mathias.

Figure 4: 1923 map of Portion 2 of Schoongezicht 238KP ([www.csg.dla.gov.za](http://www.csg.dla.gov.za)).

No sites of historical origin or significance were identified or recorded in the study areas.

Results of the March 2022 field assessment

In general all 4 alternative areas that were assessed are flat and open, although there are some vegetation on them including marula and other trees. The areas are located close to and are surrounded by structures associated with the PPC Factory and operations, and the general area has been completely transformed from its original natural and historical landscape. Only small patches of natural vegetation still exists here.



As a result of the activities associated with the PPC Factory, if any cultural heritage sites, features or material were present here in the past, it would have been extensively disturbed or destroyed as a result. It is therefore highly unlikely that any do still exist here. Based on the assessment it can therefore be concluded that the proposed development can be allowed to continue from a Cultural Heritage perspective. Any of the 4 alternative areas can be utilized for this purpose.



**Figure 5: A view of a section of Area A.**





**Figure 6: Another view of Area A.**



**Figure 7: A view of Area A with some of the PPC Factory buildings visible.**





**Figure 8: Another section of Area A.**



**Figure 9: A view of a section of Area B1.**





**Figure 10: Another section of Area B1.**



**Figure 11: A view of Area B2.**





**Figure 12: A section of Area C.**



**Figure 13: Another section of Area C. Note the relatively dense vegetation.**





**Figure 14: Another view of Area C with the PPC Factory buildings adjacent to it visible.**



**Figure 15: Another section of Area C.**

***Finally, 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.***

## **7. CONCLUSIONS AND RECOMMENDATIONS**

APelser Archaeological Consulting (APAC) was appointed by EnviroRoots (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed development of a new Tyre Storage Facility at PPC's Dwaalboom Operations. The assessment forms part of an Application for Environmental Authorization by means of a Basic Assessment Report (BAR) Process. Four alternative areas (A, B1 & B2 and C) had to be assessed. The study and development areas are located on Portions 2 & 4 of the farm Schoongezicht 238KP. It is situated north-west of Northam and Dwaalboom in the Limpopo Province.

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area fall. The assessment identified no sites, features or material of cultural heritage (archaeological and/or historical) significance in the study area. All 4 alternative areas that had to be assessed (numbered as A, B1, B2 and C) is situated within the property of PPC Dwaalboom and their Cement Factory Operations and as a result has been fairly extensively impacted over recent times. The PPC Cement Factory has been operating here since 1988. If any cultural heritage (archaeological and/or historical) sites, features or material existed here in the past it would have been extensively disturbed or destroyed as a result.

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.

**Finally, it is recommended that the proposed PPC Dwaalboom Tyre Storage Facility development be allowed to continue, taking into consideration the recommendations put forward above. Any of the four alternative areas (A, B1, B2 and C) can be utilized for this purpose.**

## **8. REFERENCES**

General and closer views of Study Area location & Alternative development area footprints: Google Earth 2022.

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Republic of South Africa. 1999. **National Heritage Resources Act** (No 25 of 1999). Pretoria: The Government Printer.

Republic of South Africa. 1998. **National Environmental Management Act** (no 107 of 1998). Pretoria: The Government Printer.

Chief Surveyor General Database ([www.csg.dla.gov.za](http://www.csg.dla.gov.za)): Documents (1) 10EREX01 & (2) 10ERF401

[www.ppc.africa](http://www.ppc.africa)



## **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.